

The

Rosette Gazette

Volume 20, Issue 1

Newsletter of the Rose City Astronomers

January, 2008



In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
.... Magazines
.... President's Letter
- 3 .. The Observer's Corner
- 6 .. Doing Spectroscopy
- 8 .. Telescope Workshop
.... RCA Library
.... Science SIG
.... Cosmology SIG
- 9... Board Minutes
10. Calendar



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

RCA INFORMATION FAIR

Monday, January 21st!

The January meeting features our annual Information Fair. This is a great opportunity to get acquainted, or reacquainted, with RCA activities and members.

There will be several tables set up in OMSI's Auditorium with members sharing information about RCA programs and activities. The library will be open with hundreds of astronomy related books and videos. If you prefer to purchase books the RCA Sales table will feature a large assortment of Astronomy reference books, star-charts, calendars and assorted accessories.

Learn about amateur observing programs such as the Messier, Caldwell and Herschel programs. Depending on table allocation, RCA members will be displaying programs such as observing the Moon, Planets, Asteroids and more. Find out about our Telescope Library where members can check out a variety of telescopes to try out. Find out about the observing site committee and special interest groups. Special interest groups, depending on participation, include Cosmology/Astrophysics, Astrophotography and Amateur Telescope Making.

Above all get to know people who share your interests.

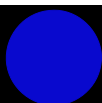
The fair begins at 7:00 PM, Monday January 21st in the OMSI Auditorium. There will be a short business meeting at 7:30, . Enter at the Planetarium Entrance right (north) of the Main Entrance. Proceed to your right to the Auditorium.

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

New Moon
January 8



First Quarter Moon
January 15



Full Moon
January 22



Last Quarter Moon
January 29



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Communication	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlink.com
Sales Director	open			
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnathe@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

President's Message By Sameer Ruiwale

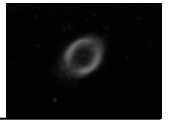
I would like to wish all RCA members a very Happy New Year! I am proud and deeply honored to have this opportunity to serve as RCA president. It was long eight years ago that I got introduced to the RCA through a Telescope Making SIG (special interest group) meeting that I first attended - then being run by the late Jim Girard. It was a great introduction to what was a very warm, enthusiastic and friendly group of people. I still remember my first star party at Table Mountain in 1999 which was a terrific learning experience in what gear worked best for camping at star parties especially when there was a heavy downpour for two days (and quickly learnt that a 2 person tent was not nearly big enough to fit one person comfortably)!! I also fondly remember my first OSP where I bought my telescope from another

RCA'er and also made a lot of new friends from the RCA. Since then and after taking over as Sales Director in 1999, I have had a memorable time with this great group of people who share in my passion for astronomy!!

I want to reach out to our club's new members and welcome them all. We are a big organization with over 250 member families (one of the largest in the US) and can sometimes seem intimidating to new members. I wanted to relate my experiences above to indicate that this is still a very friendly, helpful group of people and that anyone should feel free to approach board members or other members without hesitation for any help, direction or questions that they may have. I hope that all of you (new and old members alike) will take the opportunity to

come to the January annual information fair and learn not only about the different programs, services (library, telescope library and sales table), SIGs, that the RCA offers, but also use the time to meet with and network with other members, get to know them and become part of the RCA community.

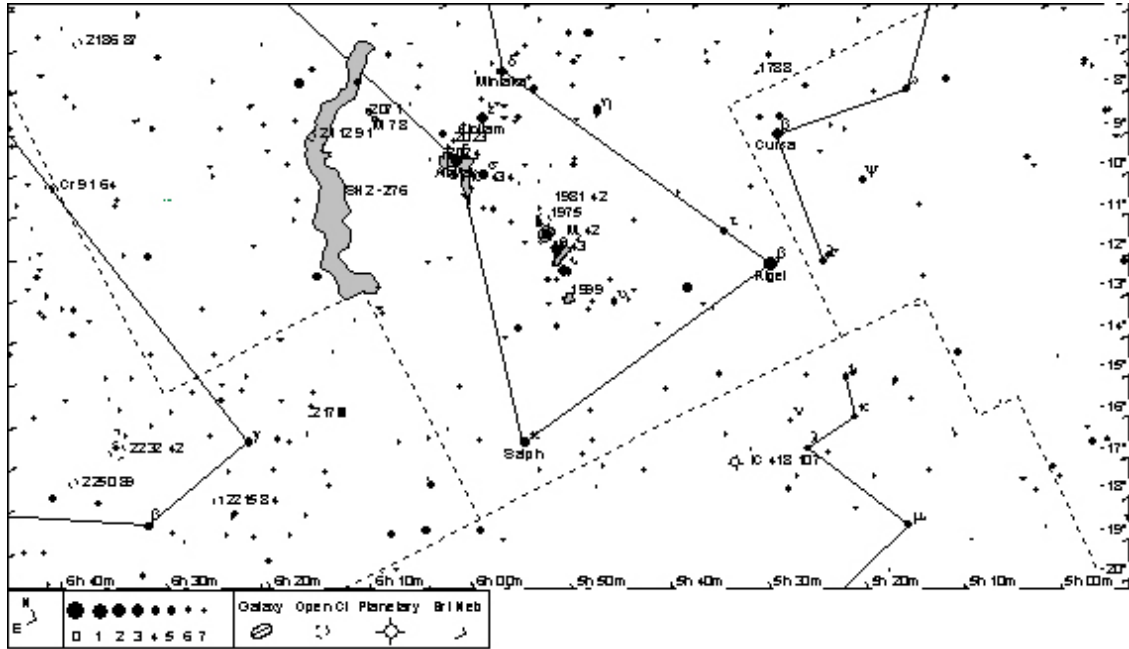
Finally I would like to thank Carol Huston - our outgoing President and the outgoing board members and all current Board members! RCA is a volunteer organization and all of the services and programs that we offer would not be possible without the efforts of these dedicated individuals. It is them and all other volunteers who make being part of the RCA such a rewarding experience. I look forward to serving the club this year!



Orion's Back Roads

M42 is one of the most familiar and spectacular sights in our part of the galaxy but it tends to hog the spotlight, which is too darn bad. I'll discuss two lesser known Orion deep sky objects in this article and a few more next month in an effort to show the variety of objects located in this wonderful part of the sky.

About two degrees south of M42 is the reflection nebula **NGC 1999**. Like much of Orion this is a sprawling star forming area but I'll focus on the brightest and most easily seen portion of 1999.



MegaStar chart showing the location of NGC 1999 south of M42.

This area is about 1500 light years away and is noted for the many young stars forming within the nebula. Punctuated by Herbig-Haro objects – energetic outflows from these young stars – this area would be telescopically spectacular if we could see it all in visible light.



NOAO image, H-alpha, OIII and SII filters.

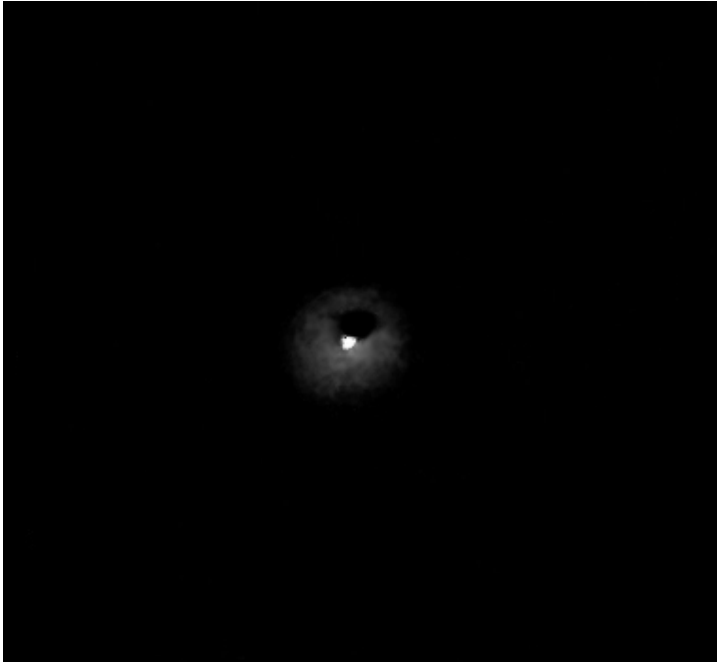


One degree square field, 2nd generation DSS red image.

(Continued on page 4)

Orion's Back Roads (Continued from page 3)

What we can most easily see through our scopes is the brightest knot of NGC 1999 and this is quite interesting nonetheless. Fairly small, round and with a star in its center it looks like it might be a planetary nebula, but at higher power you'll notice an off center and curved triangular dark area. None of this responds well to an OIII or UHC filter but a wide band filter doesn't improve the view either.



NGC 1999 sketch, at 406x, 28" Newtonian.



Close up of NGC 1999, HST image

The bright star in the center of 1999 is V380 Orionis and is a young, intermediate mass star that was formed by the NGC 1999 nebula. The dark nebula is a Bok Globule and is designated Parsamian 34. The Herbig-Haro objects that are so evident in the NAOA image also dimly show up in the 2nd generation DSS red image above but I didn't notice them visually.

I wasn't aware of them at the time of my observation – March 16, 2007 at Camp Hancock – but I'll certainly look for them next time. In fact, the first two Herbig-Haro objects ever discovered are the two bright streaks seen just to the right of 1999 in the NAOA image. They are the result of energetic outflows from a new star being born deep within the larger NGC 1999 nebula. How cool would that be to see!

For additional information on this fascinating and relatively unobserved area see

<http://www.spaceimages.com/ngc1999photo.html>.

Now we're off to a 4th magnitude star northeast of Betelgeuse, Mu Orionis. About 2.5 degrees northeast of Betelgeuse, Mu is easy to locate even in a light polluted sky. As you might suspect Mu is not the end destination but it is mighty close - lurking in the glare of Mu is the surprisingly bright planetary nebula, **Abell 12**.

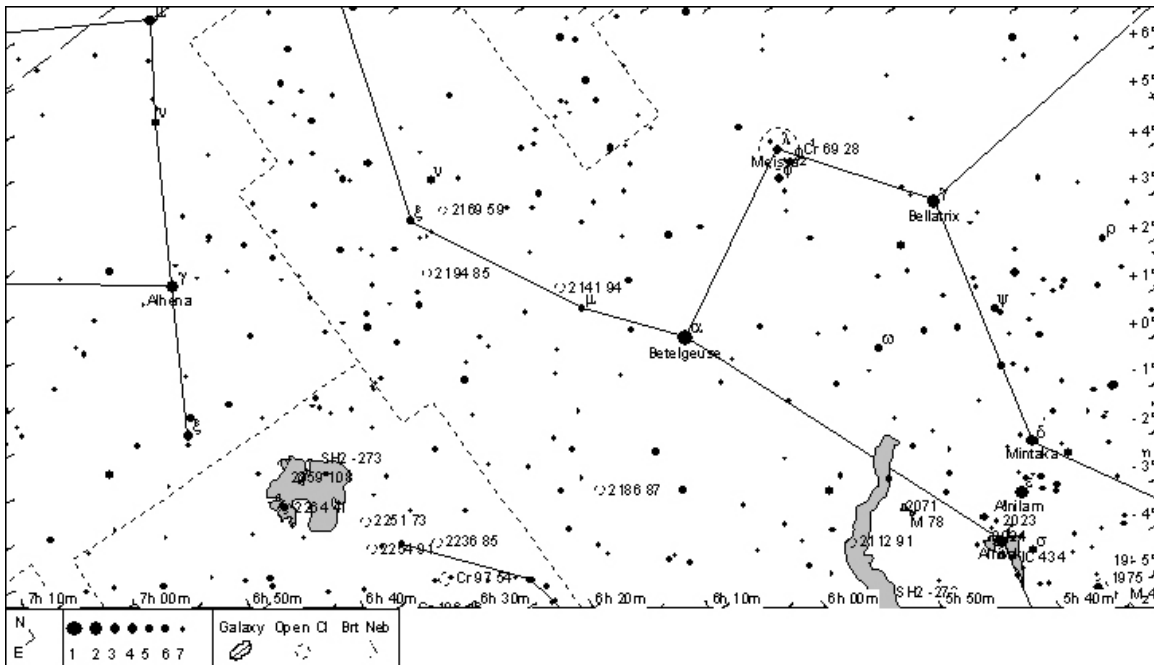
You don't often read the words "Abell" and "bright" in the same sentence and I don't want to give the impression that Abell 12 is easy to see, but it is visible in a 6 inch scope if you have an idea how to see it.

When I wrote "lurking in the glare of Mu" above, I mean that the edge of this round planetary seems to almost touch Mu. To see Abell 12 you'll need to up the magnification enough so you can place Mu just outside the eastern edge of the field of view (fov). Something around 150x should do the trick, although if you have a scope larger than 10

(Continued on page 5)

Orion's Back Roads (Continued from page 4)

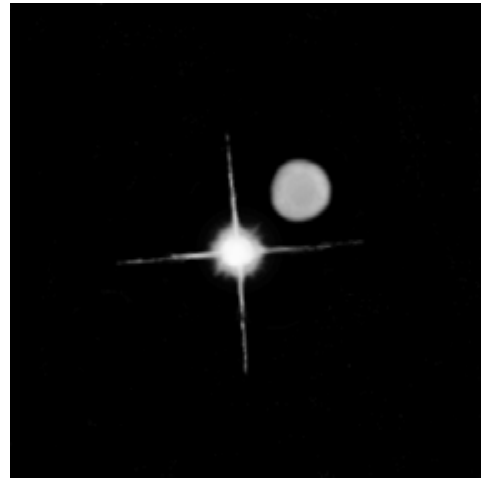
inches more magnification may give a better view. It's possible to see Abell 12 without a nebula filter but using an OIII makes 12 much more visible because it dims Mu and increases the contrast of the planetary.



MegaStar chart showing the location of Mu to the northeast of Betelgeuse.



Abell 12 DSS image.



Abell 12 sketch, 28" Newtonian at 467x and OIII filter.

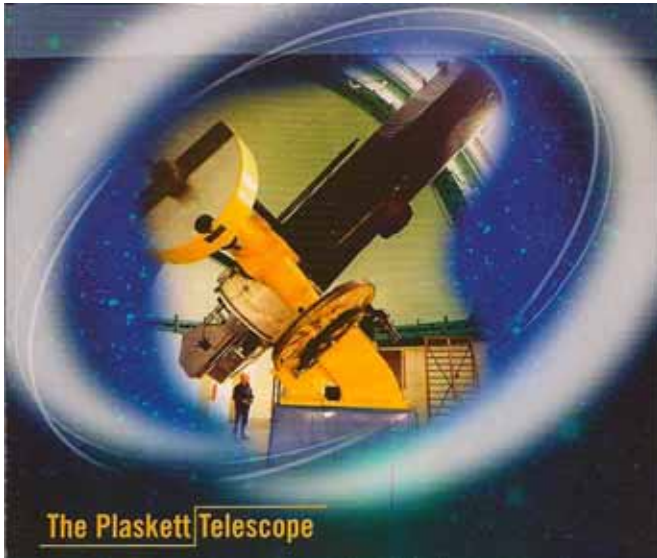
I've seen the planetary as mostly round with a distinct perimeter, and as very slightly darker in its center. Seeing Mu and 12 at the same time is possible with an OIII or UHC filter, and gives the scene a quality similar to the pairing of the galaxy NGC 404 and the star Mirach (Beta Andromedae) in a dark sky. In fact, the 404/Mirach pair is also available to observe this month so if you get a dark enough sky to see the winter Milky Way it would be fun to directly compare the two views.

Abell 12 would better known if it weren't in the glare of Mu, but then its location does make it a snap to find. It may take a little patience to see 12 through Mu's glare so don't be discouraged if you don't see at first glance. It will help to be sure which is the east and west sides of your scope's fov so you're sure which side of Mu to search for the planetary. For an additional photo and sketch check out: http://www.skyhound.com/sh/archive/jan/PNG_198.6-06.3.html.

And of course, since you're in Orion a few long looks at M42 would be a good idea too.

“Playing” With A 1.82 Meter Scope Doing Spectroscopy

By Tim R Crawford



A casual conversation with Rick Huziak on the American Association of Variable Star Observers (AAVSO) chat line led to an invitation to meet with Rick and Dr. Gordon Sarty (University of Saskatchewan) at the Dominion Astrophysical Observatory (DAO) near Victoria, BC and work with them to learn how to operate the 1.82 meter “Plaskett” telescope doing spectroscopy on High Mass X-Ray Binary Stars (HMXB’s), for five nights in December. I had been doing photometry on Dr. Sarty’s target list, of HMXB’s (in support of the AAVSO), both V and Ic filters, for several months prior to this.

In 2001 Rick, who has been an active amateur astronomer since 1968, won the Royal Astronomical Society of Canada’s (RASC) “Chant Medal,” for outstanding research in the field of amateur astronomy. In 2003 Rick won the prestigious “Director’s Award” from the AAVSO for his many outstanding contributions in the field of Variable Star observing. In 2004, the International Astronomical Union (IAU) named an asteroid (4143) Huziak in a citation for his many amateur contributions.

The scopes at the DAO are operated by the National Research Council of Canada (NRC) and Canadian Citizens are able to apply for time on them. Dr. Sarty was successful, for the second time in 2007, in securing time on the instrument for December. The previous May he had trained Rick on the operation of the scope and spectrograph.

At the time I was in tied up in Anchorage and was uncertain when I would be able to return home to Arch Cape, OR. I told Rick & Dr. Sarty that I would need a week to make a decision. My wife and friends encouraged me to jump on the opportunity, which I shortly decided to do.

The weekend before I was to arrive in Victoria, BC the “hurricane” force windstorm hit the Oregon and Washington coasts. Because of road closures, lack of land line or cell

phone service and no power it was a day to day decision as to whether or not I would be able to make the trip. Finally on Thursday I made the decision to leave home on Friday and we emptied the refrigerator into the garbage can, unplugged everything we could and drove off to Snohomish, WA where my wife would stay with our daughter and her family while I went to Victoria. Because of road closure’s, including I-5, we had to take “back roads” on our way to Olympia, WA where we were then able to swing back to I-5.

To get to Victoria on Saturday, December 8th, from Snohomish, WA I had to take a ferry across Puget Sound then drive over to Point Thomson, WA to catch the 90 minute Ferry Ride to Victoria, BC. My phone rang just as I was about to go through customs and it was Rick telling me to drive on up to the 1.82 meter dome where he would meet me. They also have a 1.2 meter scope and a 16” scope in their own domes on site.

Rick took me down the hill a ways from the main road where there is a small cottage with comfortable sleeping rooms for the visiting astronomers that are well isolated from noise and traffic so that we were able to sleep after long nights. They also operate a large comfortable looking house near the Dome but it is not isolated for late sleeping. The small cottage had a living room with TV (never turned on during our stay) and a small kitchen with eating space.

After getting settled in we headed back up the hill to the large dome and started watching the Canadian satellite images to figure out if and when we could open. About 6:30 the sky looked quite promising so Rick took me out into the dome and started to explain how we open the shutters, then the wind screen then uncover the mirror. The first two operations are accomplished with a hand held device that looks somewhat like a garage door opener. After the mirror was uncovered we started the scope/dome computers (there is a back room filled with computer equipment and we had at our disposal four screens to operate everything, including the spectrograph.



Tim On Road to 1.82M Dome

Huziak

(Continued on page 7)

Spectroscopy (Continued from page 6)

When everything was up and running we instructed the 1.82 meter scope to slew to our first target on a preplanned list and went back out into the dome to hold down a button on a large hand control for the scope so that it would make a fast slew and so that we could be sure that there were no ladders or other obstructions in the way and that none of the equipment would run into any part of the pier. I did jump several times as the dome slewed into position as it makes quite a racket, at different times, which I was accustomed to by the end of the first night.

By the end of that first night, which had to be abbreviated because of clouds around 12:30, I had made a number of scope slews and was learning how to operate the spectrograph computer screens for the various operations of the spectrograph. We did stay in the Dome until around 4AM so we could get our body clocks adjusted to “all night” observing. We were able to capture 8 spectrograph images (H-Gamma line specifically) of five different HMXB targets.

The next night the clouds never did clear for us at all so Rick helped me review some of the operation instructions and then we each worked on “projects” until about 4AM again. Checking satellite and radar images every hour, of course.

On the 10th the sky looked promising early so we got into the observatory around 4:30PM in anticipation of an early opening. The clouds and moisture were a constant threat as the evening progressed and finally about 7pm we decided to chance an opening (getting the mirror wet is simply not an option). The dome and scope started to misbehave... we had a very hard time getting the scope to point to the correct position, then the dome sometimes slewed on it's own and or would not present the “slit” in the proper position. We would get one thing fixed then the other would go haywire... all the while we were sweating out having the dome open as the clouds were passing through. While I learned a lot more about the system as a result of these difficulties we actually were only able to get one spectrograph image that night. When we closed up at 4AM the forecast was not looking good for that night, the 11th, and we had to leave the scope out of it's normal parked position as it simply refused to park properly.

When we got up the next morning the sun was out and when we got back to the observatory in the mid afternoon mtc stated that they had not really been able to find anything wrong and were able to get the scope to park.

During the evening we received a call from Dr. Sarty who had been unable to come out as his young daughter had broken her leg. While talking with me Gordon asked if I thought I would be comfortable returning possibly on my own to operate the equipment. Hummmm... that did give me some cause for pause. I had spent some time creating an instruction set on the steps necessary to operate all the controls and obviously was gaining some experience with dealing with problems; with some hesitation, knowing I would probably be a bit terrified at first, I did say yes and we discussed a tentative return date next May, if he is able to get a block of time assigned to him.



Tim In the Plaskett Scope Control Rm.

Huziak

We kept checking the satellite images, radar, and forecasts, probably every 1/2-hour, as the afternoon wore on. Everything pointed to a “clearing” up midnight. About 10:30 we made the decision to chance opening up as we had a good-sized sucker hole overhead. Well the first problem was that the dome would not position the slit in front of the scope on the first target. We spent an hour or so and then decided to simply move the dome by manual control with the hand paddle so we could get data. After the first manual position we told the computer to put the dome back on automatic and it tracked just fine to the second target. There were only one or two more times during the night that we had to switch the dome to manual operation. The next day mtc read our log and then took a serious look at the problem and discovered that there was one broken dome position switch and some problems with the magnetic readers in several other places (whew).

We managed to get 10 spectrographs that night of 7 different HMXB targets; most exposures were for 30 minutes with some at 40 minutes and a few at 25 minutes. There is also a lot of time spent in setting up the Spectrograph to take reference spectrograms before and after each image using a built in “lamp” designed for this purpose. We closed up the observatory around 6:15 and hit the sack. By the end of this “run” I was becoming quite comfortable with the operation of everything and now look forward to a return trip, if it works out



Rick Standing By The Spectrograph

Crawford

(Continued on page 8)

Spectroscopy (Continued from page 7)

Wednesday afternoon the forecast looked pretty hopeless so we made plans to attend the Victoria Centre meeting of RASC; Rick is a RASC member of the Saskatoon Centre and I have been an at large member of RASC for some time. Given the relative closeness of Victoria I made a decision to become a member of the Victoria Centre. Only afterwards did I realize that Rick was "hoping" I would join his Centre.

Rick examined the "instructions" document that I had created and made some minor corrections and additions and announced that it was fine and that he would be using it in the future as well as future operators that they might train.

The HMXB's being studied by Dr. Sarty do not have known periods nor known radial velocities so that is the objective of his program which will continue for some time in the hopes that those facts will be able to be established.

As I was revising this I received an email from the AAVSO photometry group in which Dr. Sarty stated that he was already writing up the first paper from the HMXB project for the target "V831 Cas" as "Rick and Tim got some nice spectra of this star at the DAO last week – worth publishing."

For those with an interest in learning more about the nature of HMXB's and this project:

"Finding Periods in High Mass X-Ray Binaries,"
by Gordon E. Sarty et al.

<http://arxiv.org/abs/astro-ph/0702248>

Original Request for AAVSO observer participation:

<http://www.aavso.org/publications/alerts/alert348.shtml#hm>

Request for additional HMXB Target Observations:

<http://www.aavso.org/pipermail/aavso-photometry/2007-December/002959.html>

HMXB Charts Location:

http://homepage.usask.ca/~ges125/AAVSO_HMXB_Charts.html

This had been a great experience, and one that also appears to have been successful. I feel fortunate that I have had an opportunity to drive and play with a telescope with a 72" mirror and to have possibly made another small scientific contribution.
Per Ardua ad Astra

Telescope Workshop

When: Saturday, January 19, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.

6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest Group (SCI-SIG)** will be meeting on January 19th at 3pm. Following the Telescope Workshop at Technical Marine Services.

This month's talk will be given by Tim Crawford (Arch Cape observatory) on "Visual Observing of Variable Stars". Topics covered will include why study variable stars, how to perform observations and hands on exercises.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net>

RCA SIG coordinator

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through checkout at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, January 23, 7 PM.

Topic: "Analogues of Space Flight & Exploration"

Presented by: Bob McGown

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>



BOARD MEETING MINUTES

December 3, 2007

OMSI Classroom 1

Andy Phelps

Board Members present: Peter Abrahams, Tom Nathe, Greg Rohde, Matt Vartanian, Carol Huston, David Nemo, Larry Godsey, Ken Hose, Andy Phelps, Dareth Murray, Bob McGown, Matt Brewster, Jan Keiski.

Guests present: Margaret Campbell, Doug Huston, Jay Wilkins.

Carol Huston called the meeting to order at 7:03pm.

Board Reports

- Secretary's Report – Andy Phelps: Quorum (10) met with 13 voting members present. Welcome to new RCA secretary Margaret Campbell. Some handoff responsibilities are to pass on hard and electronic copies of 2006-2007 minutes to Margaret and email Larry all final copies of minutes. The "secretary binder" has been handed off to Margaret.
- Treasurer's Report – Larry Godsey: Total Liabilities & Equity Operations: \$17,410.41, Site Fund \$16,030.44. Larry reviewed the budget for the year-to-date.
- VP Programming – Matt Brewster: Potluck dinner at December meeting will be in auditorium. Matt will use the club credit card to purchase some items for the dinner. Will be posting information in the Gazette and on the e-list.
- VP Observing – Matt Vartanian: Welcome to new board member Doug Huston: Has passed information and material to Doug. Matt and Doug have been working on the 2008 observing schedule. We would like to use the Maupin airport location again this year for a star party.
- VP Community Affairs – Patton Echols: (via email) I have observed a problem with the way that community star party requests are handled. And while I am working on fixing the part of the problem I can control, my organizational changes will not solve the entire problem. A large part can be solved by publishing some expectations and tips for those wishing to request star party support. Unless there is objection, I will draft a page for the website, run it by the board, and if approved, ask our web master to link it as appropriate.
- VP Membership – Ken Hose: November 1 new member, 5 renewals, \$136 collected in dues. Club membership stands at 256 member families.
- New Member Advisor – Jim Reilly: (via email) I held a new-member meeting at OMSI before the general meeting in November. About eight people attended, fewer than I had hoped, but SIG coordinator Tom Nathe was there. We have informally agreed that my task is to emphasize the RCA benefits and do less general astronomy instruction, and Tom's new-member SIG will do more of that. Holding the meeting in the planetarium went well, with Jim Todd running the board and bringing up the virtual sky to show a few items of interest (notably c.Holmes). The timing was good for the orientation, and left time for questions. I followed up by e-mail the following week with a few links to valuable sites and added a few things I had inadvertently left out of my talk. Tom and I will pursue a more rigorous schedule for these and SIG meetings, but we have not locked down any dates just yet. Many thanks to Jim Todd for helping us make this work!

- Book Library – Jan Keiski: Jan received several new books.
- Telescope Library – Greg Rohde: A 6-inch f/8 telescope has been donated. Greg will pick it up.
- IDA – Bob McGown: Talked with Vera Katz about light pollution. Bob has been involved with two lighting lawsuits. The Board discussed the desire to become more active in lighting issues. Ideas will be funneled through Bob.
- Magazine Subscriptions – Larry Godsey: nominal.
- Webmaster – Dareth Murray: nominal.
- Site Committee – David Nemo: nominal.
- SIGs – Tom Nathe: Tom presented a document detailing the creation, maintenance, and termination of special interest groups. Document was discussed and edited. Tom will make changes and present to board.
- OMSI – Carol and Jan: nominal.

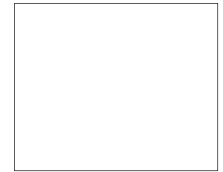
Old Business

- Action Item: Forum/E-List status: David Nemo. Survey has ended, 90 people responded. Committee is reviewing data and will make a recommendation.
- Action Item: Mentorship program – Jim Reilly and Tom Nathe connect. This may be a way to support youth programs during the off-season? Tabled.
- Action Item: Awards Committee to develop a comprehensive list of AL and RCA awards with criteria and submittal dates – Dareth, Bob, Doug, Dale. Work will begin on this soon.
- Action Item: Carol and Dareth to review and present information about sister club concept in connection with the GAMA group. Margaret will share her input on this topic.
- Action Item: Carol to procure a new youth director for RCA. Tabled.
- ALCON report: Dareth and David – All checks have cleared and bank account will be closed. Dareth will contact PSU about outstanding funds.
- Action Item: Doug and Sameer looking into participation in next Astronomy Day.
- Summary of elections at November general meeting: Andy presented the following slate of nominees for board members: President, Sameer Ruiwale; Larry Godsey, Treasurer; Margaret Campbell, Secretary; Ken Hose, VP of membership; Doug Huston, VP of observing; VP Community Affairs, Patton Echols; VP Communication, Matt Brewster. Election was called and the slate was approved by acclamation.

New Business

- Jay Wilkins, New Special Interest Group: Jay presented an idea to start a SIG for people who were interested in near earth asteroids. The creation of this SIG was discussed. Jay will set up a table at January info fair to gauge interest.
- Young Astronomer Award, Bob McGown: A young RCA member qualifies for the Astronomical League's award. Awards committee should publicize this award.

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



January 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2008

Jan 7	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Jan 19	Sat	Telescope Workshop	Swan Island	10am-3pm
Jan 19	Sat	Science Sig	Swan Island	3pm
Jan 21	Mon	RCA Information Fair!	OMSI Auditorium	7pm
Jan 23	Wed	Astrophysics/Cosmology SIG	Linus Pauling House	7pm

February 2008

Feb 1	Fri	Downtowner's Luncheon	TBD	Noon
Feb 4	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Feb 16	Sat	Telescope Workshop	Swan Island	10am-3pm
Feb 16	Sat	Science Sig	Swan Island	3pm
Feb 18	Mon	RCA General Meeting	OMSI Auditorium	7:30pm
Feb 20	Wed	Astrophysics/Cosmology SIG	Linus Pauling House	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Message Line: (503) 255-2016
 Web Site: <http://www.rca-oms.org>

The Rosette Gazette

Volume 20, Issue 2

Newsletter of the Rose City Astronomers

February, 2008

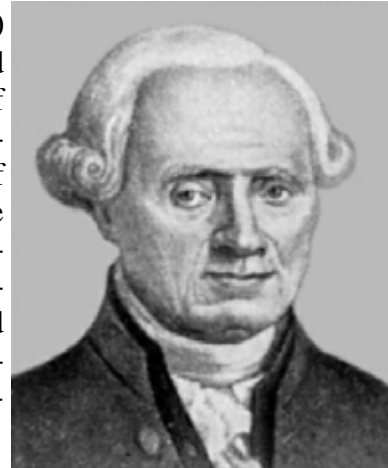


RCA FEBRUARY 18 GENERAL MEETING

In This Issue:

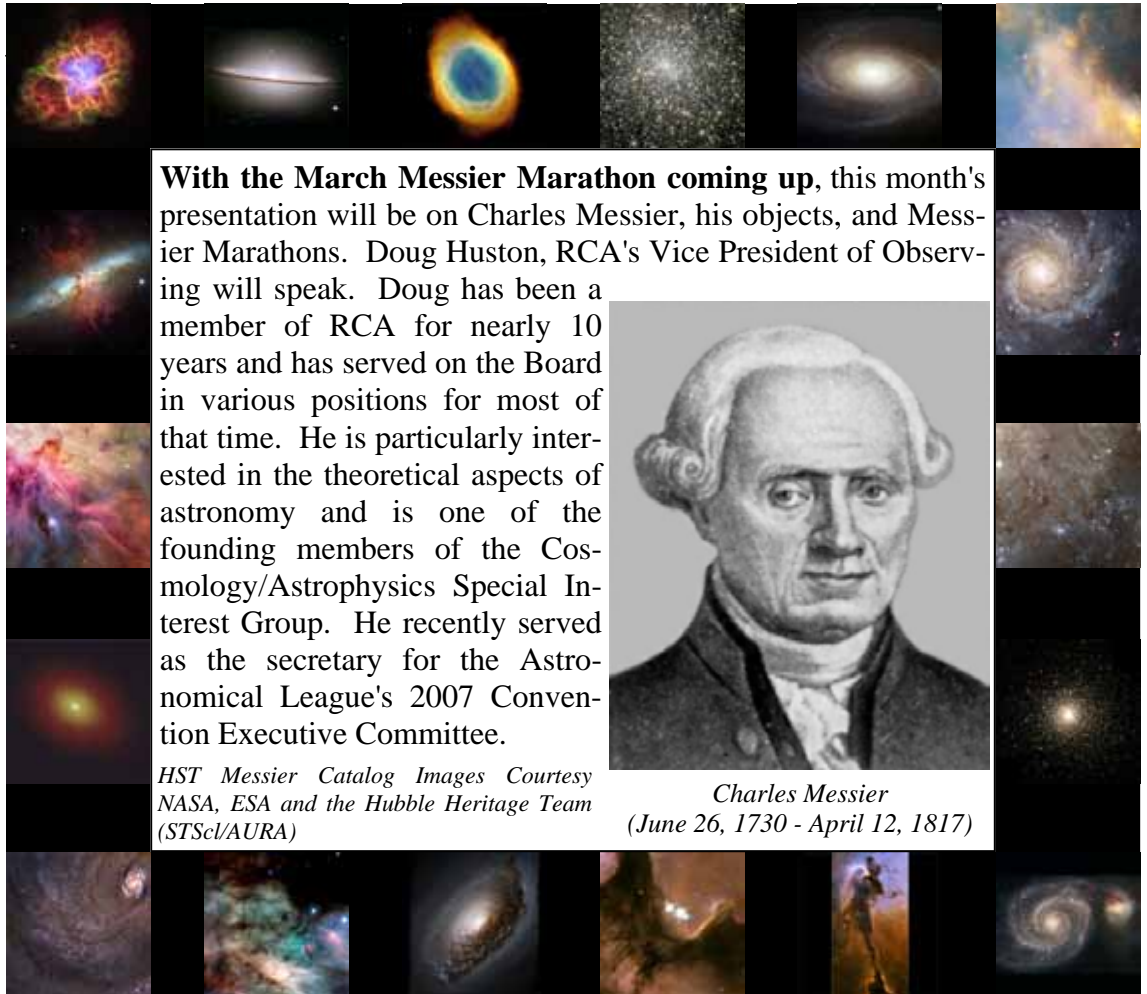
- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - President's Message
- 3 .. Classic Telescopes
- 7 .. The Observer's Corner
- 9 .. Lunar Eclipse at OMSI
10. Board Minutes
11. Telescope Workshop
 - Science SIG
 - RCA Library
 - Site Committee
 - Cosmology SIG
12. Calendar

With the March Messier Marathon coming up, this month's presentation will be on Charles Messier, his objects, and Messier Marathons. Doug Huston, RCA's Vice President of Observing will speak. Doug has been a member of RCA for nearly 10 years and has served on the Board in various positions for most of that time. He is particularly interested in the theoretical aspects of astronomy and is one of the founding members of the Cosmology/Astrophysics Special Interest Group. He recently served as the secretary for the Astronomical League's 2007 Convention Executive Committee.



Charles Messier
(June 26, 1730 - April 12, 1817)

HST Messier Catalog Images Courtesy NASA, ESA and the Hubble Heritage Team (STScI/AURA)



RCA is a member of the Astronomical League.
<http://www.astroleague.org>

All are Welcome! Monday February 18
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Auditorium

©Copyright 2008 The Rose City Astronomers All Rights Reserved.
Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.
Moon photos below courtesy David Haworth

New Moon
February 6

First Quarter Moon
February 13

Full Moon
February 20

Last Quarter Moon
February 28



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Programming	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlk.com
Sales Director	open			
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnathe@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

President's Message By Sameer Ruiwale

After the long winters and cloudy, rainy nights, the observing season for 2008 starts this month. The RCA has a great star party schedule lined up this year. What better way to kick off this season than a joint OMSI-RCA star party at OMSI on Feb 20th for viewing a total eclipse of the Moon! The moon enters partial eclipse at 5:43pm and enters totality at 7:00pm. Totality lasts for about 52 minutes. I do hope that all of you can make it and get a chance to view the eclipse – indeed, this is the last total lunar eclipse visible from the US until the next one Dec. 20-21, 2010. Let us hope that the weather cooperates!

There are many other star parties coming up this year that I am excited

about. We have our regulars – Kah Nee Ta Messier Marathon, Camp Hancock and others. We also have two star parties at the new Maupin site following the great success of last year. And then we have a couple of star parties scheduled at Stub Stewart State Park in Vernonia – I am excited about these for two reasons – this promises to be a great dark sky location close to all our members on the Westside. Second, it builds up on the great relationship we have with the Oregon State Parks system at Rooster Rock SP! I am looking forward to this year eagerly! Many thanks to our VP Observing – Doug Huston for putting together an exciting star party schedule.

Finally I would like remind our members of our ongoing efforts and fund-raising for a RCA observing site. Having our own observing site would be a great benefit and asset to our club members. Our efforts on this are being coordinated by David Nemo and a few others on the Observing site committee and they have been doing a great job so far. I would encourage the RCA members to donate to the fund-raising campaign in any way they can – RCA is a non-profit organization and all donations are tax-deductible. Here's hoping to a RCA club observing site in the near future! Until next month..

Clear skies!

CLASSIC TELESCOPES

Meeting the deep-sky challenge of Taurus with an Edmund Scientific 8-inch reflector.

By John W. Siple and Keith T. Gordon

The rainy season, starting in late Fall, is heralded by the appearance of the constellation Taurus the Bull. Occupying a prominent position in the night sky just eastward of Aries and Cetus and partially immersed in the soft watery glow of the winter Milky Way, the area is rich in notable open star clusters.

The Taurus region is a favorite stomping ground for casual observers who love to scan the skies with binoculars. Two dazzling configurations of naked eye stars—the V-shaped grouping of the Hyades in the stern face of the Bull and the stubby dipper of the Pleiades at the right shoulder—adorn the zodiacal constellation. Telescopists can appreciate the gossamer glow of the “Crab Nebula,” the still expanding gaseous remnant of a daylight supernova recorded by Chinese astronomers in A.D. 1054.

Edmund Scientific’s 8-inch f/8 Newtonian, sold during the 1960s and ’70s, was selected for meeting the deep-sky challenge of Taurus. This supreme grade telescope, their “largest and best” reflector, was manufactured in-house at Barrington, New Jersey, and then distributed by mail order countrywide.

Edmund Scientific Company (trade name Edscorp) was founded in 1942 by Norman W. Edmund. Later billed as “America’s Greatest Optical Market Place,” it is considered by many hobbyists and educators as the king of low-cost innovative scientific gadgetry and optics. (The commercial giant was re-fashioned into two companies, Edmund Optics and the consumer science division of Edmund Scientifics, in the 1970s.)

Sky & Telescope magazine’s first ad for the 8-inch telescope appeared in the December 1961 issue, where the 210 lb. behemoth was priced at \$389. However, the customized nature of the big reflector resulted in very low annual production runs. Only several dozen completed instruments made it out the factory doors each calendar year.

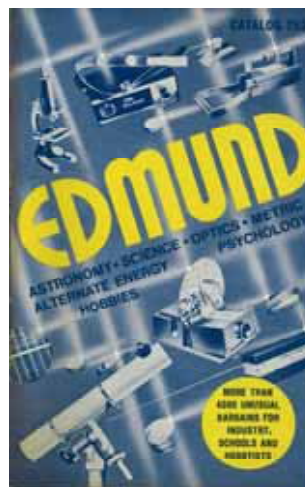


By late 1974, with the cost spiraling to \$660, Edmund decided to discontinue the oversized Newtonian in favor of their already more popular, cheaper 6-inch model. And then in 1977, as a “30-year commitment to Astronomy,” Edmund introduced a revolutionary new 8-inch f/5 reflector of “light weight” and “professional” design.

With its hefty cast iron equatorial mounting, ultra-light polished tube, and intricate clock drive mechanism, customers could expect the old-style Edscorp 8-inch reflector to be furnished with only the best optics. “Quality controlled” full-thickness Pyrex mirrors were supplied by Universal Precision Optical Co. (UPCO Optics) of Shamokin Dam, Pennsylvania. This was the same re-



Pictured above is the December 1974 catalog advertisement for the now classic Edmund Newtonian reflector. At left is the authors' 8-inch telescope. The attractively illustrated outside front cover of the Edmund Scientific catalog is shown immediately below.



nowned company that made the superb mirrors for Criterion’s famous Dynascope line of reflector telescopes. (As proof of authenticity, the backside of each primary mirror has several identifying marks: a sticker from the maker UPCO Optics and cast-into-the-glass lettering that says “Pyrex” and “Made in USA.”)

According to Edmund’s very popular illustrated booklet *How to Use Your Telescope*, the 8-inch reflector can discern stars as faint as magnitude 13.3 and can separate double stars 0.6 arcseconds apart. With such capability at the amateur astronomers’ fingertips, splitting close doubles and finding deep-sky objects in Taurus is a breeze.

(Continued on page 4)

Classic Scopes (Cont'd from page 3)

A reconnaissance of the Hyades with the wide-field 6 X 50 finder quickly shows a long line of impressive double stars extending northwest from the "V" shaped core of the rich cluster. Selected binaries in this astral string of celestial beauties include many wide pairs, enjoyable in both modest-size telescopes and binoculars.

The naked eye optical (line of sight) pair Theta¹ (θ^1) and Theta² (θ^2) Tauri, separated by 347", is found just to the west of the 1st magnitude reddish-orange Royal Star Aldebaran. At a magnification of 41x in the Edmund scope, 3.4-magnitude Theta² appears white, while 3.9-magnitude Theta¹ has a strong yellowish tint. Membership in the Hyades places the two stars around 150 light-years away.

A fine target for opera glasses and binoculars is the double star 65 (κ^1) and 67 (κ^2) Tauri. Closely matching the apparent separation of its stellar cousin Theta¹ and Theta², found $6\frac{1}{2}^\circ$ to the south, this stunning pair of white and pale yellow stars (magnitudes 4.4 and 5.4) gleam intensely at all powers. Peering closely midway between the two major stars, keen-eyed observers will notice another fainter pair of suns. $\Sigma 541$ (mags. 9.5, 9.8; Sep. 5.3"), a diminished clone of the wider bracketing pair, is cleanly split by boosting the magnification to 271x.

Moving $3\frac{1}{2}^\circ$ northward we encounter 59 (γ) Tauri, an attractive pair with unequal white and blue components. The 5.5-magnitude primary has a 7.6-magnitude companion 19.4" to the north-northeast. The couple is well split through the Edmund scope at 130x.

The capstone in this jewel-laden chain of double stars is 52 (ϕ) Tauri, a binary system known for its intense, vibrant colors. The visual color impression is especially strong at 65x, where the 5th-magnitude primary glows deep orange. The 8.4-magnitude secondary star, 52.1" distant to the west-southwest, is a striking cerulean blue.



The constellation Taurus holds one of the heavens most cherished open star clusters. The Pleiades (M45), known in Greek mythology as the seven fair daughters of the Titan Atlas and the Oceanid Pleione, inhabit an area of the sky nearly equal to that of four full Moons. The Pleiadian stars Alcyone, Merope, Electra, and Maia form the bowl of the dipper-shaped asterism, and their other sister sun Taygeta is found at the tip of the pouring spout. The remaining sibling stars Asterope

The Pleiades or "Seven Sisters," viewed from an ice world 50 light years away, is illustrated in Kim Poor's *Ladies of the Lake* above. Directly at left is *Pleione* by artist Don Dixon. A planet orbiting this rapidly rotating shell star is bathed in strong ultraviolet radiation.

(Sterope I and II) and Celaeno lie nestled nearby, while the watchful parents Atlas and Pleione make up the stubby handle of the small heavenly dipper.

The dazzling sapphire-blue gems of the brood vary in brightness from magnitudes 2.9 (Alcyone) to 5.4 (Celaeno). The lesser Pleiadian orbs of Sterope I and II shine at magnitudes 5.6 and 6.4, respectively. Under average seeing conditions, the unaided eye normally picks up six of the seven principal cluster members; from dark rural sites numerous fainter Pleiads can be counted—some sharp-sighted people have recorded as many as eighteen!

Vested heavily in stellar folklore, the legend of the missing seventh star or "Lost Pleiad" has lead astronomical sleuths to conclude that Pleione is the most likely suspect. Located only 5' N of Atlas at the end of the short handle of the "Dipper-Bowl," Pleione is a variable star known as BU Tauri. The star's

(Continued on page 5)

Classic Scopes (Cont'd from page 4)

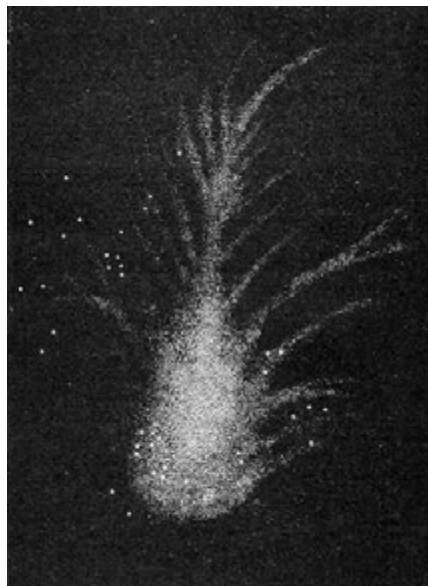
superfast spin has distorted its shape and spun off a ring of gas. In ancient times, Pleione could have shone with greater brilliance, completing the naked eye septet.

The celebrated young star cluster, less than 100 million years old, is embedded in dusty swirls of nebulosity. The brightest portion of the delicate feathery wisps encircles the star Merope. In the Edmund reflector, the tear-shaped Merope Nebula or Tempel's False Comet (NGC 1435) appears like "a stain of breath upon a mirror," embellishing the rich background of over two hundred Pleiadian suns.

In his observing guide *Celestial Harvest: 300-Plus Showpieces of the Heavens for Telescope Viewing & Contemplation*, astronomer James Mullaney aptly describes the scene: "In a dark sky the 8 or 9 bright members glitter like an array of icy blue diamonds on black velvet; the frosty impression is increased by the nebulous haze which swirls about the stars and reflects their gleaming radiance like pale moonlight on a field of snow crystals."

The sky's brightest supernova remnant, familiar to amateur astronomers as the "Crab Nebula," is located only one degree northwest of Zeta (ζ) Tauri, the tip of the Bull's southern horn. Famed astronomer Charles Messier independently discovered the expanding shell of gas in 1758 while comet hunting and then made the object the first entry (M1) in his deep-sky catalog. He described the object as "a whitish light, elongated like the flame of a taper." In the year 1844, the 3rd Earl of Rosse coined the term "Crab Nebula" after observing the fringy outer appendages through the 36-inch reflector at Birr Castle in Ireland. The moniker stuck and has been in use ever since.

One of Taurus' greatest showpieces, the "Crab Nebula" is a remarkable sight in the 8-inch reflector—far grander in appearance than anticipated.



Lord Rosse's representation of M1 (from Birr Castle).

A University 17mm Wide View Plössl (96x) reveals M1 as an oval mass of grayish-white light with its major axis orientated NW-SE (pointed toward Zeta). A hint of the legendary filamentary structure is visible as a serration or granulation on the outer fringes of the 8.4-magnitude nebula. (The brighter inner portions of the 6' X 4' nebulosity are bent into an "S" curve.) The 16th-magnitude pulsar NP 0532, a rapidly spinning neutron star and core of the exploding sun, is found at the heart of the complex.

A tempting target in northern Taurus for users of backyard telescopes is the lone planetary nebula NGC 1514. This somewhat challenging deep-sky object is distinguished by a bright central star of magnitude 9.4 and its dumbbell-shaped nebulous shell. NGC 1514 is sandwiched between two bright guide stars, separated by only 16', which makes finding the magnitude 10.9 planetary easy.

At a power of 130x, NGC 1514 resembles the round head of a comet. The Edmund scope shows the planetary nebula, 2.3' X 2.0' in diameter, as an almost featureless smudge of light. The view does not dramatically improve when using an O-III filter. However, in moments of calm seeing, the even tex-

ture is interrupted by the presence of several intruding dark patches on the NE and SW sides of the fuzzy disk.

The galactic clusters NGC 1807 and 1817 are found by following the pattern of naked eye stars that form Orion's upraised shield into southern Taurus. Because of their close proximity to each other in the eyepiece field, this duo has been likened to the famous Double Cluster in Perseus.

NGC 1807, shining at magnitude 7.0, is the brightest member of the pair. It also contains the fewest number of stars; at 63x in a 26mm Plössl, only a smattering of twenty-five luminous specks are visible scattered throughout an area of 17'. The cluster is irregular and loose with little central concentration. The zigzag of the brighter stars forms a rough "T" shape. Outliers extend to NGC 1817, which lies 20' to the NE.

NGC 1817, its total light equivalent to that of a magnitude 7.7 star, has over seventy 9th-magnitude and fainter suns packed into the same apparent diameter of space as its companion cluster. The Edmund reflector telescope does not completely resolve the rich collection of stellar pinpricks; careful scrutiny shows scores of suns embedded in a misty background haze. Experienced deep-sky observers have commented on NGC 1817's uncanny resemblance to M46 in Puppis (albeit missing the planetary nebula NGC 2438) and to NGC 7789 in Cassiopeia.



The planetary NGC 1514. Courtesy of Adam Block/NOAO/AURA/NSF.

(Continued on page 6)



Mars occasionally passes through the Hyades and Pleiades in its journey around the Zodiac. During its visits to the stars of Taurus, Mars' reddish-ochre light often surpasses that of 1st magnitude Aldebaran. Hubble Space Telescope image courtesy of NASA and the Space Science Institute. The sketch by Antony Cooke—drawn with the most natural appearance, contrast, and coloration possible—mimics the telescopic view through the Edmund Scientific 8-inch reflector at the best positions.

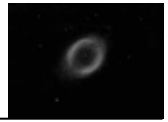


The Pleiades is a naked eye star cluster found 440 light-years from Earth. The intense bluish starlight of the hot, young stars is reflected by particles in an interstellar dust and gas cloud called the Taurus Dark Complex. The feathery appearance of the nebulosity results from the effect of local magnetic fields.

Jim Thommes



A wonderful pair of diverse galactic star clusters in southern Taurus for deep-sky hunters. NGC 1817 is the globular-shaped swarm of stars at upper left; the other relatively sparse cluster in the photograph is NGC 1807.

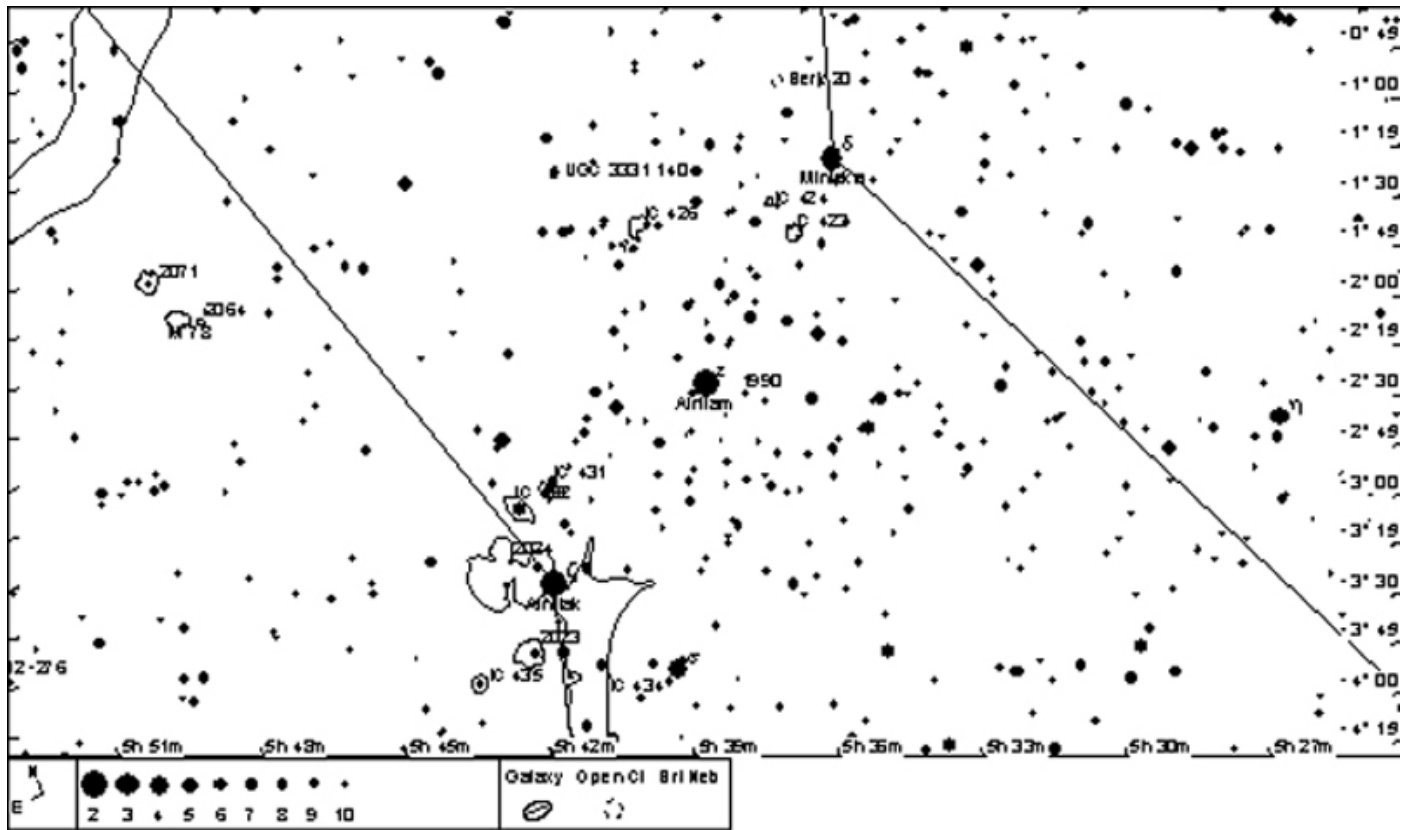


Orion's Back Roads - the Horsehead Nebula

Although the Horsehead Nebula is one of the more famous objects in the sky, it's often overlooked by visual observers because it takes a dark and transparent sky to see it, and its apparent size often throws off visual observers. I also think that the perceived difficulty of seeing the Horsehead keeps many observers from trying even though a large scope is not required. A h-beta filter coupled to a moderate size scope will do the trick, especially if you know exactly where to look and what to look for.

Gauging the apparent size of the Horsehead in relation to the surrounding area and nearby objects is an important aid in seeing it. Fortunately there are several nearby nebulae and a distinct naked eye star pattern that will make this surprisingly less daunting than you may think.

One of the most distinctive star patterns in the sky are the three stars that make up the belt of Orion, and that's where we start on the road to the Horsehead. The eastern most star in the belt is 1.9 magnitude Alnitak, and this is where we begin. Aim your scope at Alnitak with a medium power eyepiece and insert an h-beta filter. Just to the east of Alnitak is the fairly bright emission nebula, NGC 2024, which is often called the Flame or Tractor Tire Nebula.



Horsehead and NGC 2024 and 2023

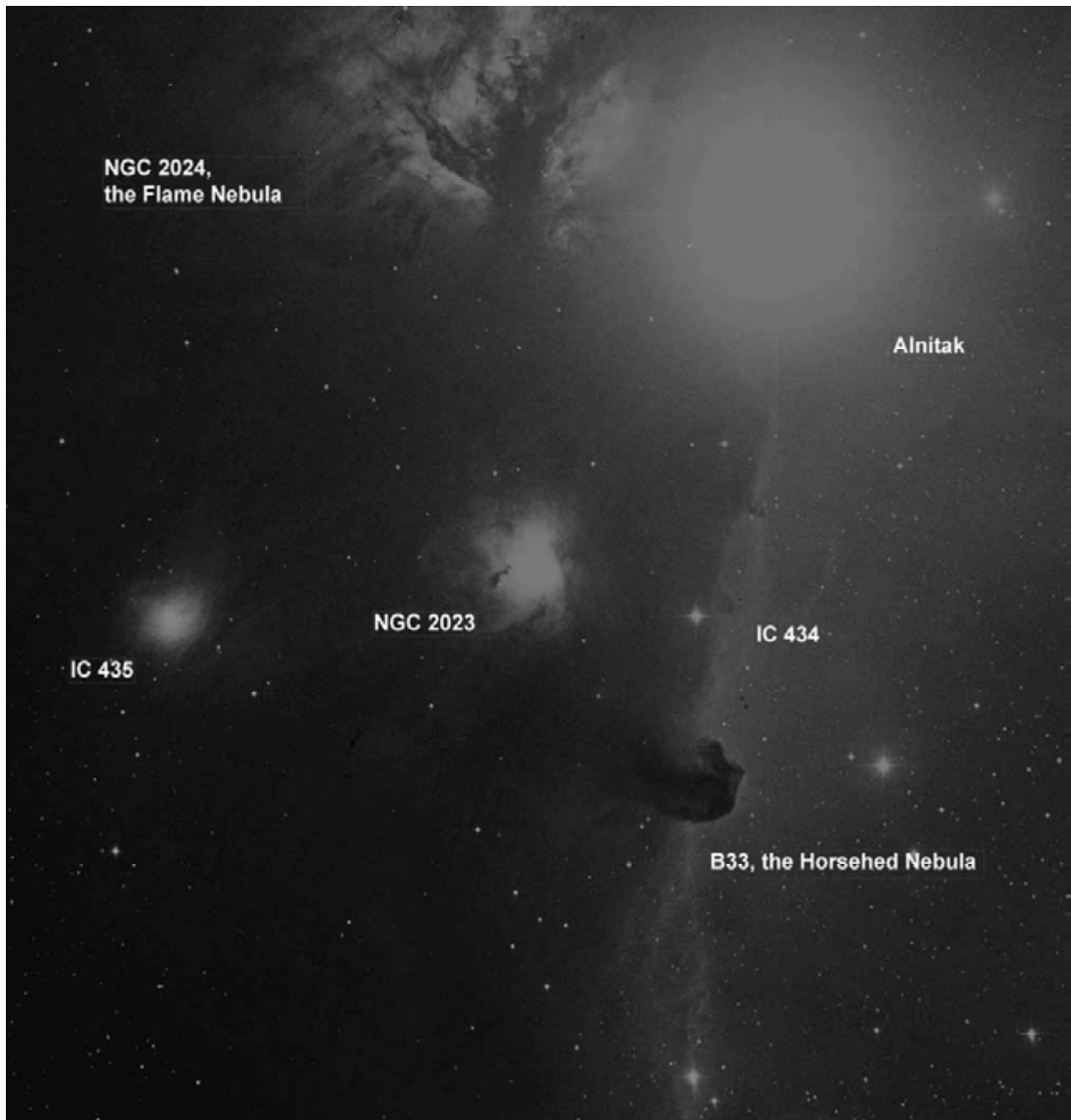
This MegaStar chart shows the 3 belt stars of Orion and the nebulae NGC 2024, 2023 and B33 clustering around the eastern most star of the belt, Alnitak.

If the Flame nebula is visible with the h-beta filter continue slightly south to NGC 2023, a faint nebula surrounding a magnitude 7.8 star. You're likely to notice the star before the nebula, which will be faint even under the best of circumstances. But if you can see 2023, continue slightly west to IC 434, a very, very

(Continued on page 8)

The Observer's Corner (Continued from page 7)

faint nebula running almost directly north – south. If you can see the faintest trace of IC 434 you can now turn your attention to the Horsehead.



This DSS photo shows the area around Alnitak with the nebulae labeled. IC 434 extends south of the Horsehead as well.

The Horsehead will look like a dark notch in the middle of IC 434 and will probably look more like a dark rectangle than the Horsehead shape so easily seen in photographs. It will also probably be larger than expected because you'll need a magnification of about 100x to 125x to see it well, which makes the image scale larger than the typical photo of this area.

(Continued on page 9)

The Observer's Corner (Continued from page 8)

It's also good to note that the apparent size of the bright nebulae in the above photos is larger than what can be seen visually, so it's a good idea to carry a photo of this area with you to the telescope so you can judge the size of the Horsehead in comparison to the background stars, especially the three directly north, south and west of the dark nebula. These three stars range between magnitude 7.5 to 7.9.

I've seen the Horsehead well in large scopes but also fairly distinctly in scopes down to a 4.25 inch Newtonian. The key is a dark, transparent sky and the use of an h-beta filter. Although the Horsehead can be seen without the filter under a truly great sky it does make it much easier, particularly if you've never seen it before. Good luck.

Ok, that's how to find and see the Horsehead, but in the process we've zoomed by a noteworthy destination by itself, NGC 2024 the Flame Nebula. It can show much of the detail shown in photos, with a branching dark nebula giving it a distinctive and appealing look. Try all your nebula filters on this one and keep Alnitak just out of the field of view so it doesn't wash out the fainter detail. You can see 2024 in a sky considerably less dark and transparent than is needed for a good look at the Horsehead.

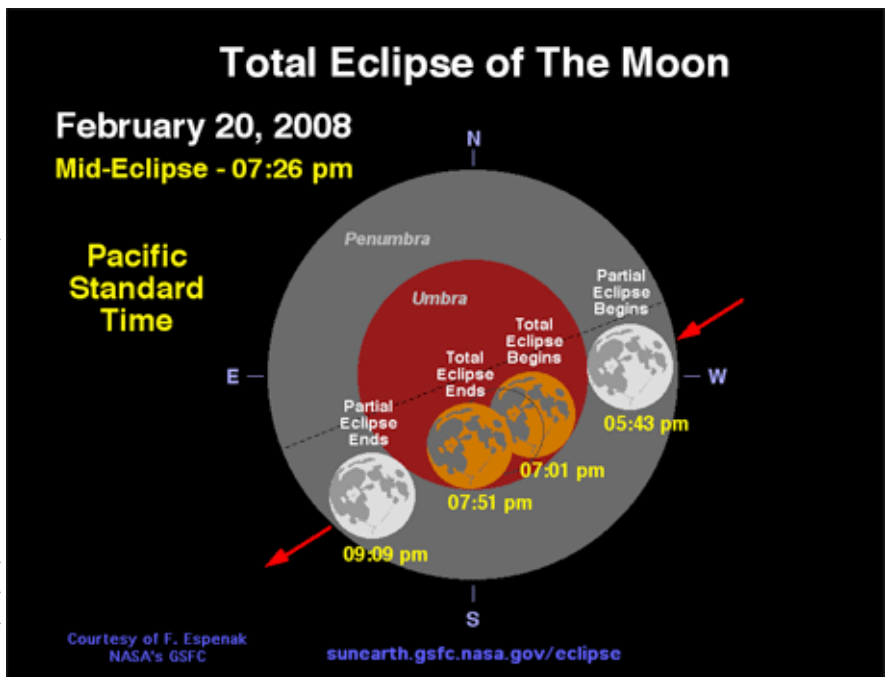
It's rare for most of us to be at a true dark sky site in February, but with the star party season scheduled to start in March, these nebulae are still accessible and can be seen well from Kah-Nee-Ta, Camp Hancock and other quality central Oregon sites.

During the night of Wednesday, February 20, 2008 the Full Moon will slide through the dark shadow of our planet. For 50 minutes, the only light hitting the Moon will be the reddish glow from all of Earth's sunrises and sunsets - a Total Lunar Eclipse! Weather permitting; OMSI and Rose City Astronomers Club will set up telescopes at the east parking lot of OMSI to view the lunar eclipse. Learn how to view the eclipse with the experts and be apart of the event! The entire event is visible from South America and most of North America, as well as Western Europe, Africa, and western Asia. The entire eclipse will be visible from start to finish.

As the moon rises from the east, the eclipse gets underway at 5:43 p.m. PST when the umbral shadow takes a small, dark bite out of the left edge of the Moon. For 73 minutes of the partial phase, the darkness engulfs more of the Moon's disk as it slides into the shadow. The partial eclipse ends and totality begins at 7:01 p.m. PST, when the Moon slides completely within the umbra. The total phase lasts 50 minutes, with mid-eclipse (when the Moon looks darkest) occurring at 7:26 p.m. PST with the moon at 18 degrees above the eastern horizon. What makes it so much fun is that no one can predict what color the Moon will turn during totality. Will it be bright orange, or blood red? Only the shadow knows. Moreover, this eclipse comes with a rare bonus. The planet Saturn will be shining three degrees from the Moon. The total eclipse will end at 7:51 p.m. as the moon exits the umbra. Then at 9:09 p.m., the moon will exit the earth's umbral shadow. Unlike solar eclipses in which the sun's rays can damage the eyes, lunar eclipses are safe to watch with the naked eye. Binoculars and telescopes will enhance the view.

For future visitors to the moon, the Earth during a total lunar eclipse would appear dark and surrounded by a glowing red ring. The eclipse occurs during what early Native American tribes called the full Snow Moon, since winter's heaviest snows often occur in February.

The last total lunar eclipse in the Northwest occurred in August 28, 2007, with the moon appearing burnt orange. If you miss this one, another total eclipse will be December 21, 2010.





BOARD MEETING MINUTES

January 7, 2001

OMSI Classroom 1

Margaret Campbell

Attending: Larry Godsey, Greg Rhode, Patton Echols, Ken Hose, Dale Fenske, Sameer Ruiwale, Jan Keiski, Dareth Murray, Tom Nathe, David Nemo, Carol Huston, Doug Huston, Matt Brewster, Margaret Campbell.

A quorum was met. The meeting was called to order at 7:06.

Officer Reports

- Secretary: Margaret Campbell. Reported receiving the Secretary's materials from Andy Phelps and asked where the minutes are for 2006 – 07. Larry Godsey will send out the RCA Board website URL tonight.
- Treasurer: Larry Godsey reported that the RCA Operations fund has \$17,406.34 and the RCA Site fund has \$16,130.44. There is \$1868.78 in the ACLON bank account and we are waiting on a \$180 check from PSU before closing the account. That will bring the RCA portion of the profits from ALCON up to \$2056.78. The board will vote on what account to place it in.
- Programs: Matt Brewster. The Information Fair will have the usual SIGS and SIG tables. The February program will be a Messier presentation. Doug Huston was suggested as a speaker on that topic.
- Observing: Doug Huston. Star party schedule not done. Kahneetah contract is signed. The 2008 star party schedule will be circulated by email and posted on the Board webpage, and will be ready for handout at the Information Fair.
- Community Affairs: Patton Echols. An additional page for the website will be added for people who contact us seeking information about putting on a star party for their group. (Is it an application form?)
- Media Director: Patton Echols. No contacts this month; will send out publicity on Information Fair.
- Membership: Ken Hose. Seven new members and four renewals. Total of 267 family memberships. Compared to 280 in 2006 and 281 in 2005.
- New Members: Jim Reilly emailed a report to the Board.
- Sales: Sameer Ruiwale reported \$981 sales in December. Ken Cone will still help out at the sales table, but the club still needs a Sales Director.
- Library: Jan Keiski. There have been more donations, and the database is getting updated.
- Scope Library: Greg Rhode. Another donation has come in, a 6" Newtonian reflector. The telescope library is becoming over-grown, and there was some discussion of donating extra scopes to local or international non-profits. Margaret will report back to the Board about donating to international organizations.

- IDA: Bob McGown will send an annual report to IDA from RCA.
- Webmaster: Dareth Murray. The new officers have been added to the website, and the Gazette has just been posted.
- Site Search: David Nemo. Has plans to start a new raffle - - one of the big binoculars that are being sold at the meetings (?),
- SIGs: Tom Nathe. Tim Crawford will be the speaker at the next Science SIG, speaking about variable stars, Jan. 19, 2008, 3:00 p.m. at TMS, right after the ATM meeting.
- ALCOR: Dale Fenske. Our ALCOR dues are due at the end of December.
- OSMI Liaison: Jan Keiski: For the December holiday potluck Jim Todd had a very nice table setup for us in the auditorium. He says that he will be happy to do this for future potlucks as well. Jan reports that Jim Todd is very supportive and appreciative of RCA. .

Goals for 2008, presented by Sameer Ruiwale

1. Have a bigger, better Astronomy Day, May 10th, in a more public place, such as downtown.
2. Improve our focus on new members.
3. Need to find better funding sources, perhaps grants, for larger amounts.
4. Review and revise the by-laws.
5. Strengthen sister club relationships
6. Update our web presence and forums.

Old Business

1. Improving and updating the web presence: there will be a meeting on Jan. 12th by the Forum Committee, and recommendations will be made at the next Board meeting. Ninety people responded to the survey.
2. Mentorship program: Jim Reilly and Tom Nathe haven't connected this month. Ken Hose mentioned that he has talked to a new member about working with kids. She's a teacher in Hillsboro. He will put her in touch with Carol. Carol also has access to lots of material for youth programs. There was some discussion about adopting (and paying for) ASP program materials, but we decided to focus on getting a Youth Director first.
3. Awards: Dareth has a page of all RCA members who have AL awards, and will add in the ASP Youth Award. Doug will review the criteria and our Galileo Award page and bring suggestions back to the Board in February. There was some discussion about having a new, "lesser," award for those people who have contributed to the club but can't meet the high standards of the Galileo award. Also, we want to avoid looking like we just give ourselves and each other all the awards. However, the Galileo is meant to have high standards, and does not have to be awarded every year.

(Continued on page 11)

Board Meeting Minutes (Continued from page 10)

4. **Sister Clubs:** Carol, Dareth and Margaret did not meet during the month, but have done some email conversation and have worked up some ideas. We agreed to get together in January. Margaret suggested inviting Leo to have a monthly column in our Gazette. However, Larry Deal, the editor, has final say over such issues. We decided to invite Leo to submit articles, but not to ask him for a monthly column. Sameer will send the invitation. We have at least two members visiting Mendoza. The first half of February Jan Keiski will visit; and then later in March, Joe Rottmann will visit. They will bring greetings from RCA. Jan and Leo are planning to collaborate and submit an article with photos of her visit for the March Gazette issue.
5. **Astronomy Day:** Dareth and Doug will make a list of what needs to be done. Patton will do the publicity, Larry has contact information for A.D. resources.

Observing Site Committee

To lead and coordinate efforts of the Rose City Astronomers (RCA) in securing and managing a variety of observing sites for private use by members, and for community outreach and special events organized by the RCA.

Please Check

<http://nemoworld.com/RCA/sitehome.htm>

for more information.

Or Contact: David Nemo <david@nemoworld.com>

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through check-out at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



New Business

1. **SIGs:** Carol took Tom Nathe's draft and made changes, using the "track changes" mode. Carol and Tom will finalize the document.
2. **ALCON funds:** Some discussion about what to do with the money earned from the ALCON conference. David Nemo made a motion to put the money into the Site Fund, since that was the original purpose of taking on the task, and a major reason that he was so involved in the project. Motion carried.
3. **Starlight Parade:** Margaret suggested that RCA have an entry in the Starlight Parade. Jan has information on this and will forward it to her.
4. **Yuri's Night:** Dareth is in touch with Evergreen Museum in McMinnville about putting on a Yuri's Day star party. It's April 12th, which is a Saturday.

The meeting adjourned at 8:35 p.m.

Telescope Workshop

When: Saturday, February 16, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest**

Group (SCI-SIG) will be meeting on February 16th at 3pm. Following the Telescope Workshop at Technical Marine Services.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, February 20, 7 PM.

Topic: "Quantum Physics & the Delayed Choice"

Presented by: Matt Brewster

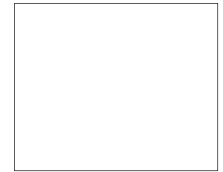
Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)

or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



February 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

February 2008

Feb 1	Fri	Downtowner's Luncheon	TBD	Noon
Feb 4	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Feb 16	Sat	Telescope Workshop	Swan Island	10am-3pm
Feb 16	Sat	Science SIG	Swan Island	3pm
Feb 18	Mon	General Meeting	OMSI Auditorium	7pm
Feb 20	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm
Feb 20	Thurs	Lunar Eclipse Star Party	OMSI	

March 2008

Mar 3	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Mar 7	Fri	Downtowner's Luncheon	TBD	Noon
Mar 15	Sat	OMSI Star Party	Rooster Rock S.P.	
Mar 16	Sat	Telescope Workshop	Swan Island	10am-3pm
Mar 16	Sat	Science SIG	Swan Island	3pm
Mar 17	Mon	General Meeting	OMSI Auditorium	7pm
Mar 19	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm
Mar 28/29	Fri/Sat	Messier Marathon Star Party	Kah-Nee-Ta	

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Message Line: (503) 255-2016
 Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 3

Newsletter of the Rose City Astronomers

March, 2008



RCA MARCH 17 GENERAL MEETING

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - Photo Contest
- 3 .. 2008 Star Parties!
- 4 .. Star Party Directions
- 5 .. Mendoza Adventure!
- 9 .. The Observer's Corner
- 10. OMSI Star Party!
- 11. 2007 A.L. Awards!
- 12. Board Minutes
- 13. Telescope Workshop
 - Science SIG
 - RCA Library
 - Site Committee
 - Cosmology SIG
- 14. Calendar

Richard Berry will present two kinds of observatories in South Africa: the historic observatories and the very most modern. When he visited South Africa last April for the annual ScopeX gathering of amateur astronomers in South Africa, he helped to judge the many home-built telescopes. He will show just a few of those. Then, since, the event was held a short distance from historic 26-inch Union Refractor at Johannesburg, he visited there and the nearby (but semi-abandoned) amateur observatory of the Johannesburg Astronomical Society. He then drove down to Cape Town and had the run of the SAAO (South African Astronomical Observatory) building and library for three days, and even slept in the observatory's stables.



Richard with some of the ScopeX people -- Chris, Richard, Francois, and Lerika. In the background is one of the biggest telescope mirrors in the world.

On the high-tech side, the SAAO supports the SALT

(South Africa Large Telescope), one of the worlds' largest light-buckets with an aperture of about 11 meters. In the Cape Town facility, He saw the labs where the big expensive CCDs and spectroscopic instruments are built and tested, and even

saw the inside of the clean room. At the SALT telescope itself, he was allowed to go anywhere one could go without a hard hat. He'll show lots of pictures and tell you what it's like to be inside a telescope so big that you can stand inside it.

All are Welcome! Monday March 17

Social Gathering: 7 pm. Meeting Begins: 7:30 pm.

Location: OMSI Auditorium



RCA is a member of the Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

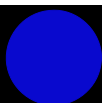
Moon photos below courtesy David Haworth

New Moon
March 7

First Quarter Moon
March 14

Full Moon
March 21

Last Quarter Moon
March 29



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Programming	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlk.com
Sales Director	open			
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnathe@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

Announcing The OMSI Kendall Planetarium Astronomy Photo Contest! By Jim Todd

In 1609, Galileo first used an astronomical telescope to bring the night skies closer. Four hundred years later, we use the wonders of modern photography to capture those skies on film.

In celebration of the International Year of Astronomy, OMSI's Kendall Planetarium is sponsoring an astronomy photo contest. Winning astronomy photos will be published in OMSI's 2009 Kendall Planetarium astronomy calendar.

Grand prize:

- Photo featured on the front cover and inside a 2009 astronomy calendar, planned for national distribution
- A one-year OMSI Family Membership, which includes discounts on Science Store purchases, science camps and classes, and more.
- Celestron SkyScout® Personal Planetarium (\$429 value)

Prizes for 11 Honorable Mention Winners:

- Photos published in a 2009 astronomy calendar, planned for national distribution.

- A one-year OMSI Family Membership, which includes discounts on Science Store purchases, science camps and classes, and more

In addition, ALL winning photos will be displayed at OMSI in 2008.

Contest Period: The contest runs February 20 - March 31, 2008. All entries must be received by 5:00 p.m. PST on March 31.

How To Enter: No more than three entries per person.

By e-mail:

Attach online entry form at <http://www.oms.edu/contest> and e-mail form and photo submission to: calendarcontest@oms.edu Note: If submitting more than one photo: A separate entry form must accompany each submission. You may send separate e-mails. Any single e-mail above 2MB will be disqualified.

(Continued on page 10)

Rose City Astronomers – 2008 Star Party Schedule

DATES	DAYS	EVENT	LOCATION
February 20	Wed	Total Lunar Eclipse.	OMSI
March 15	Sat	Vernal Equinox Celebration	Rooster Rock State Park
March 28 – 30	Fri – Sun	Messier Marathon at Dark Site	Kah Nee Ta (2)
April 4 – 6	Fri – Sun	RCA Dark Sky Star Party	Camp Hancock*(1)
April 12	Sat	Planet Parade	Rooster Rock State Park
May 2 – 4	Fri – Sun	RCA Dark Sky Star Party	Camp Hancock *(1)
May 9	Fri	RCA Astronomy Day	Pioneer Place (tentative)
May 10	Sat	OMSI Astronomy Day	Rooster Rock
May 30 – June 1	Fri – Sun	RCA Dark Sky Star Party	Maupin Site*
June 14	Sat	Summer Solstice Celebration	Rooster Rock
June 27–29	Fri – Sun	RCA Dark Sky Star Party	Maupin Site*
July 5	Sat	RCA Public Star Party/Outreach	Stub Stewart State Park
July 12	Sat	Luna Viewing	Rooster Rock State Park
July 31 – Aug 2	Fri – Sun	Table Mountain Star Party	Ellensburg WA *(1)
August 1 – 3	Fri – Sun	RCA Dark Sky Star Party	Trout Lake, WA *
Auguts 6 – 10	Wed – Sun	Mount Bachelor Star Party	Bend, OR*(3)
August 9	Sat	RCA Public Star Party/Outreach	Stub Stewart State Park
August 11	Mon	Perseid Meteor Shower Watch	Rooster Rock State Park
August 28 – 31	Thu – Sun	Oregon Star Party	Indian Trail Springs*(3)
September 5	Fri	RCA Public Star Party/Outreach	Stub Stewart State Park
September 6	Sat	Autumnal Equinox Celebration	Rooster Rock State Park
September 26–28	Fri – Sun	RCA Dark Sky Star Party	Camp Hancock *(1)

*Camping available

(1) Pre-registration and fee required

(2) No camping at the observing site, reservations required; contact resort.

(3) Registration and fee required. Onsite registration available

Questions or comments, contact Doug Huston, Vice President of Observing, at geometer@comcast.net or (503)629-8809

Star Party Driving Directions

CAMP HANCOCK

OMSI's Camp Hancock Field Station is located near Clarno. You have two basic route choices to choose from. 1) Take I-84 east from Portland to Biggs Junction (exit 104), exit and head south on Hwy 97 to Shaniko. 2) Or you may take Hwy 26 east over Mount Hood. Turn left onto Hwy 216, which will take you to Hwy 197 just west of Maupin. Turn right on Hwy 197 and take it south to its junction with Hwy 97. Turn left onto Hwy 97 and take it to Shaniko. At Shaniko, turn south on Hwy 218 (Shaniko-Fossil Hwy) and continue through Antelope and east towards Clarno near the John Day River. Look for the entrance to Camp Hancock about two miles east of the John Day River.

INDIAN TRAIL SPRING

Travel east out of Prineville on Hwy 26 approximately 14 miles past the Forest Service Headquarters located at the east end of town, turn right onto the Ochoco Ranger Station Road. Zero your trip meter and travel 8.4 miles, until you come to a Y in the road just past the Big Summit Ranger Station. At this Y, stay to the right turning onto FS road # 42. Follow this for 19 miles as it winds up into and through Big Summit Prairie. Then turn right onto FS 4240 and proceed for 2.7 miles, turn right onto FS-800. Go 1.5 miles west on 800 and you will arrive at Indian Trail Spring. The site is located on National Forest Service lands and is at 5000 feet of elevation.

KAH-NEE-TA

Travel east on Hwy 26 past Mt. Hood Government Camp, turning south towards Bend at the junction on Mt. Hood. Turn Left towards Simnasho (approximately 29 miles east of Government Camp - Big Kah-Nee-Ta sign on Hwy 26). Follow the road to Kah-Nee-Ta resort (also marked by large sign at resort driveway entrance). On the way to the resort, you'll pass the observing site before dropping down into the river valley. It is in the open field up to your left from the highway close to the Mile 14 milepost marker.

ROOSTER ROCK STATE PARK

Head east on I-84 from Portland. Take exit #25 and loop over the freeway to the State park. Day Use Permit is \$3.00 nonmember / \$1.50 OMSI member per vehicle at Rooster Rock State Park.

STUB STEWART STATE PARK

Head West on US 26 from Portland for approximately 30 miles. Exit Northbound on Highway 47 to Vernonia. The park is 4 miles from 26 on the Right (East) side.

TROUT LAKE

From Hood River head north on the Hood River Bridge (Toll \$0.75 per Axle). Proceed West on Highway 14 for 1.5 Miles. Turn North on Highway 141 for approximately 23 miles (1.7 Miles beyond Trout Lake). Turn right on Trout Lake Creek Road and proceed 4.6 miles. Turn left on Forest Road 88 and proceed 1.2 miles to Flattop Snow Park.

MAUPIN SITE

Take Hwy 26 east over Mount Hood. About 12 miles beyond Government Camp turn left onto Hwy 216, towards Pine Grove and Maupin. About 6 miles east of Pine Grove at the intersection of Reservation Road and Hwy 216 there is a small gas station and Quick Mart. Here you'll turn left onto Old Wapinitia Road and continue 2 miles. You will see the airstrip on the right hand side of the road, just past the Kelly Cutoff Road.

Jan's Mendoza Adventure Under the Stars (Part 1)

By Jan Keiski, RCA (Rose City Astronomers) &

Leo Cavagnaro, GAMA (Grupode Astronomos Mendocinos Aficianados)

Photos by Jan Keiski

Sunday - Jan's first night in Mendoza was an urban view from the sidewalk in front of Carlos Gutierrez's house. Using binoculars we observed the Jewel Box; IC2602-Southern Pleiades & Eta Carina region including some interesting open clusters. We also saw the open cluster NGC2516 visible to naked eye even from the city. Orion was upside down! Taurus; Castor & Pollux in Gemini, the Twins were very prominent in the less light polluted Mendoza skies. It was a terrific introduction to the wonders of the Southern Skies! During February Canopus is high in the Southern Sky. We enjoyed viewing it.

Monday - The right time to relax before our different astronomical activities during the following 14 days Jan was in Mendoza. On Monday afternoon we visited downtown and she did some shopping. After that we went to a very special place where you can enjoy a different kind of ice cream, Argentine "helado". Pure delight! Argentine beef being the other!



Tuesday night - Welcoming Asado - Leo prepared a welcoming asado which is like a barbeque, but in a special way to prepare and cook the meats, using coals scooped from a fire to the side of the cooking area. It was in Leo's beautiful backyard. Jan made some short movies about this unique cooking experience preparing the special foods of Argentina. During the asado we talked and exchanged ideas about our astronomical activities for the following days. All the guests enjoyed a very nice dinner under the southern stars and viewed the rising Southern Cross visible from Leo's backyard.

Friday night and Saturday night. - USPALLATA

Both nights, music and fireworks came from a festival in town. A month long festival similar to the Rose Festival. The Vendimia Festival is one of the most important and oldest celebra-

tions in Argentina. The music lasted until past 4AM each night!

Friday night observing - Jan and some members of GAMA arrived in Uspallata on Friday evening. We stayed in a hostel situated close to the hotel where our friends from RCA stayed two years ago (2006). At night Carlos and Jan observed from a field next to hostel, using Jan's Orion 9 x 63 mini-giant binoculars. Objects viewed included the Large Magellanic Cloud (LMC) and the Small Magellanic Cloud (SMC); 47 Tucanae; the Jewel Box; open clusters in the False Cross; Crux (Southern Cross); and Eta Carinae Nebula.

Saturday morning and afternoon. On Saturday morning Jan, Carlos, Leo and Pepe went to a place called "Cerro Tunduel" about 5 kilometers away from the Village. It's an amazing place where you can view petroglyphs up to 3,000 years old! Also it is one of the places where the movie "Seven Years in Tibet" was filmed. That area is also a good place to observe from. Later that day, early afternoon some members of GAMA went to a restaurant for lunch. We enjoyed huge portions and delicious beef called "churrasco" with terrific French fries.



While there we made an incredible discovery! A very large "meat-eorite" appeared in front of Jan on her plate!!!!

After lunch Jan had a nice gathering with GAMA members in the Hostel Garden. At that moment Jan gave a brief speech about RCA activities, showing some pictures of Oregon and her friends in Portland. She also twirled her glostick baton to the enjoyment of GAMA members. Then it was time to load our telescopes and auxiliary equipment to make a short trip to our nearby observing site.

(Continued on page 6)

Jan's Mendoza Adventure... (Continued from page 5)

Saturday night observing. At about 9PM we left the hostel to go to the observing site a few kilometers away, very close to a site from where we observed the partial solar eclipse with the RCA group September 22, 2006. We arrived with sunlight in order to have time to set up our telescopes and equipment before dark. The sunset was at 9:33 pm local time and the sky was mostly dark at 10:30pm. The Astronomical twilight for Uspallata was at 11:00pm (due to Argentina's Daylight Saving Time). Astronomically, Leo says daylight saving time totally ridiculous! UT - 2 hours when geographically we are actually UT - 4 1/2 hours. So we had to wait until 11pm to have a totally dark sky and begin with our detailed observations. Before that time Jan was observing the Moon and taking photos of a thin crescent (2 day's old) setting behind the Andes.



Partly cloudy skies were a problem to achieve targets on lists. Leo was working on the LMC doing very detailed research for the book he is writing on the LMC & SMC. While Jan used her binoculars, Carlos used Jan's travel scope, an 80mm Orion short tube refractor, to observe the non-Messier objects included in our annual Marathon, like NGC 3766, an awesome open cluster in Centaurus and NGC 4945, a galaxy in the same constellation not far from the amazing globular cluster NGC 5139 (Omega Centauri). Eduardo & Nicolas Cruciani were observing using the telescope that Ken Hose donated to GAMA. Graziano DiGiannantonio was observing some galaxies in the southern sky using his 6 inch reflector.



At the observing site there were telescopes, binoculars and observing guides. Telescopes in GAMA are mostly home-made instruments. The most common telescope in GAMA is the Newtonian reflector, with mirrors from 6" to 12". A new member of the GAMA Group made an 8" telescope f/8. He joined us during the 6th year of our Southern Messier Marathon. The main activity in our group is visual observation and our monthly star parties all year long are very successful.



Other members of GAMA such as Elias Juri and Aurelio Fornas tried to carry out Southern Messier Marathon, but clouds closed in around 1:30AM. However we stayed until 2:30AM waiting for a miracle. We did have some sucker holes. A very unusual summer this year, with several cloudy nights. La Nina!

Talking briefly about observing sites, Uspallata Valley is a really good place to observe from because you have very dark skies even at a very few miles from the small town, plus you can also find restaurants, hotels and phone call/internet centers. Leo found a new observing site situated at 13 miles east of the

(Continued on page 7)

Jan's Mendoza Adventure... (Continued from page 6)

village. That place looks great, with very dark skies and a good altitude (2,400 meters above sea level). Some months ago Leo was there observing the night sky with just his eyes for a few minutes. The next step is to set up a telescope and to have a more accurate idea about seeing and limiting magnitude. In his opinion this place would be a great site to observe the Southern Skies with GAMA members and also when friends from RCA and other groups in Oregon visit Mendoza.

After leaving our observing site we went to the hostel from where we observed the partially cloudy sky without optical aids for a while and then we enjoyed some sandwiches. 5AM we called it a night!



Southern Hemisphere Milky Way; False Cross; Carinae



Sunday - Uspallata Ceremony with GAMA members

At noon we began the asado that we usually enjoy on the Sunday noon after observing. To prepare a typical asado we need about two hours. Leo was the chef, with Jan helping him place meat on grill, a special meat called Palomita. Meanwhile we enjoyed conversations with members of GAMA, enjoying a sunny Sunday in Uspallata Valley. In the name of the GAMA group, I, Leo, would like to thank RCA members for the great and wonderful donations to our club. We will always be grateful for our friendship with Rose City Astronomers. Personally I'm always thinking about new ideas for future projects between RCA and GAMA.

The second Tuesday evening - Potrerillos Observing - a small group of GAMA and Jan went south of Mendoza to a beautiful place by a lake near Potrerillos. It took an hour of driving. A very nice place to observe the southern skies for a couple hours and a picnic dinner. Jan was taking photos of some southern highlights such as the Magellanic Clouds and the brighter regions of the Milky Way situated in constellation Carina.



San Martin Park - The day after coming back to Mendoza City from Uspallata Valley we went to San Martin Park for a few hours. That is an artificial park where a lot of people go each day to enjoy nature. Jan took some artistic pictures of the Moon and pine trees during the day.

(Continued on page 8)

Jan's Mendoza Adventure... (Continued from page 7)

Some Concluding Remarks by Leo Cavagnaro, GAMA

When I see friends from RCA visit Mendoza to enjoy with us the Southern Skies and to share our common affection for that marvelous science called astronomy, I can not forget how far we can go when enthusiasm is present and we carry out projects and joint activities taking into account two of the most important things to have in mind, in my opinion: carrying out proposed projects and quality. Some years ago I sent from my computer an e-mail to RCA Group in Oregon because I saw on internet a great and enthusiastic group of amateur astronomers up there. Since that day we have enjoyed together several great activities, at first from the distance, then together. Personally I think one of the most awesome things to do in astronomy is to share the skies with people from other parts of the world. That enriches our souls and our knowledge in this beautiful science. Never forget to look up and enjoy the stars!

Sincerely,
Leo Cavagnaro

(Coming in Part 2)

CASLEO Observatory * Villaviencio * Salentein Winery Tour * "Hasta Luego", ("Until We Meet Again") Party * Fossil Hunting, Petroglyphs, Adventure Crossing a Flooded Stream Across Road to Barreal, Argentina * Andes Mountains * San Juan area.



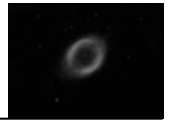
Photo by Carlos Gutierrez



Photo by Carlos Gutierrez



Photo by Carlos Gutierrez



The Moon

I've never been excited about the Moon. Sure, when I was a kid I daydreamed about being an astronaut and landing on it, but for the most part the only interest I've had in the Moon was to know when it would be out of the evening sky so I could observe deep sky objects. Although lunar eclipses and occultations have been interesting I don't recall going out at night with the Moon being my main observing target – ever.

A few months ago that struck me as insane, or more appropriately, lunacy. I was out in my backyard on a Moonlit night observing Mars, or rather the tiny, quivering orange dot that we generally see as Mars from here, and it struck me that if I could see one tenth the detail on Mars that I can see on the Moon just by looking up at it I'd be ecstatic. And then the crazy thought that I might actually enjoy observing the Moon popped into my head. Besides, we have nice weather nearly every month around full Moon, why not take advantage of it?



Does the full Moon really cause clear skies in the Pacific Northwest? Image by the Galileo probe before heading for Jupiter.

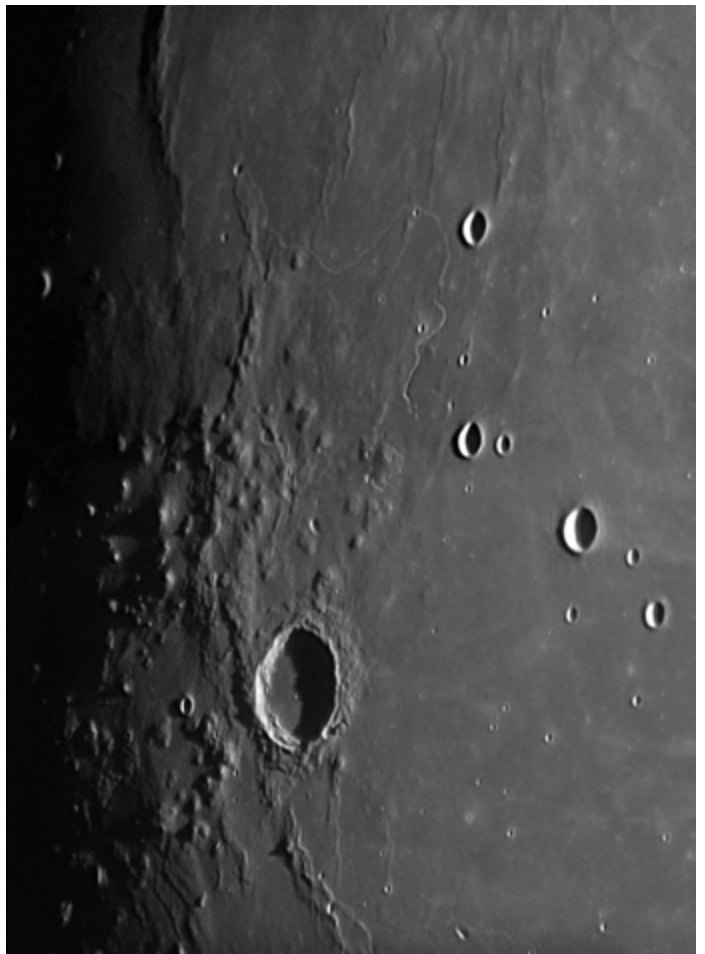
I've enjoyed Charles A. Woods's monthly articles in Sky & Telescope magazine about various features on the Moon and have even have been following his LPOD website for some time. But it wasn't until my crazy thought that night that I knew I had to get a good reference book about the Moon that explained what all the features were and how they probably formed to make sense of what I might observe. Woods book "The Modern Moon, A Personal View" turned out to be the perfect choice.

I bought the book for myself as pre-Christmas present and it turned out to be exactly what I hoping for. How the Moon may

have formed is given little space but everything that happened to it since its formation forms the heart of the book. Features are pointed out, various theories on they may have formed are explained, and the scientists who came up with the theories are all woven together in a fascinating narrative that I found perfectly blended with lots of detailed photos.

Best of all, it gave me the context in which to go out and observe the Moon, to find features described in the book and see them in almost as much detail as shown in many of the photos in the book. Astounding!

For instance, there's an area south of the Aristarchus Plateau in Oceanus Procellerum called the Marius Hills - all wonderful names by the way - which is an expansive collection of volcanic domes. They are typically only a few hundred meters tall and only a few have summit craters, but under the right lighting conditions they stand out in surprisingly bold relief. These hills are probably the result of a large mass of magma that made it to the surface of the Moon. A few days before full Moon is the best time to see them, which is also perfect timing for our full Moon weather.



The Marius Hills region on the Moon. The large crater is Marius, and note the sinuous rills and mare wrinkle ridge. Photo by Jerome Grenier.

(Continued on page 10)

The Observer's Corner (Continued from page 9)

Another intriguing feature is the crater trio of Pitatus, Hesiodus and Hesiodus A.



Photo by Derek Francis

Pitatus is the large crater on the right in the above photo, and is located near the southern edge of Mare Nubium. Note the arcuate rille along its inside edge, perhaps caused by its floor subsiding. Hesiodus is the smaller crater to the left of Pitatus and has a small crater located almost in its center, but the real prize here for me is Hesiodus A, the somewhat oblong, 14.5 kilometer diameter crater on the southern border of Hesiodus.

Note that it has an interior ring that's essentially a circular hill. This is a rare example of a concentric crater, one of only 51 on the Moon. They're probably formed by a volcanic intrusion process that has no analogue on Earth, with Hesiodus A being the most easily observed example of its class. A special sight.

I could go on, but the point is that I've seen the light – the Moonlight that is – and hope to encourage others to start enjoying our closest neighbor in space.

So why didn't I observe the Moon all these years? Probably because it was too familiar and was a nuisance when I wanted to explore the rest of the universe. The nuisance part took over completely and that was that until recently.

For a daily fix on something interesting about the Moon, check out Wood's LPOD website at <http://the-moon.wikispaces.com/LPOD>. Wood's book "The Modern Moon, A Personal View" is fabulous and is available through Sky Publishing for \$44.95 at <http://shopatsky.com/prodinfo.asp?number=46999>.

So how am I doing as a brand new Moon aficionado? I can now name most of the mare regions, about a dozen craters and perhaps a few volcanic features so I've just scratched the surface of what there is to see on the Moon. And because what can be seen changes dramatically with the lunar phase and libration, even familiar features will take on new aspects over the coming years.

Now that I've made a friend of the Moon and enlarged my observing agenda in the process there's a lot to look forward to. Curing my lunacy took a long time, and thankfully that huge chunk of celestial real estate next door is no longer a night time nemesis.

Photo Contest (Continued from page 2)

By mail:

Print online entry form at <http://www.oms.edu/contest> and mail it with photo submission(s) on a CD to Jim Todd, OMSI Astronomy Photo Contest, 1945 SE Water Ave., Portland, OR 97214. Note: If submitting more than one photo: A separate entry form must accompany each submission. However, photos can be sent on one disc and in one mailing package.

Important: OMSI employees and their family members are not eligible to participate.

Format: All entries should be sent as .tif or .jpg files. Images should be 100 dpi, 720 x 480 pixels. E-mailed entries must be less than 2MB. Winners will need to deliver high-resolution images (12x12 at 300 dpi) by April 30.

Judges: Jim Todd, Kendall Planetarium Manager, and other well-known local amateur astronomers and photographers.

Please see complete contest guidelines at <http://www.oms.edu> before submitting.

If you still have questions, please e-mail calendarcontest@oms.edu

OMSI Vernal Equinox Celebration March 15!

Wednesday, March 19 is the vernal equinox for Pacific Time Zone at 10:48 pm PDT, the day on which both the north and south pole of the earth are equal distances towards the sun (92.6 million miles). At that instant the sun stands directly over the Earth's equator. The first day of spring, called 'the vernal equinox', vernal meaning 'green', and equinox meaning 'equal night', which simply means that on the equinox the hours of daylight are nearly equal to the hours of night.

On Saturday evening, March 15, OMSI, Rose City Astronomers and Vancouver Sidewalk Astronomers will celebrate the vernal equinox and the beginning of spring with a free Star Party! Join us as we gaze at the pre-spring night sky at Rooster Rock State Park, located 22 miles east of Portland on I-84 (east of Sandy River) at exit 25, starting at 7:30 pm.

From beginners to experts of all ages, here's your opportunity to view the stars, and other objects up-close and personal through telescopes. Viewing highlights includes the planet Mars and Saturn, Orion Nebula, Beehive star cluster, waxing gibbous moon and more! For possible weather cancellation, call (503) 797-4610 on March 15 after 3:00 PM to get the latest information.

2007 Astronomical League Observing Awards!

Many awards were never posted in the Gazette last year. The problem was on my end of the communication between the Gazette and my e-mail posting. Either the address I was sending the awards notification to was incorrect or my e-mail program did not send duplicate messages to the web awards page and the our editor for the Gazette at the same time. The problem is now fixed.

The ones who worked hard to receive their awards deserve more than just recognition at the meetings and a posting in the RCA web awards page, they also deserve recognition in our newsletter. The following is a listing of all the awardees for the last year. A belated congratulations to all.

Dale Fenske, Awards Coordinator



Binocular Messier Club

John Harris
#692

Mark Kawalski
#744



Herschell 400 Club

Howard Knytych
#275

Tom Nathe
#337

Rufus Day III
#357

Herschell 2 Club

Howard Knytych
#44

Deep Sky Binocular Club

Margaret McCrae
#207

Kenneth Hose
#237



Messier Club

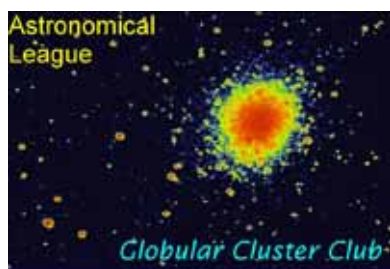
Gregory Rhode
#2275

Tom English
#2274

Steve Jaynes
#2296

John Harris
#2314

Joel Loh
#2346



Globular Cluster Club

Rick Olson
#52

Ronald Thorkildson
#64

Martin Alvey
#85

Matthew Vartanian
#90

John Harris
#96



Lunar Club

John Phillips



BOARD MEETING MINUTES

January 7, 2001

OMSI Classroom 1

Margaret Campbell

Attending: Larry Godsey, Greg Rhode, Ken Hose, Sameer Ruiwale, Tom Nathe, David Nemo, Matt Brewster, Margaret Campbell, Peter Abrahams.

A quorum was not met. The meeting was called to order at 7:08.

Officer Reports

- Secretary: Margaret Campbell brought final draft of January minutes, which she will send to the Board and submit for the website.
- Treasurer: Larry Godsey reported that the RCA Operations fund has \$16,783.92 and the RCA Site fund has \$16,293.90.
- Programs: Matt Brewster. The February program will be a Messier presentation. Doug Huston will be the speaker. For the March program, we will have either Richard Berry on his trip to South Africa, or another speaker - - who has not responded to Matt's invitation - - in March and Richard Berry in April.
- Observing: Doug was not at the meeting, and the star party schedule for 2008 still has not been finished. There is a monthly calendar on the website, but not the one-page list of the year's events. There was some discussion about putting non-RCA sponsored events on that list (such as Table Mountain and OSP), and what "sponsorship" means. It generally means that at least one person from RCA is an organizer or liaison with the event, and that RCA assists in advertising, announcing the event and carries information about it on the website or in the newsletter. The consensus was to include those OSP on the list because it is so closely tied to RCA, and also Table Mountain and Mt. Bachelor Star Parties even though RCA doesn't technically sponsor them, because they are helpful in planning one's observing schedule, but not to list other events lest the list get too long. In other words, keep doing what we've been doing.
- It is also time to advertise the Kah-Nee-Tah Messier Marathon. Matt reported that the rooms are \$78/room, with a 24-hour cancellation policy. Matt will send out an email to the membership, and Larry or Dareth will put up information on the website.
- Membership: Ken Hose. Seven new members in January and five renewals. Total of 278 family memberships, and \$342 in dues. This is down a bit from a year ago, but only slightly.
- New Members: Jim Reilly did not attend, but there was some discussion about finding a better forum for meeting with and assisting new members. The idea of using the

planetarium for a few minutes before or during the general meetings was discussed and tabled until March. The March new member orientation will be at the OMSI planetarium at 6:15 before the general meeting on March 17

- Sales: Sameer Ruiwale reported \$801 sales in January. We sold one pair of the large binoculars in January and two in December. We keep the inventory on consignment. Margaret has agreed to take over the Sales Director position, with the help of Ken Cone, and working with Larry Godsey and Sameer for a few months.
- Scope Library: Greg Rhode reported nominal activity.
- Site Search: David Nemo reported that at the January meeting he met a man from Arlington, Oregon who is interested in promoting astronomy as a potential development project for Arlington. He asked Dave to give him a letter which he can show to the mayor and other leaders of the city, and perhaps help us find our observing site. Arlington, however, is quite a bit further east than, say, Tygh Valley. Dave will give him the letter, however.
- SIGs: Tom Nathe reported good attendance and good presentation at the last Science SIG. There was lively discussion about the idea to have a Beginners' SIG, which fit with the previous discussion about Jim Reilly's role and a place for new members to meet with him. The general consensus was not to have a SIG for beginners, but perhaps occasionally to offer programs that are an alternative to the deep cosmology of some of our speakers. Again, these alternative presentations might be in the planetarium.
- Mention was also made of having more Trout Lake or McMenamins style star parties.

Old Business

1. Forum/E-mail Committee: David Nemo reported that on January 12 there was a meeting of seven people. They decided to make a test site and run it for a few months for the Board to see if it works before it goes public. However, his technical assistant, Paul Swanson, got sick and no work has been done on creating the new list and/or features. There was discussion of the web site organization and comments on reorganizing and redesigning it.
2. Sister Clubs: Margaret will email the Board the list of suggestions she sent to Carol Huston last year.
3. SIGs: The rewrite is complete. We will vote on it next month when we have a quorum.
4. Mentorship: The consensus was that the new member services and the orientation are probably filling this need.
5. Youth Program: Ken Hose connected the friend that he had mentioned last month to Carol Huston. Sameer will get her name from Carol.

(Continued on page 13)

Board Meeting Minutes (Continued from page 12)

6. Astronomy Day: Dareth and Doug have been working hard on setting up an Astronomy Day activity, including a star party and a daytime sidewalk event in Pioneer Place.
There was some discussion about putting Yuri's Night on the star party list, and consensus that this could be a good annual event and nice connection for RCA, but no final decision was made that this reporter remembers.
7. Starlight Parade: Margaret reported that she had received the information about the starlight parade, but had forgotten to bring it to the meeting. She received a green light from the board to continue planning RCA's participation in this event.

Observing Site Committee

To lead and coordinate efforts of the Rose City Astronomers (RCA) in securing and managing a variety of observing sites for private use by members, and for community outreach and special events organized by the RCA.

Please Check

<http://nemoworld.com/RCA/sitehome.htm>
for more information.

Or Contact: David Nemo <david@nemoworld.com>

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through check-out at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



New Business

- Sameer will not be able to attend the February general meeting or the March board meeting, because he will be traveling.

The meeting adjourned at 8:20 p.m. Respectfully submitted,
Margaret Campbell-McCrea

Telescope Workshop

When: Saturday, March 22, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest Group (SCI-SIG)** will be meeting on March 22nd at 3pm. Following the Telescope Workshop at Technical Marine Services.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, March 19, 7 PM.

Topic: "The Dark Void in the Universe"

Presented by: Lamont Brock

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

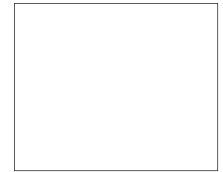
Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>



Commander Stephen Frick guided space shuttle Atlantis to a flawless landing at NASA's Kennedy Space Center on Feb. 20, 2008, to end STS-122. *NASA Photo*

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



March 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

March 2008

Mar 3	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Mar 7	Fri	Downtowner's Luncheon	Kell's	Noon
Mar 15	Sat	OMSI Star Party	Rooster Rock S.P.	
Mar 16	Sat	Telescope Workshop	Swan Island	10am-3pm
Mar 16	Sat	Science SIG	Swan Island	3pm
Mar 17	Mon	General Meeting	OMSI Auditorium	7pm
Mar 19	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm
Mar 28/29	Fri/Sat	Messier Marathon Star Party	Kah-Nee-Ta	

April 2008

Apr 4	Fri	Downtowner's Luncheon	TBD	Noon
Apr 4/5	Fri/Sat	Dark Sky Star Party	Camp Hancock	
Apr 7	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Apr 12	Sat	OMSI Star Party	Rooster Rock S.P.	
Apr 19	Sat	Telescope Workshop	Swan Island	10am-3pm
Apr 19	Sat	Science SIG	Swan Island	3pm
Apr 21	Mon	General Meeting	OMSI Auditorium	7pm
Apr 20	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION

Message Line: (503) 255-2016

Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 4

Newsletter of the Rose City Astronomers

April, 2008



RCA APRIL 21 GENERAL MEETING SCIENCE PROJECT NIGHT With Oregon Episcopal School Students

The RCA is proud to present the Oregon Episcopal School Science Fair participants at the April General Meeting. Rose City Astronomers that have been present for past OES presentations have agreed that the variety and quality of research projects on display have been stellar.

Participants this year will present a brief "Elevator Speech" on their projects that include:

- Star Formation Rates in Galaxies..... by Emily Petroff**
- Variable Star Analysis..... by Opher Kornfeld**
- Structural Concrete Improvement..... by Michael Loy**
- Alzheimer's Tissue Culture Study..... by Samira and Rachel**
- Zebra Mussel Invasion Study of the Columbia River Basin..... Matthew Nugent**
- A Columbia River Basin Geological Study..... by Kerry and Dennis**

Following the introductions RCA members and guests may individually study the student display boards and ask questions of the presenters. This exercise is valuable for the students, and a win/win educational opportunity for the RCA. Your participation is appreciated!

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - President's Message
- 3 .. A Lunar Gallery VI
- 6 .. The Observer's Corner
- 8 .. Mendoza Adventure P2
- 12. Telescope Workshop
 - A.I. Awards!
 - Science SIG
 - RCA Library
 - Site Committee
 - Cosmology SIG
 - RCA Downtowners
- 13. NWRAL Star Party
 - Yuri's Night Event!
 - Neil Tyson Presentation
- 14. Calendar



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

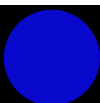
All are Welcome! Monday April 21
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Auditorium

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

New Moon
April 5



First Quarter Moon
April 12



Full Moon
April 20



Last Quarter Moon
April 28



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Programming	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlk.com
Sales Director	open			
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnathe@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

President's Message By Sameer Ruiwale

I am real excited about an upcoming event that the RCA will be participating in this year – Astronomy Day 2008. Astronomy Day is a grass roots movement designed to share the joy of astronomy with the general population - "Bringing Astronomy to the People." One day each year, astronomy clubs, planetariums, and other groups of sky lovers come together to expose the general public to the wonders and excitement of astronomy. Many of these events are located at non-astronomical sites such as shopping malls, parks, urban centers - truly Bringing Astronomy to the People. It is an astronomical PR event that helps highlight ways the general public can get involved with astronomy. Astronomy Day is traditionally celebrated between mid-April and mid-May, on the Saturday closest to the first-quarter Moon. In 2008, it falls on May 10th.

Astronomy Day was founded by Doug Berger, former president of the Astronomical Association of Northern California in 1973, as a high-profile way of drawing pub-

lic attention to the science and the hobby through exhibits and activities at urban centers. Since then the celebration has mushroomed in size and scope. In previous years, Astronomy Day events have been organized at hundreds of sites across the United States and internationally in countries like England, Canada, New Zealand, Finland, Sweden, the Philippines, Argentina, Malaysia, New Guinea, etc. The RCA will be hosting some events for Astronomy Day this year – keep watching for more details and announcements on the e-list and at the general meeting in April. If you would like to volunteer to help out with this event, please contact Doug Huston or Dareth Murray for details.

Looking forward to a great Astronomy Day 2008! This event will provide excellent opportunities for the RCA to extend its outreach and share information about our wonderful hobby of Astronomy to the local Portland community!

A LUNAR GALLERY—VI

The Moon's enigmatic ghost craters, bridges, and rille systems get a fresh examination.

By John W. Siple and Paul N. Carlson

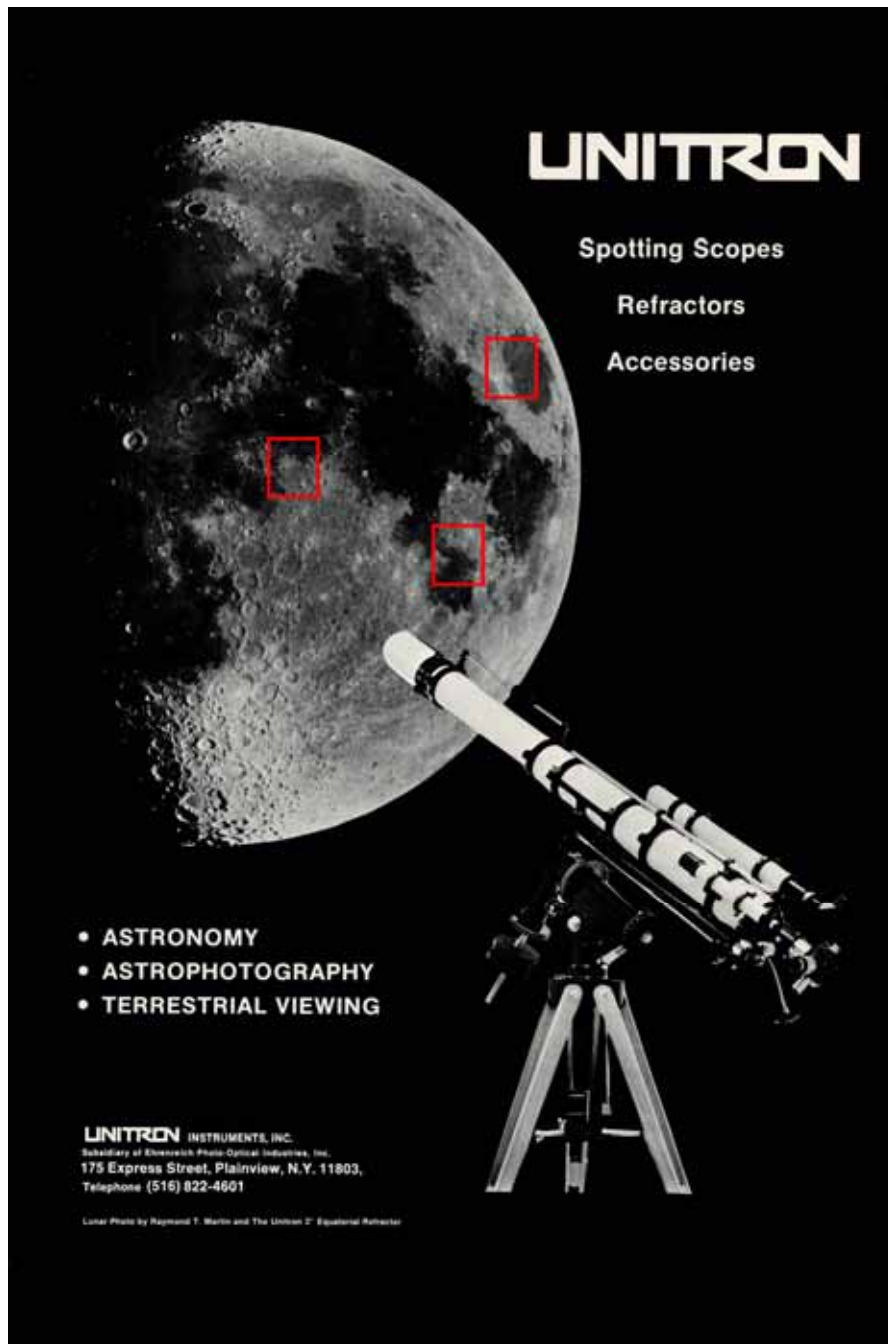
Our Moon is a world of circular geometry. Lunar charts show that the near-side is populated by over 300,000 craters with a diameter greater than six-tenths of a mile. On a much larger scale, impact basins stretch for hundreds of miles across the barren lunar landscape. Closer scrutiny reveals



some strange landforms: spider-like networks of shallow grooves, natural arches or bridges apparently spanning huge gulfs, and craters buried under miles of dense lava rock.

LOST AND BURIED GHOST CRATERS

In the Moon's early history, great quantities of hot subterranean magma reached the airless void of lunar space. Once mighty craters in their molten path became deep reservoirs for these ancient lava flows, where today only the tallest outer walls remain. Ghost craters, specters of their former selves and now in the form of discontinuous rings, are often found near the margins of maria



Above: Unitron's catalog front cover from 1982. Their fully-loaded 5-inch model is shown set up for lunar astrophotography. Specific points of interest on the Moon's surface are marked with red squares. Courtesy of Unitron, Ltd. Above left: English amateur astronomer Harold Hill's detailed illustration of the ruined crater Daguerre. Courtesy of Cambridge University Press.

(Continued on page 4)

Lunar Gallery (Continued from page 3)

where major flooding has occurred. The nearly invisible volcanic crater Flamsteed P in southern Oceanus Procellarum, buried to the hilt with mare basalts, is one of the Moon's best examples of a low-walled ghost crater.

Traveling eastward across the lunar globe to the northern portion of Mare Nectaris, careful observers will notice the ruined formation Daguerre. Named in honor of the 19th century French photography pioneer and theatrical illusionist Louis Daguerre, this 28-mile-wide feature boasts an inundated interior, ringed by fragmentary double ramparts. Under high sun angles, the crater's "ghost rings" snap into view.

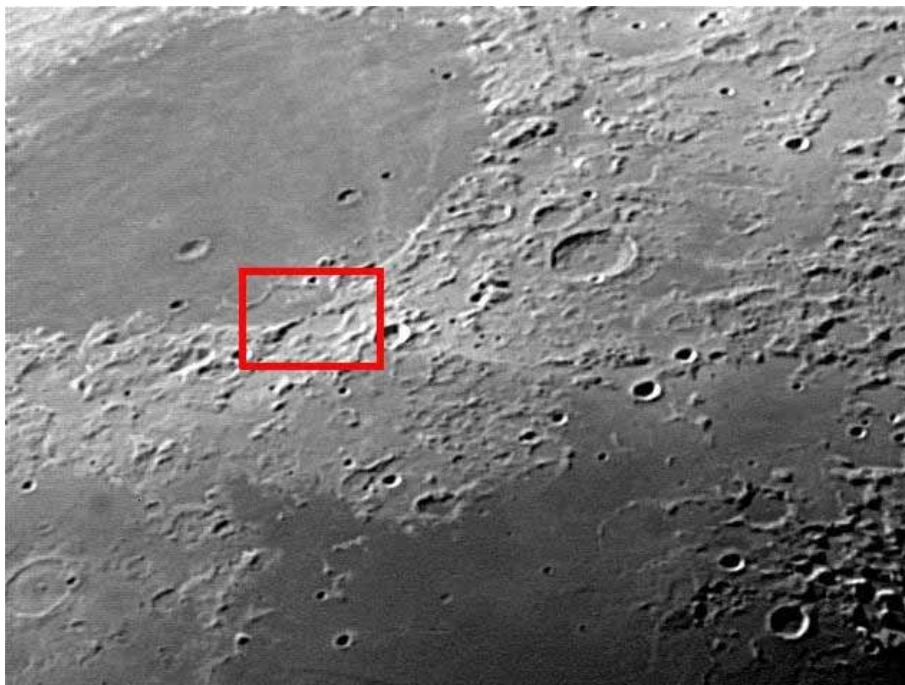
MESMERIZING RILLES AND INFAMOUS BRIDGES

At specific points on the Moon's surface, either as a result of once active geologic faults or from past intense volcanic activity, straight track-like valleys appear. Often no more than a few miles wide and a third as deep, these long, narrow lunar "ley lines" sometimes defy logic, bisecting craters and disappearing into seemingly impassable terrain.

Strategically placed for viewing at the center of the Moon's disk, the complex system of rilles near the craters Hyginus and Triesnecker, referred to as members of "Rilleland" by noted planetary scientist Charles A. Wood, beckon a closer telescopic examination.

The two-part Hyginus Rille is a bent arrow 130 miles long. The channel is filled with lava tubes and closely spaced explosion craters (rimless pits) formed by the rapid escape of gas. Bisected by the rille is the 6-mile-wide crater Hyginus, theorized to be the Moon's largest volcanic collapse crater.

Immediately to the southwest and lying roughly perpendicular to the Hyginus system is a set of odd, intertwined narrow valleys known as the Triesnecker



Rilles. This entanglement of rilles is multi-generational; older trenches are overlain by younger, sharper-rimmed ones. Observers are mystified and delighted upon seeing them.

The Triesnecker Rilles, although strange by lunar scientists' standards, do not compare to the anomalous feature that was reputedly found on the western shores of Mare Crisium. Capes Lavinium and Olivium made the headlines on July 29, 1953, when *New York Herald Tribune* science editor John J. O'Neill announced the discovery of a twelve-mile-long natural bridge connecting the two opposing headlands.

O'Neill's stunning discovery was quickly (and prematurely) confirmed by Hugh Percy Wilkins, then director of the British Astronomical Association's Lunar Section. However, subsequent observations using much larger and more sophisticated equipment proved that no such structure existed in the area. Wilkins later grudgingly recanted.

The initial excitement by O'Neill was caused by erroneous observations made with instrumentation of limited capability. (Low resolution is a common bane among amateur astronomers, which unfortunately, as in the case above, can lead to the wrong conclusions.)

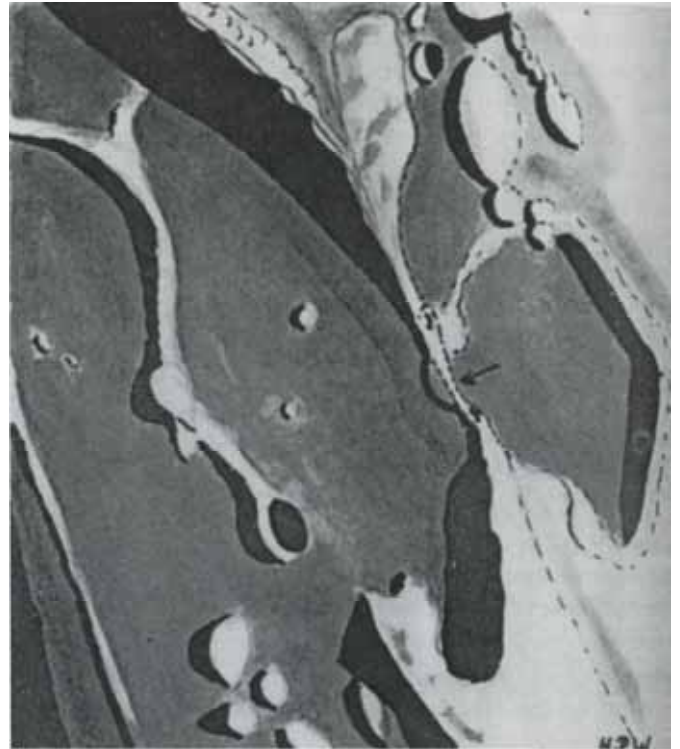
Unitron 5-inch telescope webcam image marking the exact position of O'Neill's purported bridge on the western shore of Mare Crisium.

THROUGH THE ASTRONOMER'S TELESCOPE

All of the separate lunar features described in this article can be seen in small-to-medium aperture telescopes. Amateur astronomers will see fine detail in and around Daguerre, including the intruding ray from the nearby crater Mädler. The territory of "Rilleland" is truly a playground for dedicated lunar enthusiasts; the ancient terrain is crisscrossed by valleys of a delicate yet profound nature.

Not a trace of the controversial bridge connecting Capes Lavinium and Olivium can be detected in the author's 5-inch Unitron refractor telescope. Only a very narrow empty gap or notch separating the two promontories is visible. Letting the imagination run wild, a great natural bridge similar to one found in the deserts of the American Southwest can be pictured. But if this monumental archway did exist in the distant past, it has fallen into complete ruin and only tumbled fragments remain.

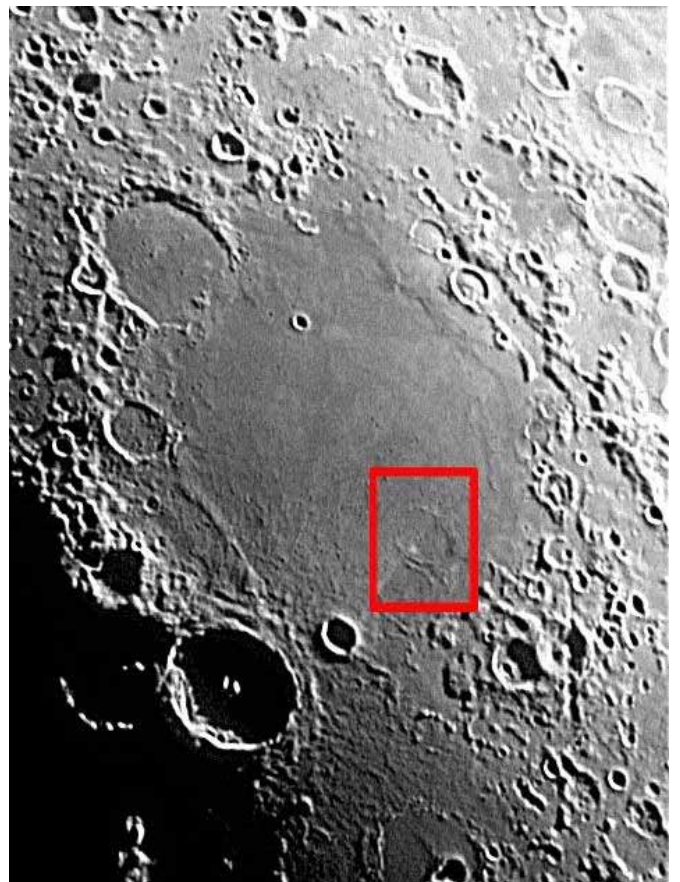
(Continued on page 5)

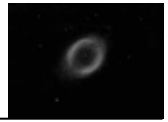


■ Above: The complex system of rilles near the craters Hyginus and Triesnecker as observed with the Unitron 5-inch telescope. The baffling Triesnecker Rilles are only light scratches in this image, and the two-segmented Hyginus Rille is seen crossing the middle of the frame. Part of the famous Ariadaeus Rille, last remaining member of Charles A. Wood's "Rilleland," is detectable in the photograph as a deep gouge trailing off into the shadowed highlands.

■ Top right: O'Neill's Bridge. This detailed drawing by H. P. Wilkins was made one lunation after its sensational discovery through his 15-inch Newtonian reflector. The "arch" was later explained as filtered sunlight shining between the pass and illuminating terrain toward the east. Courtesy of Richard Baum and the B.A.A.

■ Right: The ghost crater Daguerre on the northern margin of Mare Nectaris is highlighted in this view through the Unitron refractor. The large crescent-shaped bay on the Mare's opposite shore is Fracastorius, while the deep crater Theophilus is prominently visible in the photograph at lower left.





The Winter of my Discontent

Every winter I have hopes there will be a night or two each month sometime around new moon that the sky will be clear and I can observe deep sky objects under a dark sky. This winter I had a grand total of 45 minutes of dark sky observing – better than none I suppose – but a big disappointment nonetheless.

Of course there's still a chance we'll get a fading look at the winter sky as it sets in the west this spring so all is not yet lost, but to commemorate this lost winter of observing I present here a short list of winter objects I most wanted a good look at.

M42, the Great Orion Nebula.

This is first on my list even though I've looked at this glorious sight more than any other winter object.



M42 image by HST and NASA.

There's so much to see among the swirls of the bright nebula, the embedded stars and star clusters and the contrasts of the dark nebulae. There's even some low saturation color in the brightest parts of the nebula. Every magnification frames a different aspect of the great nebula and nebula filters bring out different personalities. I distinctly remember my first glance of M42.

It was in a brightening autumn Colorado dawn many years ago. The temperature was chilly and I set up my 3 inch Tasco refractor as quickly as possible to beat the rising sun. I could barely make out the nebula but the 4 stars of the Trapezium were unmistakable and were, for me, a thrilling sight. Every observation since then has only added to my original delight.

The Crab Nebula

I've always been fascinated by this supernova remnant. Just writing the words "supernova remnant" is cool and conjures up fabulous mental images of a star simultaneously blowing itself to smithereens and into an ultra-dense neutron star.



The Crab Nebula, image by NASA.

Ever since I first read about the Crab I've marveled at visual observations of its filaments. But I could never see them, even in instruments up to 20 inches until I used an OIII filter. The next time you have a chance to look at the Crab Nebula try an OIII and see if you can spot a filament or two.

If the seeing is steady and you have a 12 inch or larger scope, the pulsing neutron star (pulsar) in the crab's center just might be visible too. Just don't expect to see the 30 times per second pulsing.

NGC 2163

This is an object I haven't observed yet but it's at the top of my current "got to see" list. I came across it in Stephan James O'Meara's Hidden Treasures book (Hidden Treasure 35, page 174) and was immediately struck that it's a bright bi-polar reflection nebula that I'd never heard of. Located in Northern Orion it can evidently be well seen in 4 inch scopes under a dark sky, but it turns out this intriguing object was classified as a missing NGC object in the late 1800's and is not labeled on most contemporary star charts. However, it is listed as Cederblad 62 (Ced 62) on many charts (Sky Atlas 2000, Uranometria, 1st edition) and that's perhaps the best way to find it.

(Continued on page 7)

Winter of my Discontent *(Continued from page 6)*



NGC 2163 = Cederblad 62. DSS image.

A small object at 3x2 arc minutes in apparent size, O'Meara promises the structure shown in the above photo is within reach of a 4 inch refractor. Of course O'Meara has the well deserved reputation of being able to see faint details invisible to the rest of us so we'll probably need a scope larger than 4 inches to see what he does, but since many of us do I expect NGC 2163 to be a subtle visual treat.

NGC 1535

The unfortunate thing about this excellent planetary nebula is that it's best seen in late fall and early winter, just at the time we typically have our worst weather. And since it's to the west of Orion and fairly far south – just a few degrees further north than Sirius – it also sets fairly quickly. I find it similar in appearance to the Eskimo Nebula, although 1535 is a bit larger but slightly fainter. 1535's central star is also fainter than the Eskimo's but at magnitude 11.6 it still bright enough to be seen in moderate size instruments in steady seeing.



NGC 1535, Adam Block / NOAO / AURA / NSF

At low to medium powers 1535 displays a beautiful turquoise color and two distinct, concentric shells. The inner shell is the brightest and has the strongest blue color, with the outer shell being most apparent with averted vision. If the seeing is steady you might catch a glimpse of a field star superimposed in the northern part of the outer shell.

NGC 2292, 2293 and 2295

This is a galaxy trio I have yet to observe but then that's a big part of its appeal. Located in western Canis Major in a field of faint ESO galaxies, these three galaxies promise an interesting and hopefully spell binding view. 2292 and 2293 share a common envelope so they may look like a single galaxy with two nuclei, with the nearly edge on 2295 – looking like a mini NGC 4565 - floating nearby.



These galaxies are rather faint, in the 11.0 to 12.5 range, but are also fairly good sized so I expect they'll show well in a medium size scope under a dark sky. Let's hope we get a chance to find out this spring before they set in the west.



Courtesy of the Lake County (Illinois) Astronomical Society

Jan's Mendoza Adventure Under the Stars (Part 2)

By Leo Cavagnaro, GAMA (Grupode Astronomos Mendocinos Aficionados)
& Jan Keiski, RCA (Rose City Astronomers)
Photos by Jan Keiski

CASLEO - The biggest astronomical observatory in Argentina

February 8th Jan visited CASLEO (Complejo Astronómico El Leoncito). At longitude 4h 37m 12s and latitude -31 47' 57" it is the biggest observatory in Argentina. The observatory is in southeast San Juan province, in a place called "Cadena del Tontal", at 2,552 meters above sea level, and only 10 miles from "Barreal", a small town. It was founded in 1986.

Jan, Ruben (Carlos' father), Daiana (CASLEO guide), Carlos Gutierrez (GAMA), Lorena (CASLEO guide), Virginia (Carlos' mother), and a CASLEO engineer stand in front of the "Jorge Sahade" 2.15 meter Ritchey-Chrétien reflector telescope.

At CASLEO there are nearly 300 clear nights per year. All year long national and international professional astronomers observe the sky with different instruments to carry out their projects. CASLEO is situated about 100 kilometers north Uspallata Valley, also a very good place to observe from. I have visited the observatory many times, and GAMA went to the observatory as a group a couple times also. Jan was thrilled to be at the controls of the huge telescope!



In CASLEO you can see a 2.15 meter telescope, a solar submillimetric solar telescope (SST), a Gamma Ray telescope (GAMAR project), a small 8" telescope for visitors and a 24" reflector, the "Helen Sawyer Hogg" after Professor Helen Battles Sawyer Hogg (1905-1993). This telescope is operated by Toronto University and was installed in "Las Campanas" Observatory in North Chile until it was later donated to CASLEO and now is in a nearby installation called "Cerro Burek"



Helen Battles Sawyer Hogg was born in Lowell, Massachusetts. Her work focused on globular clusters, in particular the variable stars within them. She has been honored by the astronomical community by the naming of asteroid (2917) Sawyer Hogg in 1984. When researching globular cluster publications, Helen recovered a long forgotten letter by Pierre Méchain (Sawyer Hogg 1947, Sawyer 1948), in Bode's *Jahrbuch* for 1786, in which he disclaims his discovery of M102 and lists four newly discov-

(Continued on page 9)



Jans Adventure Part II (Continued from page 8)



ered deep sky objects which she proposed to be added to the Messier catalog: M104 the famous Sombrero galaxy (added by Camille Flammarion in 1921), M105 and M106 galaxies in constellation Leo, and the globular cluster in constellation Ophiuchus M107. <http://www.sdsc.edu/ScienceWomen/hogg.html>

The biggest telescope in CASLEO (2.15 meters) is a Ritchey-Chrétien reflector named “Jorge Sahade” for **Dr. Jorge Sahade** who was born in 1915 in Cordoba, Argentina. From 1953 to 1955 was Director of Cordoba Astronomical Observatory (Cordoba National University) in Argentina and from 1968 to 1969 Director of the Astronomical Observatory in La Plata, Buenos Aires, Argentina. He worked in the Yerkes Observatory for three years also.



The views of the Andes are stunning near CASLEO! Jan and Carlos, Virginia and Ruben were late getting to Barreal, a mountain town. Their car became lodged in a flooded stretch of road. Major storms had come through the day before. Barreal is in the Calingasta valley about 100km north of Uspallata. After an overnight stay in a mountain cabin, it was on to CASLEO, and then Uspallata which is set in a scenic bowl surrounded by snow dusted peaks and that doubled as a Tibetan location for a Brad Pitt movie some years ago. The scenic loop drive of Mendoza north to San Juan, over to Barreal, up to CASLEO, and down to Uspallata is amazingly beautiful. On that loop Jan, Carlos, Ruben and Virginia dug for fossils. They were plentiful. She found small fossilized mollusks from a time when the Andes were under the sea! While at Uspallata, a visit to the site with the cabin from the movie, “Seven Days in Tibet” yielded many beautiful petroglyphs. Photo of flooded stream by Carlos.



(Continued on page 10)



Canota: A place for astronomical activities

During her visit to Mendoza last February, Jan Keiski visited during the day a beautiful place in the nearby mountains called Villavicencio. Closer to Mendoza City, at a few miles from Villavicencio, there is another place named Canota.

That is a place that GAMA usually uses to observe the sky. Almost nine years ago I drove with two members of GAMA, and also friends of mine, to the mountains to explore and look for appropriate places to set up our telescopes and enjoy the dark skies. After a busy day of driving and viewing different options that was the last place we found. Since that moment, every month even during winter time here in the southern hemisphere, our group holds astronomical observations there.

Canota is situated about 25 miles north of Mendoza, at an altitude of 1,400 meters. Several times I have measured the limiting visual magnitude from that place, the value is sometimes 6.2, other times 6.4. In my opinion “not bad taking into account it is a nearby Mendoza observing site”.



The map shows the northern sky visible from Canota in late November at about 10:00 pm local time. You can see Andromeda Galaxy low above north horizon during its transit. Without a doubt you have a better view of M31!

From that place you can see a dark northern sky and a clear horizon. That is very good for us because we usually want to point our telescopes to observe deep sky objects situated in northern constellations that are visible from our latitude (-33 degrees). All of us know how impressive and prominent an object the Andromeda Galaxy (M31) is for example, and several GAMA members want to take a look at that beautiful deep sky object when it is visible from here during our spring

(Continued on page 11)



time. Andromeda Galaxy reaches almost 16 degrees of altitude when it transits the local meridian early in the night in middle and late November each year.

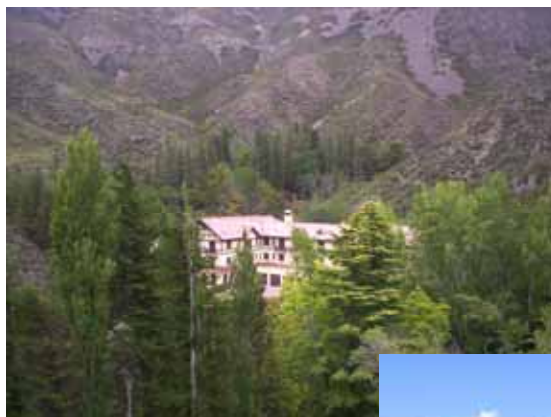
In the picture at left you can see the last quarter moon rising. Also Constellation Scorpius is clearly visible in the picture to the East. I took this photo at the Canota observing site in late February. The north Mendoza city sky glow is visible to the right. Canota was also a good site to observe the comet 17P Holmes some months ago. In spite of its altitude (7 degrees!) the comet situated in constellation Perseus was clearly visible even to the naked eye. The only problem I see with that place is that the glow from a nearby factory turns the southern sky around celestial pole a little brighter than you would desire. However it is dark enough to see the “Pole Star” sigma (?) Octantis, with magnitude about 5.5. (It is fainter than Polaris in the North Pole!)

Canota is a good nearby site even to observe challenging deep sky objects. I have been able to see very faint objects situated in the far southern sky through my 8” telescope, for example an awesome pair of faint interacting galaxies in constellation Pavo NGC 6769 – NGC 6770 (declination –60 degrees).

Canota is also a place we choose to observe the more important meteor showers like Geminids and the Leonids peaks in years 2000 and 2001. The Geminids meteor shower peak occurs on December 13/14 each year. A good time for us because we can enjoy nice temperatures while we count meteors!

Villavicencio - Hiking with Maria Sol, Carlos’ sister. * Salentein Winery – Mendoza area vineyards are outstanding!

Photos of Villavicencio by Carlos Gutierrez



In Conclusion:

A truly memorable adventure!
Wonderful hosts!

Mendoza, Argentina is a stellar place!

Jan



Awards



Stephanie Cox

**Messier Award
Number 2395**

For more info visit:

<http://www.astroleague.org/observing.html>

Observing Site Committee

To lead and coordinate efforts of the Rose City Astronomers (RCA) in securing and managing a variety of observing sites for private use by members, and for community outreach and special events organized by the RCA.

Please Check

<http://nemoworld.com/RCA/sitehome.htm>
for more information.

Or Contact: David Nemo <david@nemoworld.com>

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, April 23, 7 PM.

Topic: "Beyond the Event Horizon - Black Holes"

Presented by: Chrissie Lee

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

Telescope Workshop

When: Saturday, April 26, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest Group (SCI-SIG)** will be meeting on April 26th at 3pm. Following the Telescope Workshop at Technical Marine Services.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through check-out at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rca-oms.org>).

The location is announced on the RCA general email discussion list. Information on how to join this list is at <http://www.rca-oms.org/emaillists.htm>

Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlinc.com



Photo by Jan Keiski

NWRAL

(Northwest Region of the Astronomical League)

** First Light Star Party **

June 5,6,7 (Thur, Fri, Sat)

- Pre-register at \$10 per night.
- Children 18 and under - FREE.
- Pre-registration must be received by May 31st (http://www.nwral.org/registration_form.pdf) .
- On-site registration is \$15 per night!

About the event:

First Light is one of the first Star Parties here in the Pacific Northwest. This event offers you a chance to 'get the astro bug' going, tune-up your equipment, and to try new things. June in Goldendale, WA has moderate daily temperatures and cool clear shorter nights, for those of us who would like to get use to the all night events of the summer. That said: it's the last chance to see some of those late winter/early spring objects between 11-2 pm

About the Site:

First Light will be located about 10 miles NE of Goldendale on 20 private acres (Skyview Acres). Conditions are set-up for dry camping with porta-potties. All are welcome: tenters, tailgaters, and RV's-no-hook ups! The town, Goldendale, with stores, restaurants, gasoline, and hospital, are 15 minutes away. There are eleven concrete observing pads available on a first-come, first-serve basis. The site features a lower North, East, and South horizon which offers that "big sky" feeling. The lower Western sky and Goldendale's small light bubble are hidden by a low hill on the property giving you an awesome panorama including an awesome view of the Milky Way.

The Skies:

Skyview Acres has very, very good skies for viewing. Acclaimed by observers as being darker than Table Mountain, but not as dark as OSP. The lower elevation offers surprisingly transparent and still seeing.

General:

NWRAL is trying to have a couple guest speakers for the event. Several local amateurs have been asked to speak at the SP. We feel that talks by your peers will be more value added.

Meals:

Food will be available (only on a pre-sold basis-so pre-register), but I gotta tell ya-the 'rack of ribs' from Roadhouse 97 is to die for. Check for the food menu and prices on the registration form.

We are inviting Espresso vendors and hope to have munchies for those late night cravings.

For more information, or to get your questions answered, please feel free to contact me personally, Gene Dietzen - NWRAL Chair at: nestle2@comcast.net



"Let's Go!"

These were the words spoken by Russian Cosmonaut Yuri Gagarin as he embarked on the historic first manned space flight on April 12, 1961.

Twenty years later on April 12, 1981, the US launched the first space shuttle flight.

Every year on **April 12th** Yuri's Night is celebrated all around the world – last year there were over 90 events or parties held in over 30 countries worldwide.

In Portland we are celebrating at **Linus Pauling House, 3941 SE Hawthorne Blvd.** This is Nobel Laureate Linus Pauling's boyhood home. We have the whole first floor and can spill out onto the front porch if weather allows. It starts about 7 p.m. Come any time up until 11!

There will be displays of space memorabilia. The Oregon L-5 Society, National Space Society, is hosting but we expect Wanderers and members of the Rose City Astronomers to drop in. Anyone with an interest in space and space exploration is welcome.

We have a Yuri's Night t-shirt to give away as well as a limited amount of stickers and decals.

This party is free but donations are welcome to defray cost of finger food. Bring your own choice of beverage and some snacks too.

The official Yuri's Night website: www.yurisnight.net/2008/

The Unsoeld Seminar Series presents:

Neil deGrasse Tyson

Join Dr. Neil deGrasse Tyson - world renowned astrophysicist, bestselling author, and host of the groundbreaking PBS series NOVA scienceNOW – in person for a fascinating journey across the horizons of science, the universe and society.

Tuesday, April 29, 2008 at 7:30 p.m. at The Evergreen State College.

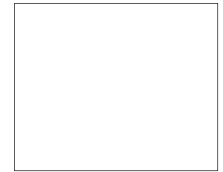
College Recreation Center (CRC)
2700 Evergreen Parkway, Olympia

Tickets: Online at <http://www.buyolympia.com/events>,

For more information, visit <http://www.evergreen.edu>



Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



April 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

April 2008

Apr 4/5	Fri/Sat	Dark Sky Star Party	Camp Hancock
Apr 7	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Apr 11	Fri	Downtowner's Luncheon	Kell's Noon
Apr 12	Sat	Yuri's Night Celebration	Linus Pauling Complex 7pm-11pm
Apr 12	Sat	OMSI Star Party	Rooster Rock S.P.
Apr 21	Mon	General Meeting	OMSI Auditorium 7pm
Apr 23	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
Apr 26	Sat	Telescope Workshop	Swan Island 10am-3pm
Apr 26	Sat	Science SIG	Swan Island 3pm

May 2008

May 2	Fri	Downtowner's Luncheon	TBA Noon
May 2/3	Fri/Sat	Dark Sky Star Party	Camp Hancock
May 5	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
May 10	Sat	OMSI Star Party	Rooster Rock S.P.
May 17	Sat	Telescope Workshop	Swan Island 10am-3pm
May 17	Sat	Science SIG	Swan Island 3pm
May 19	Mon	General Meeting	OMSI Auditorium 7pm
May 21	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
May 30/31	Fri/Sat	Dark Sky Star Party	Maupin Site

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION

Message Line: (503) 255-2016

Web Site: <http://www.rca-oms.org>

The Rosette Gazette

Volume 20, Issue 5

Newsletter of the Rose City Astronomers

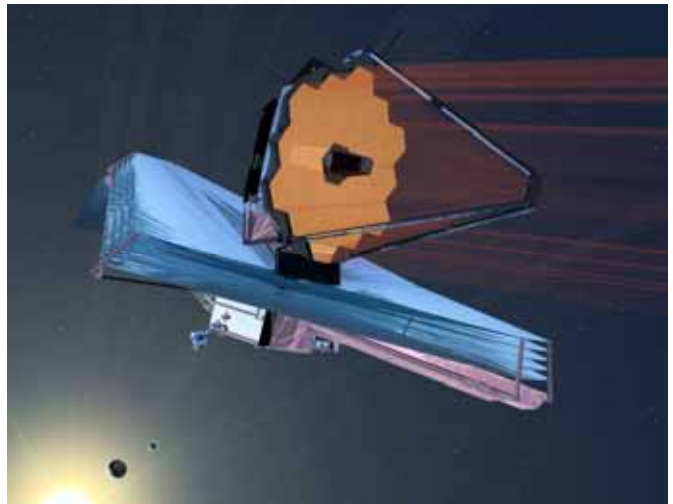
May, 2008



RCA MAY 19 GENERAL MEETING

Greg Cermak, a NASA/JPL Solar System Ambassador will present an overview of the James Webb Space Telescope (JWST).

The James Webb Space Telescope (JWST) is a large, infrared-optimized space telescope, scheduled for launch in 2013. JWST will find the first galaxies that formed in the early Universe, connecting the Big Bang to our own Milky Way Galaxy. JWST will peer through dusty clouds to see stars forming planetary systems, connecting the Milky Way to our own Solar System. JWST's instruments will be designed to work primarily in the infrared range of the electromagnetic spectrum, with some capability in the visible range.



Artist's conception of the JWST deployed, courtesy NASA

JWST will have a large mirror, 6.5 meters (21.3 feet) in diameter and a sunshade the size of a tennis court. Both the mirror and sunshade won't fit onto the rocket fully open, so both will fold up and open only once JWST is in outer space. JWST will reside in an orbit about 1.5 million km (1 million miles) from the Earth.

The James Webb Space Telescope was named after a former NASA Administrator.

Greg Cermak is a software engineer and technical trainer. He is a Solar System Ambassador for the NASA Jet Propulsion Laboratory (JPL) and teaches Astrobiology at Washington State University - Vancouver. His interests include technology, reading, history, and bicycling. He is a frequent speaker at school programs, public, and industry events.

All are Welcome! Monday May 19

Social Gathering: 7 pm. Meeting Begins: 7:30 pm.

Location: OMSI Auditorium

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - Street Light Meeting
- 3 .. Classic Telescopes
- 5 .. The Observer's Corner
- 7 .. Telescopes of the RCA
- 8 .. Telescope Workshop
 - Science SIG
 - RCA Library
 - Site Committee
 - Cosmology SIG
 - RCA Downtowners
- 9 .. March Board Minutes
10. April Board Minutes
11. Astronomy Day Events
12. Calendar



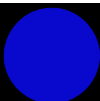
RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

New Moon
May 5



First Quarter Moon
May 11



Full Moon
May 19



Last Quarter Moon
May 27



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Programming	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlinc.com
Sales Director	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlinc.com
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnath@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

STREET LIGHT REPLACEMENT PROJECT

Final Open House

Tuesday, June 10, 2008

4:30 PM to 6:30 PM

"1900 BUILDING"- ROOM 2500 B
(2nd Floor)

1900 SW Fourth Avenue

The community has provided ideas on how best to replace the aging street lighting in your area. Please join us on June 10, 2008, for an opportunity to review the draft street light replacement plan, talk with project staff and let us know what you think.

WHERE IS THIS PROJECT? The street light project area is generally bounded by SW Clay Street, SW Naito Parkway, SW Arthur Street and SW Fourth Avenue.

To help ensure equal access to City programs, services and activities, the City of Portland will reasonably modify policies/procedures and provide auxiliary aids/services to persons with disabilities. Call 503-823-5218 with such requests.



Image courtesy NASA

CLASSIC TELESCOPES

Exploring the deep-sky treasures of Virgo with an Optica b/c 6-inch reflector.

by John W. Siple

SPRINGTIME NIGHT SKIES are graced by the starry representation of the Greco-Roman goddess of antiquity Virgo, who ruled Earth during the Golden Age, a time of perfect peace and happiness. As described in mythology, the beautiful winged goddess of Justice has a palm branch in her right hand and is holding an ear of wheat in her left (marked by the brilliant 1st magnitude blue-white star Spica).

The constellation's deep-sky claim to fame is an overabundance of galaxies. Since the observer is peering into space away from the Milky Way's dusty center, galaxies of all sizes and types present themselves. The greatest concentration of island universes, members of the Virgo Galaxy Cluster, is found within the Diamond of Virgo (formed by the stars Spica, Denebola, Cor Caroli, and Arcturus).

Optica b/c's 6-inch f/9 pedestal-mounted Newtonian reflector, made in the 1960s and '70s, was selected for exploring the deep-sky treasures of Virgo. This premium grade reflector (Figures 1 and 2) was manufactured by Royal Astro Optical Industries Co., Ltd. of Tokyo, Japan as #LN-6E and then distributed throughout the world. Optica b/c of Oakland, California displayed it in their catalogs as #6DTC (Deluxe Telescope Complete), where in 1968 it was priced at a relatively expensive \$479. The price escalated to \$554 with an extra clock drive mechanism.

The "realm of the galaxies" has some members that truly stand out. The Sombrero Hat Galaxy (Figure 3), an outlying member of the Coma-Virgo Supercluster, is found just inside Virgo's southern border with Corvus. This nearly edge-wise spiral aptly deserves its namesake; at 33x in the 6-inch Optica b/c telescope with a Tele Vue 40mm Plössl eyepiece, the 8.0 magnitude object looks like a miniature glowing compass needle.

The strong lane of dark obscuring matter that marks the position of the brim of the hat becomes very obvious in a TV-24mm Wide Field ocular/2.5x Barlow lens combination. The core of the 7.1' X 4.4' spiral galaxy containing the stellar nucleus, which is displaced just north of the dark equatorial dust lane, is dominated by a big bulbous haze.

Adding to the glory of the scene is the multiple star Struve 1664. Astronomer James Mullaney describes this unforgettable sight: "This striking asterism has been dubbed 'Little Sagitta' from its arrow shape, and it conveniently points to M104 some 20' E! It in turn, lies just NE of another asterism just over the border in Corvus known as the 'Stargate'."¹

Situated near the crystal heart of the Diamond of Virgo is the giant elliptical galaxy M87 (NGC 4486). At magnitude 8.6, this is one of the brightest galaxies in Virgo. Long exposure photographs of this galaxy show thousands of globular star clusters orbiting on the periphery. Messier 87 is also a well-known radio source; a jet of ejected material from the nucleus is the source of the intense radio emission (Figure 4).

A low power sweep in the 6-inch telescope easily picks up M87's 7.1' X 7.1' almost featureless, concentrated glow. An increase in power to 80x with a Galoc 16.3mm eyepiece shows not much more. However, the increased magnification does reveal two much smaller and fainter companion galaxies in the immediate vicinity: NGC 4478 located 8' to the SW of M87, and NGC 4476 slightly farther 12' to the WSW.

While in the area, amateur astronomers cannot ignore the beautiful double star Porrima, or Gamma (γ) Virginis. Now widening in apparent separation since a minimum in 2005, the pair is now a healthy test for a 6-inch instrument. At



Figure 1. The classic 6-inch pedestal-mounted Newtonian as shown in the Optica b/c 1968 telescope catalog.



Figure 2. The author's deluxe 6-inch f/9 (1,300mm focal length) equatorial reflector telescope.

(Continued on page 4)



Figure 3. The Sombrero Hat Galaxy, M104, a grandiose, nearly edge-on type Sb Spiral with a diameter spanning 135,000 light years. The distance is 65 million light years.

325x using a 4mm Orthoscopic ocular, the two lovely yellow-white diffraction disks, both of magnitude 3.5, are nearly in contact.

NGC 5746, a magnificent slender edge-on spiral galaxy (Figure 5), is found only 20' west and slightly north of the 4th-magnitude star 109 Virginis. This object "all but fades from view with a direct glance, but just like other edge-on galaxies, NGC 5746 swells into a fine sliver of light with averted vision."²

Commonly called the "Blade and Pearl" galaxy, this 6.8' X 1.0' deep-sky denizen is relatively hard to find because of its low surface brightness. However, the 6-inch reflector, operating at 135x with the TV-24mm Wide Field/Barlow combo, easily picks up the patchy central halo of the ghostly spindle along with a tiny nucleus. Once its exact position against the sky background has been firmly established, the rest of the magnitude

10.3 galaxy soon pops into view. Careful scrutiny in the 6-inch then shows the narrow dust lane, which bisects the needle-like object into two equal halves.

Pointing the Optica b/c 6-inch reflector midway between the stars Iota (ι) and Mu (μ) Virginis, the constellation's lone globular star cluster, NGC 5634, floats into the telescope's eyepiece field. At low power it forms a tight double with a magnitude 8.5 star 1.25' to the ESE. In a Clavé 8mm Plössl eyepiece (163x), NGC 5634 resembles a "little cloud," mindful of the famous Praesepe in Cancer.

This fine globular star cluster, shining at magnitude 9.4 and with a size of 4.9', is rated IV on the Shapley-Sawyer scale. This category is reserved for globular clusters that are closely compacted and can be a challenge to resolve. The technique of astrophotography is necessary to resolve the tight ball of light into its component suns (Figure 6).



Figure 4. Messier 87 and its jet.



Figure 5. The Blade and Pearl Galaxy NGC 5746.

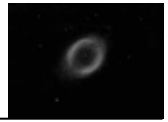


Figure 6. Virgo's lone globular star cluster NGC 5634.

REFERENCES

1. James Mullaney, *Celestial Harvest: 300-Plus Showpieces of the Heavens for Telescope Viewing & Contemplation*, Self Published, 1998, p. 91.
2. Stephen James O'Meara, *Hidden Treasures*, Cambridge University Press and Sky Publishing Corporation, 1st printing, 2007, p. 368, No. 74 in his listing of hidden treasures.

IMAGE CREDITS: NASA and The Hubble Heritage Team - STScI/AURA (M104/M87); Dave Jurasevich, Superintendent of the Mount Wilson Observatory (NGC 5746); and Daniel Verschatse - Observatorio Antihue - Chile (NGC 5634).



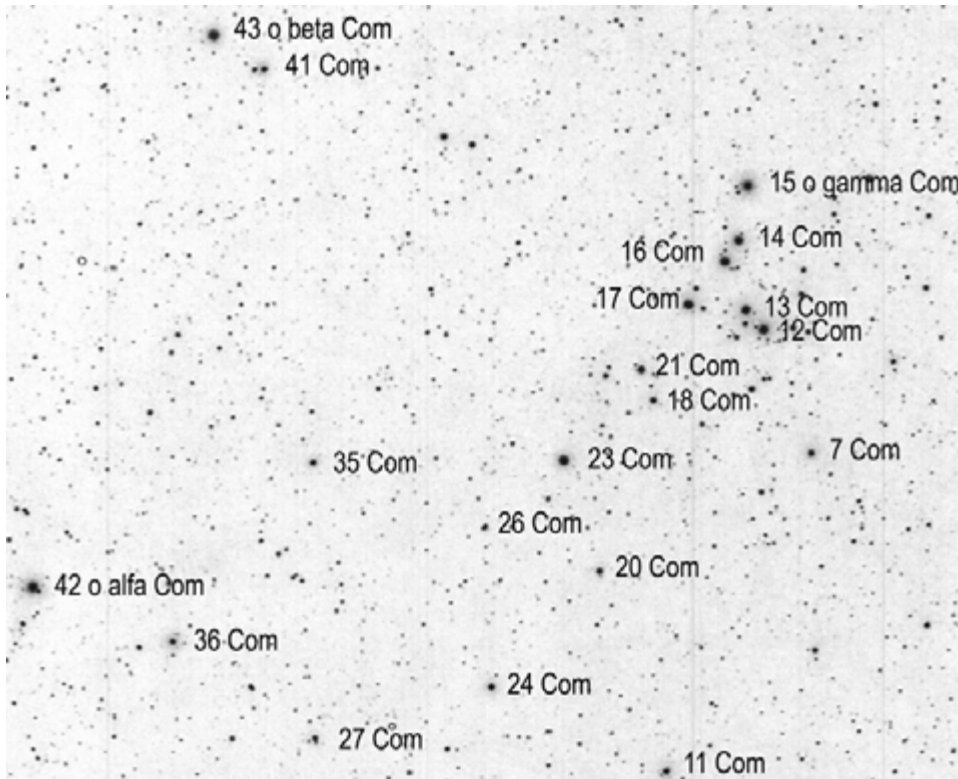
NGC 4565

There are a bunch of deep sky objects that today seem like they belong on the Messier List because of their brightness and size, and NGC 4565 leads the way in this regard. But the sky is too vast for one person (or two, as Pierre Méchain collaborated with Messier) to possibly find all there is to see, and it was inevitable they would miss some objects that their telescopes could have detected.

So 4565 waited for William Herschel to discover it on April 6, 1785 and today this classic example of an edge on galaxy is a spring sky favorite. Located approximately 31 million light years away in Coma Berenices and high in the spring sky, finding 4565 is a relatively easy star hop. This is especially true if the sky is dark enough to see the mostly north-south trail of stars of the original Coma Berenices, which is also designated as the sprawling open cluster Melotte 111. 4565 makes a short equilateral triangle with the stars 17 and 21 Com, with the galaxy at the eastern vertex.



NGC 4565 by Johannes Schedler, http://panther-observatory.com/gallery/deepsky/doc/NGC4565_cass.htm - the galaxy in the upper left is NGC 4562 and the dwarf galaxy at bottom center is IC 3571.



Coma Berenices Melotte 111 region, negative image. NGC 4565 is the faint smudge off the top of the number 1 in the 17 Com label. [es:Imagen:Coma3.jpg](http://www.imagen.coma3.jpg)

This image of the Melotte 111 shows the location of 4565 within the nearby cluster. Have a look with binoculars and see if you can pick up 4565. This may be difficult because holding binoculars steady enough to see a magnitude 10.4 object is not easy, but at least you'll have a great view of an open cluster only 288 light years away.

My first observation of 4565 was on June 4, 1983 with my old 12.5 f/8 Dobsonian under a suburban Eugene sky. I wrote "Bright edge-on galaxy – great sight at all powers – 240x best. Dark lane vaguely seen. I'll come back here – no doubt awesome in real dark skies." I certainly have come back, many times, as 4565 is one of my favorite galaxies and I make sure to have a look every time I can. Like all deep sky objects, changing sky conditions have a big impact

(Continued on page 6)

The Observer's Corner (Continued from page 5)

on its appearance but it almost always shows its basic structure of a long spindle bisected by a thin dark lane. And it is awesome in a dark sky.

Similar to many edge on galaxies, 4565 has a high surface brightness with distinct edges and takes magnification well, so try several eyepieces to see which gives you the best view. Observers with telescopes varying in size from the 72 inch of Lord Rosse to a modern 10 inch have all made rewarding observations:

“A lucid ray 20’ long or more 3’ or 4’ broad from north preceding to south following (from northwest to southeast). Very bright in the middle, a beautiful appearance.” William Herschel, 1785.

“A beautiful object, very well seen in the finding eyepiece; the whole nebula is much broader at the nucleus than elsewhere, narrowing off suddenly, and the nucleus projects forward into the dark space.” Lord Rosse, 1855.

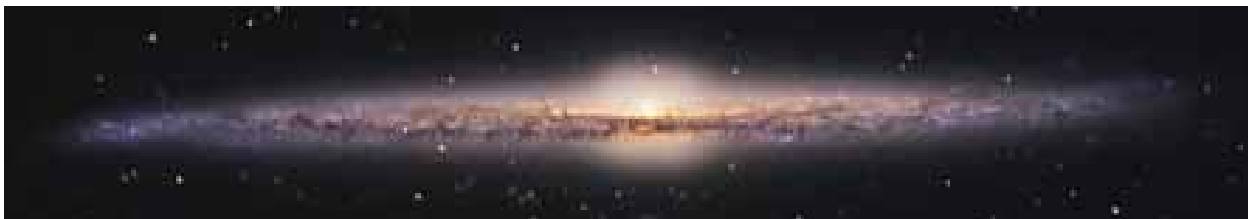
“This edge on galaxy is absolutely phenomenal! The halo is moderately faint, but extremely large and highly elongated 12’x1.5’ NW–SE with a bulging core at its center. a 13.5 magnitude star lies 1.5’ NE of the center. A faint dust lane is just visible without averted vision passing off-center on the NE side of the core.” The Night Sky Observer’s Guide, Volume 2, 1998

So it barely matters what size scope you have, NGC 4565 can be a tremendous sight, especially in dark sky. Using Google Sky (<http://www.google.com/sky/>) to explore 4565 and its surroundings is also interesting as you’ll find hundreds of tiny background galaxies lurking all around, some of which may be visible in larger amateur scopes.

Edge on galaxies in general and 4565 in particular are fascinating because they show what our Milky Way galaxy would look like if we could see it edge on from several million light years away. However, we can approximate this view from our inside location when the summer Milky Way is visible in a dark sky – the dark areas of obscuring dust that line the Milky Way are exactly the same phenomenon that creates the dark lanes in edge on galaxies. Essentially, we have an ideal view of an edge on galaxy from the inside.



Milky Way all-sky image in a dust penetrating near infrared image. COBE satellite DIRBE (Diffuse Infrared Background Experiment) - Infrared wavelengths 1.25 to 240 microns. http://lambda.gsfc.nasa.gov/product/cobe/dirbe_overview.cfm



Detail of the NGC 4565 image at the beginning of this article, enlarged, rotated and cropped for this comparison.

NGC 4565 also give us the chance to ponder our home galaxy in the context of all the other galaxies we see with our telescopes, and the two images above illustrate how similar the Milky Way and 4565 are even from our perspective inside our home galaxy. This insight also gives us the opportunity to ponder the naked eye Milky Way for what it is – the closest, brightest and most detailed edge on galaxy in our sky.



All-sky mosaic of the entire visible wavelength Milky Way, http://en.wikipedia.org/wiki/Milky_Way

TELESCOPES OF THE ROSE CITY ASTRONOMERS



Left: **NEAL OLSON'S 14.5-INCH STARMASTER**

Since acquiring his "Dob" in mid-2004, Neal has frequented several club-hosted star parties. Most of Neal's outdoor astronomy activity has been lunar/planetary observing and imaging from his backyard.

Center right: **RON PAOLA'S 20-INCH OBSESSION**

This Obsession-brand telescope, serial number 038, once belonged to renowned deep-sky hunter Howard Banich. Ron is continuing the tradition of finding remote objects by working on the Caldwell List.



Members of the RCA club view distant spiral galaxies, star-filled globular clusters, and hunt for challenging deep-sky objects with a bevy of Dobsonian telescopes.



Above: **JOSEPH ROTTMANN AND HIS 18-INCH "GRAB-AND-GO" SCOPE**

Joseph is using his homemade telescope, a design by Greg Babcock and Dan Gray, to track down objects in the Herschel II Program. More ambitious is his goal of locating and drawing objects in the NGC catalog with a companion 16-inch telescope.

Right: **JOHN STEFAN AND HIS 25-INCH OBSESSION**

John is a self-described "globular star cluster person." He loves to see those sugary balls of light through his telescope and has completed observations for 24 out of the 50 clusters needed to earn the Astronomical League's Globular Star Cluster Certificate and Pin.



Telescope photographs and related text supplied by John W. Siple. Images are from the popular Oregon Star Party, located at Indian Trail Spring in the scenic Ochoco National Forest.

Observing Site Committee

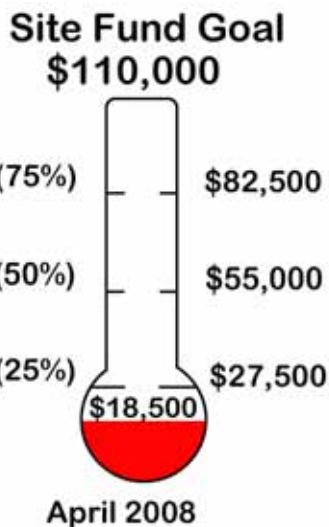
To lead and coordinate efforts of the Rose City Astronomers (RCA) in securing and managing a variety of observing sites for private use by members, and for community outreach and special events organized by the RCA.

Please Check

<http://nemoworld.com/RCA/sitehome.htm>

for more information.

Or Contact: David Nemo <david@nemoworld.com>



Telescope Workshop

When: Saturday, May 17, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest Group (SCI-SIG)** will be meeting May 17 at 3pm. Following the Telescope Workshop at Technical Marine Services.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, May 21, 7 PM.

Topic: "Portland Astronomical History"

Presented by: Chris Lee & David Tevr

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through check-out at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rca-oms.org>).

The location is announced on the RCA general email discussion list. Information on how to join this list is at <http://www.rca-oms.org/emaillists.htm>

Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlinc.com



Photo by Jan Keiski



BOARD MEETING MINUTES

March 3, 2008

OMSI Classroom 1

Margaret Campbell

Attending: Dale Fenske, Jan Keiski, Jim Reilly, Doug Huston, Carol Huston, Ken Hose, Larry Godsey, Dave Nemo, Greg Rohde, Margaret Campbell-McCrea.

A quorum was met. The meeting was called to order at 7:05.

Officer Reports

- Secretary: Margaret Campbell brought another draft of the February minutes and there was discussion on how to rewrite the section on the discussion regarding our website. The consensus was to omit most of it, which she agreed to do and submit a final draft as soon as possible to Larry Deal.
- Treasurer: Larry Godsey reported that the RCA Operations fund has \$17,718.18 and the RCA Site fund has \$18,469.84. Larry asked that all officers keep him apprised of our club activities and public service, because we have to report that at the end of our financial year as a non-profit organization.
- Programs: No report. Richard Berry will speak at the March meeting.
- Observing: Doug finished the star party list and passed it out at the meeting. Doug will add this list as a pdf to the website and will print out copies to hand out at the next meeting. We discussed a few changes in driving directions, which Doug will make, and we agreed to add the word OMSI to OMSI events.
- Membership: Ken Hose. Three new members in January and five renewals. Total of 285 family memberships, and \$232 in dues.
- New Members: Jim Reilly reported sending out an email to both new members and the membership in general that he will be wearing green and meeting new members at the planetarium at the March meeting. He asked to have an announcement regarding this in the March gazette.
- Sales: Margaret Campbell-McCrea was officially voted in as Sales Director. She reported \$194.00 in sales at the February meeting.
- Library: Jan Keiski shared the book on Patagonia that GAMA donated to RCA. Jan will be working with Graziano to help GAMA build up a club library.
- Scope Library: Greg Rhode reported that he is taking scopes #18 (an 8" SC w/accessories, no wedge) and #19 (10" Coulter dob) off the list and will put them out to bid. He will conduct a sealed bid auction as he did last time we auctioned off some scopes. Dave Danske will rebuild the #10 scope, making it like a 12.5" truss tube. This will reduce the weight and make it easier to handle.

Cost to RCA will be "parts only, at cost" from Aurora Precision.

- Website: Dareth reported that she is working on a new site design at rosecityastronomers.org, and that she and Larry Godsey are working together on testing it. She will bring a demonstration for the next board meeting.
- Site Search: David Nemo reported that he won't be at the March meeting, so Dareth volunteered to sell tickets for the Sky Scout at that meeting.
- SIGs: No report.
- ALCOR: Dale Fenske reported that the Reflector has updated RCA's certificate awards list, and the Gazette has printed a record of the awards for 2007. Dareth reported that she has updated the website too.
- OMSI: Jan Keiski reported that Jim Todd is okay with the star party schedule for 2008.

Old Business

- Forum/E-mail Committee: Dave Nemo reported that he will try to install the new forum tonight and will start testing it tomorrow. He is trying different programs and has not decided which one we are going to use yet.
- Larry asked for \$90 to change from EasyStreet to GoDaddy because it is more flexible and allows for more space. Doug Huston made a motion to increase the website budget by \$90, Jan Keiski seconded it. Motion carried.
- Dave Nemo suggested that we use email addresses that say pres@rca and treas@rca, in order to avoid putting out personal emails on the Internet.
- Sister Clubs: Margaret reported that she, Carol Huston, Jan Keiski and Dareth Murray had a productive meeting on this issue, and that we agreed on a number of ideas, but had one unresolved issue: if we allow sister club members to access our email list and have other privileges of membership, then does that change our membership count for purposes of AL dues? Carol had contacted AL and accessed their by-laws, but she hadn't had a return message yet. Our group's suggestion was to have a "Sister Club Membership" for one person, probably the president of the club. In the alternative, we might be willing to pay, for example, \$1 to AL instead of \$5 for our sister club members. Dale Fenske suggested that we find out from A.L. whether they have international member club or sister club designations.
- SIGs: The rewrite is complete. Tom Nathe wasn't there for voting on the rewrite of the SIG rules.
- Awards Committee: No action. Dareth has a complete list of A.L. awards, their criteria and deadlines, but reports that she still has some work to do.

(Continued on page 10)

March Board Meeting Minutes (Continued from page 9)

- Youth Program: Carol Huston tried to contact the person who had been suggested earlier but did not have a reply yet.
- Astronomy Day: Dareth and Doug presented a plan as they see it so far: on Saturday the 10th during the day, set up a table in Pioneer Place or other shopping center, inside; have solar scopes and members available, as well as information on RCA, astronomy, and the Rooster Rock Star Party. In the evening, tentatively, set up a public star party at Pioneer Square. At the moment there is no permit for an evening event, and we may not get it.
- Yuri's Night: Dareth reported that management has changed at Evergreen Museum, so there will be no Yuri's Night out there, but there will be at the Linus Pauling House.
- Starlight Parade: Margaret reported that there is a \$250 entry fee to apply for the Starlight Parade, which is refundable if our application is rejected. She reported on the rest of the technical requirements, among them to have lots of lights, and interact with the crowd.
- Andy Phelps attended the meeting because he is interested in the Starlight Parade and had talked to someone who gave him good advice about how to increase our chances of being accepted: have a purpose; if kids are involved, our chances increase considerably; give the parade host lots to talk about: 20th anniversary, youth programs, public star parties, work with OMSI, our meeting dates, etc.
- We agreed that we could meet these requirements. Larry moved and Dareth seconded that we spend the \$250 to apply. Doug suggested that this could be part of our Community Affairs budget. We selected the Starlight Parade Committee: Greg Rohde, Andy Phelps, Patton Echols (ask him to do advance publicity), and Margaret Campbell-McCrea. The committee is to report next time on the true cost of the project.

New Business

- 20th Anniversary. Dale Fenske volunteered to be the committee head for this project, and reported that Jim Todd has some good ideas.

The meeting adjourned at 8:40 p.m



Courtesy of the Lake County (Illinois) Astronomical Society



BOARD MEETING MINUTES

April 7, 2008

OMSI Classroom 1

Margaret Campbell

Attending: Greg Rohde, Tom Nathe, Carol Huston, Doug Huston, Sameer Ruiwale, Jan Keiski, Ken Hose, Dareth Murray, Matt Brewster, Margaret Campbell-McCrea, Larry Godsey, Bob McGown.

A quorum was met. The meeting began at 7:08 p.m.

Officer Reports

- Secretary's report: Because the secretary occupies two board positions, the quorum is now nine. March minutes approved.
- Treasurer's report: Operations - - \$17,520.36 and site fund \$18,501.32. Next month we will talk about budget for next year. Larry will have preliminary budget at the next meeting.
- Program Report: April's meeting will be the Oregon Episcopal School science fair. Eight topics will be presented by students, two of them about astronomy. May's program is currently inchoate.
- Observing: Kah-Nee-Ta started not great but got better late at night, some observing did get done. Camp Hancock's report was about the same. This weekend we have the OMSI Planet Parade star party at Rooster Rock State Park.
- Membership: Six new and three renewals in March, brought in \$282. Now 294 member families (2 more than last year at this time).
- New Member Support: There were six or eight new members at the orientation at the planetarium. They asked for a practice star party in the OMSI parking lot - - hands on.
- Sales: \$403.50 in sales for March.
- Library: Nominal.
- Telescope library: Nominal.
- IDA: Bob is meeting with city lighting officials tomorrow at a day-long conference having to do with a new project for downtown.
- Magazines: Nominal
- Webmaster: Gazette not on the website yet. Larry Deal is waiting for programming information.
- Observing site: Made \$65 in raffle ticket sales in March.
- SIGs: One request for someone to talk about meteorology; several good names were suggested.
- ALCOR: no report
- OMSI: In May, we sign our annual agreement with

(Continued on page 11)

April Board Meeting Minutes (Continued from page 10)

OMSI. We expect no change in the contract.

- Youth program: Carol connected with Jeannie, the woman Ken had connected with. She's great, but new to astronomy and a bit unsure about taking on the youth program.

Old Business:

- Forum/eList update: The forum has been tested successfully for a few weeks, but so far it has not been possible to incorporate an email option into the choices. Sameer will contact Dave Nemo for status on where we are on getting the email incorporated into the forum choices. The Board members were encouraged to go to the forum to try it out as part of the testing process.
- SIG guidelines: Carol made motion to accept guidelines as written by Tom Nathe and reviewed by the Board. Dareth Murray seconded. Motion carried unanimously.
- Awards Committee: Update next month
- Sister city report: Discussion on guidelines. Margaret will post rewrite of #4 on Board elist and we will finalize them by next month. After we approve it, we will write an article for the newsletter.
- Bylaws: In May we begin to review, so during this month, Board members should review current bylaws.
- Astronomy Day: Dareth and Doug continue to make arrangements as described in last month's minutes. It may be possible to set up at the Portland Willamette Esplanade which is free. Doug will look for RCA signs and/or banner. They plan to have something simple for the kids. They will put publicity in the newsletter tonight.
- Starlight Parade: Margaret presented the plans so far. The feeling of the board was that there was not enough time to complete a float design and complete construction before this year's Starlight Parade. Doug Huston made motion that we get our money back from the Starlight Parade and begin planning for next year. Carol Huston seconded it. Motion passed unanimously.

New Business:

- New website design. Not quite done yet. Dareth described the new graphics and will do a demo of it next month.
- 20th anniversary of RCA: Sameer will work with Dale to assign the various tasks. Doug will get the info from Dale and write the article; Dareth and Larry will work on logo to put on the website. Carol will research some early club history and members. Larry can refer us to someone who can make pins for 20-year members.

Meeting ended at 8:43 p.m.

Action Items:

- Prelim budget at next meeting (Larry)

- Contact Dave Nemo about getting the email incorporated into the forum choices (Sameer)
- Update next month (Dareth and Bob?)
- Post rewrite of #4 of Sister Club policy on Board elist (Margaret)
- Begin to review bylaws (everyone)
- Do a demo of new website (Dareth)
- Get money back from Starlight Parade (Margaret)
- Work with Dale on digging up club history (Sameer, Doug, Carol, maybe Jim Reilly)

COME CELEBRATE ASTRONOMY DAY WITH OMSI AND THE RCA!



Astronomy Day is an annual worldwide event designed to promote public awareness and interest in astronomy and space science.

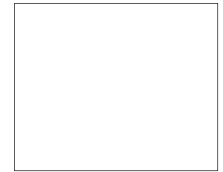
Festivities begin at OMSI in the Planetarium lobby from 10AM to 4PM on Saturday, May 10. RCA members will be on hand with information and brochures on astronomy related topics. If weather permits there will be solar telescopes set up in the parking lot as well.

Join us on the evening of Saturday, May 10 as we gaze at the spring night sky at Rooster Rock State Park, starting at 8:30 pm. Visitors to the star party will be star-struck as they view the stars and other objects through a variety of telescopes. In addition to seeing the planets Mercury, Mars and Saturn, star clusters, waxing crescent moon, and other celestial bodies will be visible.

Located 22 miles east of Portland on I-84 (east of Sandy River) at exit 25, Rooster Rock State Park is a wonderful place to view the spring night sky. Parking is \$3 per vehicle. Members of Rose City Astronomers and Vancouver Sidewalk Astronomers will make their telescopes available to anyone who attends, and OMSI Planetarium Manager Jim Todd will present informal talks on the occurrence.

For possible weather cancellation, call (503) 797-4610 on May 10 after 3:00 PM to get the latest information.

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



April 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 2008

May 2/3	Fri/Sat	Dark Sky Star Party	Camp Hancock
May 5	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
May 9	Fri	Downtowner's Luncheon	Kell's Noon
May 10	Sat	Astronomy Day Exhibition	OMSI Planetarium 10am-4pm
May 10	Sat	OMSI Star Party	Rooster Rock S.P.
May 17	Sat	Telescope Workshop	Swan Island 10am-3pm
May 17	Sat	Science SIG	Swan Island 3pm
May 19	Mon	General Meeting	OMSI Auditorium 7pm
May 21	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
May 30/31	Fri/Sat	Dark Sky Star Party	Maupin Site

June 2008

Jun 2	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Jun 5-7	Thu-Sat	NWRAL Star Party	Goldendale, WA
Jun 6	Fri	Downtowner's Luncheon	TBA Noon
Jun 14	Sat	Telescope Workshop	Swan Island 10am-3pm
Jun 14	Sat	Science SIG	Swan Island 3pm
Jun 14	Sat	OMSI Star Party	Rooster Rock S.P.
Jun 16	Mon	General Meeting	OMSI Auditorium 7pm
Jun 18	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Message Line: (503) 255-2016
 Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 6

Newsletter of the Rose City Astronomers

June, 2008



RCA JUNE 16 GENERAL MEETING

Auroras, Moonscapes and Starry Skies

Capturing the Magic of the Night Sky with Photography

Presented by John Flinn

**Celebrating 20 Years
This Month!**

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
.... Magazines
.... President's Letter
- 3 .. Classic Telescopes
- 5 .. The Observer's Corner
- 6 .. OMSI Star Party!
- 7 .. Southern Nebulae
- 10. May Board Minutes
- 11. Telescope Workshop
.... Science SIG
.... Membership Renewal
.... Cosmology SIG
- 12. Calendar

John will narrate a slide presentation covering basic and advanced techniques for successful aurora and constellation photography. The following topics and techniques will be covered:

- The Northern Lights in Mythology, History and Science.
- Preparation and forecasting of Oregon auroras.
- Recommended equipment for aurora photography.
- Sources of auroral forecasting, planetary conjunctions and moon rising times on the web and in astronomy magazines.
- The Columbia Gorge Petroglyphs as evidence for enhanced auroras in prehistoric time (12,000BC to 3000BC) that were 2-3 orders of magnitude stronger than today's storms.
- Auroras and the sunspot cycle.
- Why mid-latitude locations such as Oregon are better than Alaska for aurora viewing during extreme geomagnetic storms ($K_p > 8$)
- The best months for auroras and the secret of using mountain rain shadows to skirt the clouds.
- How to work with moonlight in night photography.

Many of these techniques are not covered in even the most prestigious photography schools. Be prepared for the next Oregon auroral display or other celestial event.

(This image and others like it can be found at <http://www.celestialscenics.com/>)



All are Welcome! Monday June 16

Social Gathering: 7 pm. Meeting Begins: 7:30 pm.

Location: OMSI Auditorium



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

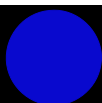
Moon photos below courtesy David Haworth

New Moon
June 3

First Quarter Moon
June 10

Full Moon
June 18

Last Quarter Moon
Jun 26



Club Officers				
President	Sameer	Ruiwale	(503) 681-0100	sameer_ruiwale@yahoo.com
Past president	Carol	Huston	(503) 629-8809	StarsCarol@comcast.net
VP Membership	Ken	Hose	(503) 591-5585	khose@comcast.net
VP Observing	Doug	Huston	(503) 629-8809	geometer@comcast.net
VP Community Affairs	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
VP Programming	Matt	Brewster	(503) 740-2329	renaissant@comcast.net
Treasurer	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Secretary	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlinc.com
Sales Director	Margaret	Campbell-McCrea	(503) 232-7636	mmcrea@nwlinc.com
Newsletter Editor	Larry	Deal	(503) 708-4180	Gazette_ed@comcast.net
New Member Advisor	Jim	Reilly	(503) 493-2386	jim-lorien@granitic.net
Web Master	Dareth	Murray	(503) 957-4499	darethlee@comcast.net
Alcor, Historian	Dale	Fenske	(503) 256-1840	fenskedw@msn.com
Library Director	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Telescope Director	Greg	Rohde	(503) 629-5475	gfrohde@yahoo.com
Observing Site Director	David	Nemo	(503) 224-6366	david@nemoworld.com
Media Director	Patton	Echols	(503) 936-4270	mpecho@rdrop.com
IDA Liaison	Bob	McGown	(503) 244-0078	bobmcgown@comcast.net
OSP Liaison	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
Subscription Director	Larry	Godsey	(503) 675-5217	larrygodsey@comcast.net
SIG Director	Tom	Nathe	(503) 641-3235	tmnathe@verizon.net
OMSI Liaison	Jan	Keiski	(503) 539-4566	jikeiski@comcast.net
Youth Programs Director	open			



RCA MAGAZINE SUBSCRIPTIONS

One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

President's Message By Sameer Ruiwale

Light pollution is a serious issue that afflicts our society today. Light bubbles over our cities continue to grow as we progress towards more urbanization and in the process, we continue to lose our beautiful night skies and rob our children of the experience of a star filled night sky with the Milky-Way spanning across it. Moreover, this light pollution or sky glow is really wasted light and energy from poorly designed lighting systems that throw light upwards into space (instead of towards the ground).

The International Dark Sky Association is actively engaged in increasing light pollution awareness among communities and local, regional and national governing bodies. They advocate usage of quality lighting fixtures

which help reduce light pollution. RCA is an active member of IDA and aligned with IDA's mission and goals.

The city of Portland has undertaken a major lighting upgrade project in downtown Portland to replace aging light fixtures with globe fixtures and other types of fixtures. RCA is working with the project planners to share our concerns about light pollution and provide information about different options available that would help reduce light pollution. The city is holding a 2nd open house on June 10th 2008 (refer to our May '08 Gazette for details) in which they intend to present the type of fixtures they will use for this project. RCA members are encouraged to attend the open

house and provide their input to the city's proposal.

Finally, it's that time of the year for a reminder to renew your RCA membership. Our annual membership runs from July 1st to June of next year and dues are \$24 per member-family. You can find renewal forms on the RCA website. You can either mail your dues to the address on the form or bring your check to the next RCA meeting. Help support your club and keep your membership benefits active. Also consider signing up for electronic delivery of our newsletter if you have not already done so. Newsletter printing is a large part of our expenses and reducing this expense will allow us to direct funds to other club activities.

CLASSIC TELESCOPES

Delving into the deep-sky delights of Scorpius with a Lafayette 3-inch refractor.

by John W. Siple

AS THE SUMMER SEASON approaches and the days get longer, the clockwork movement of the heavens rotates into position one of the original six signs of the zodiac. Dwelling in a part of the sky just south of Ophiuchus the Serpent Bearer, Scorpius (Scorpio) is threatened by the Archer's bow toward the east, while its former claws define the constellation Libra in the west. In mythology, Scorpius is the dreaded enemy of Orion, sent by Gaia to destroy the Giant Hunter.

Hook-shaped Scorpius, the reputed birthplace of Mars, reaches culmination during the months of June and July. The constellation harbors no less than a dozen and a half tantalizing globular star clusters. Of that total, several are bright Messier objects, fine targets for small amateurs' telescopes. A rain of open clusters along with a generous offering of double stars also credits the body of the Scorpion.

Lafayette's venerable "Arcturus" refractor telescope (Figure 1), sold during the years 1959-65, was selected for delving into the deep-sky delights of Scorpius. During its appearance in their catalogs (Figure 2), the "Arcturus" was priced at a competitive \$269.50. (This premium grade instrument was manufactured in Tokyo, Japan by Royal Astro Optical Industries Co., Ltd. as model H-5, and then imported into the USA by Lafayette Radio Corporation.)

The Rho Ophiuchi Nebula, beautifully framed in Robert Gendler's photograph (Figure 3), is an area of cosmic turmoil found between Ophiuchus and Scorpius. Mr. Gendler mentions that "probably no other region provides such an impressive spectacle of colorful glowing gases juxtaposed with converging dark rivers of thick dust." At a distance of 540 light years and with an age of only 1 million years, this collection of molecular clouds and reflection and emission nebulae is one of the nearest and youngest stellar nurseries.

Antares (Figure 4), or the rival of Mars, is a 1st magnitude class M star with a

diameter of more than twice the earth's orbit. The "Fire Star," a pulsating variable situated at the Scorpion's heart, is a scintillating reddish-orange point of light in the 3-inch telescope. Masked by the glare of Antares is a magnitude 5.4 emerald sun, which is well beyond the capability of the small Lafayette refractor to resolve. In instruments 6-inches and above, the 3" distant companion can be recognized as a greenish dot to one side of the primary.

Graffias (β Scorpii), found in the head of the Scorpion, is a 14" pair of magnitude 2.6 and 4.9 stars. A nice sight in the 3-inch refractor using a Tele Vue 13mm Plössl eyepiece (70x), both stars appear blue-white. This easy double mimics the more famous Mizar in Ursa Major.

Nu (ν) Scorpii is a challenging double-double system for small telescopes, consisting of a 2.3" pair (magnitudes 4.3, 6.8) and a 1.2" one (magnitudes 6.4, 7.8) a leisurely 41" apart. The 3-inch Lafayette refractor in average seeing shows only three out of the four stars bunched together. At high power under steady skies the fourth star is revealed as a "bump" on the dominant white member of the group.

Xi (ξ) Scorpii is an interesting triple star, part of a more complex multiple system that includes the double Struve 1999. The 5th-magnitude star Xi is a very close unresolved binary with a period of 45.7 years. The yellowish sun has another much easier 7th-magnitude companion 7.6" off. Completing the quintet is Struve 1999, a 12" pair of magnitude 7.4 and 8.1 stars located 283" to the south. Xi strongly resembles ν Scorpii in the 3-inch scope, but is wider.

Lying close to the central line of the Milky Way and at a respectful distance above the sting of the Scorpion is the Butterfly Cluster. Messier 6 (NGC 6405) is a splashy open star cluster 25' in diameter with an integrated magnitude of 4.2. Its namesake comes from the cluster's outline, which with a little imagination resembles a graceful celestial butterfly with open wings.

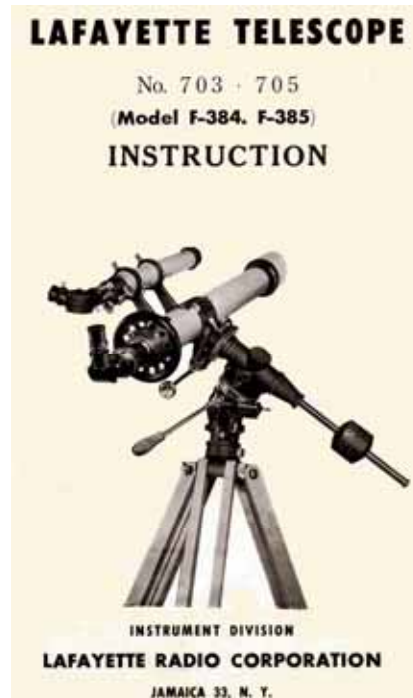


Figure 1. Owner's manual displaying Lafayette's "Arcturus" 3-inch f/12 equatorial refractor telescope.



Figure 2. The illustrated outside front cover of the 1961 Lafayette Radio Electronics' catalog. The "Arcturus" is found on page 305.

(Continued on page 4)



Figure 3. The Rho Ophiuchi Nebula, part of a giant invisible molecular cloud and a very active seat of star formation. The bright star in the frame is the red supergiant Antares.

A very noticeable orange star, the variable BM Scorpii, lies on the ENE edge of the charming cluster. Using a 19mm Panoptic ocular (48x) in the 3-inch refractor, Messier 6's sixty-plus stars make a grand sight, ranking it as one of the finest open clusters in the heavens for small telescopes.

Ptolemy's Cluster, better known as Messier 7 (NGC 6475), lies 4° southeast of M6. As one of Scorpius's showpieces, the sparkling star cluster can easily be seen against the backdrop of the summer Milky Way without optical aid. Deep-sky guru Sue French mentions that "with a 2.4-inch scope at least 30 [stars] may be counted, the brightest being arranged in the shape of a # symbol with every other extension chopped off." In the slightly bigger Lafayette refractor over 50 blue-white orbs—many of them 6th to 9th magnitude—are visible scattered over an area of 1.3°.

Found forming a triangle with Antares and sigma (σ) Scorpii is the loosely concentrated (Class IX) globular star cluster Messier 4 (NGC 6121). From dark rural observing sites the magnitude 5.8 globular cluster (Figure 5) can be detected with the unaided eye; through the telescope the

easily resolvable 26' diameter ball of light blossoms into a glorious mass of pinpoint stars. 19th century astronomer Admiral Smyth commented on its distinctive appearance: "It is elongated N-S and has the aspect of a large, pale, granulated nebula, running up to a blaze in the centre."

The 3-inch refractor with a 9mm Nagler eyepiece (101x) shows the deep-sky object's oblateness, attributed in large part to a 2½' long ridge or "starbar" of 11th magnitude stars running down the middle of the cluster. At a distance of 7,200 light years, M4 is perhaps the closest globular star cluster to the Solar System.

Comet-like Messier 80 (NGC 6093) is located halfway between Antares and Grafias. In 1785, Sir William Herschel described the magnitude 7.3 globular cluster as sitting on the western border of what he referred to as "An Opening in the Heavens," a region 4° broad in Scorpius which is devoid of stars. At 101x in the 3-inch instrument, the exceptionally dense Class II globular cluster is a hazy, silvery disk 9' in diameter with a much brighter center. A splendid photograph of the cluster shows its myriad component stars (Figure 6).



Figure 4. Antares, the rival of Mars.

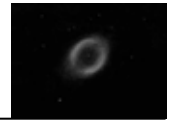


Figure 5. The Oblate Globular M4.



Figure 6. Herschel's Delight M80.

IMAGE CREDITS: Robert Gendler, Jim Misti, Steve Mazlin (The Rho Ophiuchi Nebula); © Paul Mayo www.skylab.com.au/pmsa (Antares); Jim Misti of Misti Mountain Observatory (M4); and Gene Katz/Adam Block/NOAO/AURA/NSF (M80).



The Future Is Coming – now what do we do?

We're coming into a new era of amateur astronomy. That's true on many fronts, but one area that's beginning to revolutionize the way people observe the deep sky with their telescopes is beginning to make its mark – video observing.

Two high sensitivity video cameras have become available the past couple of years, the black and white StellaCam and the full color MallinCam. These small video cameras offer detailed, near real time images of deep sky objects that are viewed on a lap top or a video monitor. Both cameras are becoming increasingly popular as they offer tremendously detailed images of all types of deep sky objects but with a much shallower learning curve than a CCD camera and subsequent image processing.



StellaCam 3 monochrome video camera, left, next to a 1.25" eyepiece for scale, and the full color MallinCam Hyper Plus, right. Both take the place of a traditional eyepiece. For an idea how these cameras perform, check out a couple of articles about video astronomy in the most recent issue of Amateur AstroAnomy magazine (<http://www.amateurastronomy.com/>) and a review of the StellaCam 3 video camera in the September 2007 issue of Sky & Telescope magazine by Johnny Horne (<http://media.skyandtelescope.com/documents/Stellcam3.pdf>). Technical and pricing information about the StellaCam 3 camera and its options can be found at <http://www.astrovid.com/products.php?subcat=618>, and comparable MallinCam information is at <http://mallincam.tripod.com/>.

More devices along these lines will follow, each with their strengths and weaknesses, and as their affordability increases they will no doubt become much more common. I feel a little guilty being excited by this prospect but then I live in arguably the most light polluted part of the state – blocks from downtown Portland – and can imagine enjoying deep sky observing from my backyard that beats anything I could see from a dark sky site through non-electronic eyepieces. Think how cool it would be to show people galaxies with easy to see spiral arms, and in full color, from your backyard or an OMSI star party.

However, as nifty as that prospect sounds I'm also worried about these devices showing up at dark sky star parties in growing numbers. It's easy to imagine lap top screens and video monitors flooding light all over an observing site - think of a bunch of small TV's scattered around the OSP. The potential for light trespass, and resulting conflict, is enormous.

Proper shielding of a video screen takes some precautions but

doesn't need to be difficult, but I also imagine that some people new to video astronomy may not realize how much light their monitor puts out because their eyes aren't dark adapted.

Actually, the irony in that is pretty rich, but what's to be done?

My guess is that dark sky star parties will soon need specific rules for video observers. I'm sure these nice folks are eager to make sure their monitors don't bother anyone, and having clear rules for them to follow should help smooth any potential hard feelings that could otherwise develop. But without guidelines the results are likely to be inconsistent and tempers will flare when an incompletely shielded monitor announces its presence.

What might a solution look like?

Video observers can't set up with the imagers because CCD cameras are even more sensitive to light trespass than visual

(Continued on page 6)

The Observer's Corner (Continued from page 5)

observers. So it may come to pass that video observers need their own section of an observing field, with all their monitors or lap top screens facing away from the imagers and visual observers. Of course, they'll still need shielding to prevent indirect light trespass – light flooding onto a face or equipment in front of a monitor can also be seriously bright.

This may take some trial and error, especially at first because video astronomers are excited about their equipment and what it can show. My guess is that they want to share their views and being put off in their own portion of an observing field will, at first, discourage that. However, specific rules and clear expectations can help smooth the way for this new situation and will help everyone's learning curve.

My video astronomy dark sky star party rule suggestions:

All video monitors and lap top screens must be fully shielded so a nearby dark adapted person or CCD camera is unaware of it.

The intent of "fully shielded" means that monitor or lap top

illumination on faces or nearby equipment is also acceptable to nearby dark adapted people or CCD cameras.

It could be just this simple – two rules. There are several approaches to shielding which should be left up to the individual but the outcome should be the same - that everyone can enjoy a pristine night sky in all its splendor in their favorite way.

Video observing is exciting and I won't bet against ever have one of these cameras someday. However, aside from the reservations I've discussed above I'm also worried that as these video cameras become more popular the resulting loss of dark adaptation will rob video observers of the best view of all – the naked eye Milky Way in full glory.

Although I'm something of a Luddite when it comes to observing I do appreciate new technology, but this side effect of video observing bothers me and will probably dissuade me from becoming even a part time video observer. However, I'm interested in starting a discussion about all this and hope to share thoughts and opinions with many of you in the coming months and years as this bit of the future quickly turns into a reality.

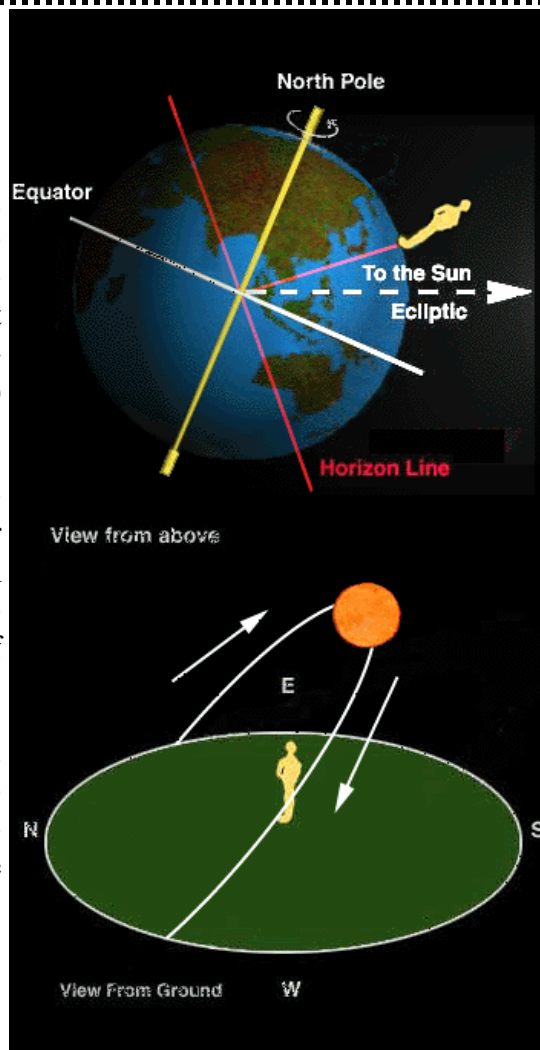
OMSI Summer Solstice Star Party **June 14, 2008**

Summer officially begins with the summer solstice on Friday, June 20 at 4:59 p.m. PDT. On Saturday evening, June 14, OMSI, Rose City Astronomers and Vancouver Sidewalk Astronomers will celebrate the summer solstice and the beginning of summer with a free Star Party! Join us as we gaze at the spring / summer night sky at Rooster Rock State Park, located 22 miles east of Portland on I-84 (east of Sandy River) at exit 25, starting at 9:30 pm. Parking is \$3 per vehicle.

Members of RCA and VSA will make their telescopes available to anyone who attends, and OMSI Planetarium Manager Jim Todd will present informal talks on the occurrence. From beginners to experts of all ages, visitors will have the opportunity to view the stars and other objects through a variety of telescopes.

Viewing highlights includes the planet Mars, Saturn, Jupiter, the waxing gibbous moon, a meteor or two of the Lyrids Meteor Shower, clusters, and more! For possible weather cancellation, call (503) 797-4610 on June 14 after 4:00 PM to get the latest information.

Right hand diagram of how the Sun moves through the sky during summer solstice courtesy of Windows to the Universe, <http://www.windows.ucar.edu>



OBSERVING THE NEBULAE COMPLEXES IN VELA-PUPPIS-CANIS MAJOR REGION

by Leo Cavagnaro

For those southern observers who like to identify and study bright emission and reflection nebulae, late March and April is a good time to observe in detail an interesting region in the sky where different nebulae ranging from easy-to-see to the challenging are visible. Some nebulae are too faint to be observed through an 8-inch telescope however.

In the Vela-Puppis-Canis Major Region, is found a famous complex, the Gum Nebula. It is a huge HII region, or maybe an old supernova remnant according to some researchers.

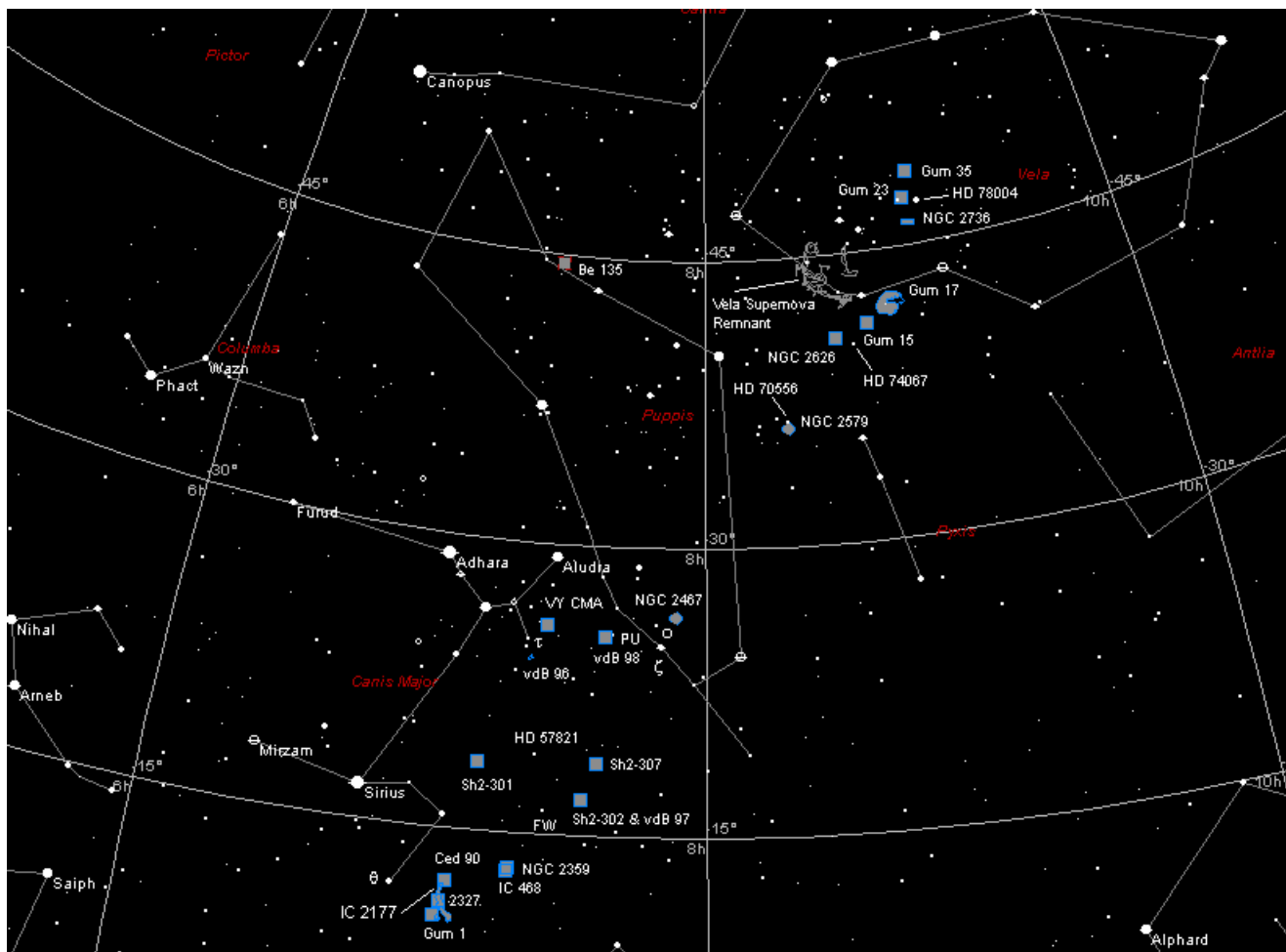
In this article I have included reports and comments about my experience observing this region from Mendoza (Latitude 33S, Longitude 69W) using an 8-inch reflector telescope.

The Vela – Puppis – Canis Major region in the Southern Sky

I have chosen a 50 degree wide region of the constellations centered on Right Ascension 8 hours and Declination -35 degrees. From this part of the planet, this zone is at the zenith at 10 pm local time in middle March, so the Vela-Puppis-Canis Major area is very high in the sky. That is very important to try to observe nebulae in the best conditions.

The map shows the area of the several nebulae included in the observing program.

(Continued on Page 8)

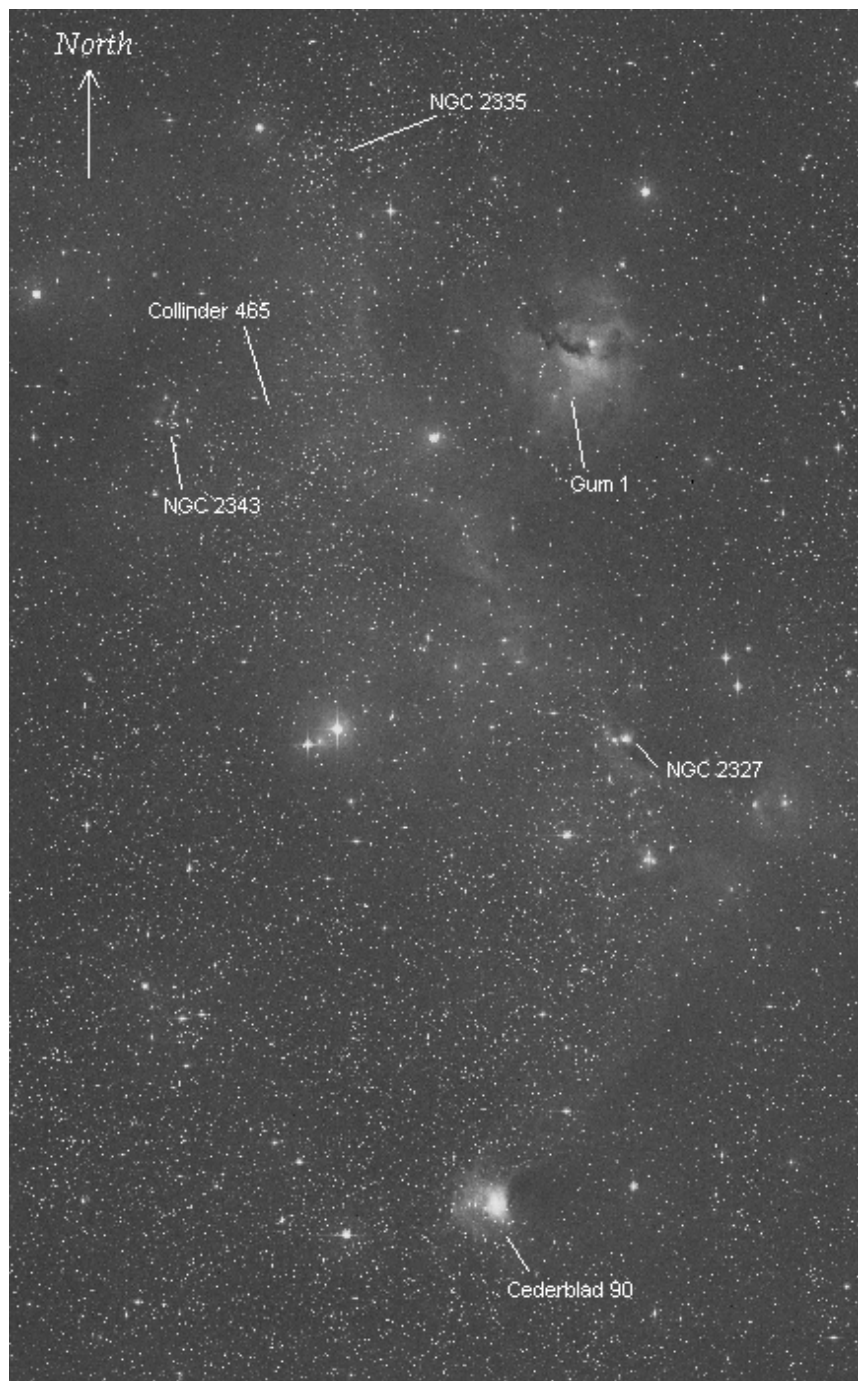


The observing sites

Four nights were needed to complete this observing program. The first night to observe this part of the sky was Sunday, March 30th. At this time of the year we are in the beginning of autumn in the Southern Hemisphere, but temperatures are still good to observe from a site not too far from the city.

The site chosen to observe the group of nebulae was Jocoli, a place situated at about 43 miles North to Mendoza. The limiting visual magnitude that night was 6.2, and in my opinion not bad for an observing site relatively close to Mendoza.

Canis Major Region



I began observing a group of nebulae and star clusters to the East of Canis Major. The Seagull Nebula (IC 2177) was my first target.

I first observed the North end of this long nebulae, and in my opinion, the more interesting region of this huge object because some open clusters and an interesting star field are visible there.

Using low magnifications (42x) you can see a rich star field with bright and faint stars. Also, three open clusters are clearly visible in the same field: **NGC 2335**, **NGC 2343** and Collinder 465 (**Cr 465**).

NGC 2343 is a 6.7 magnitude open cluster. It looks very compact and it is the brighter cluster in the field. An interesting S-shaped chain of faint stars (magnitude 11) crosses the cluster, whose Trumpler classification is III,3,p,n.

NGC 2335 looks fainter and a little bigger than NGC 2343. However, it is clearly visible and seemingly with nebulosity (its Trumpler classification is III,3,m,n where n indicates nebulosity). The magnitude is 7.2

Between NGC 2343 and the star V569 Monocerotis, the brighter star in the field with visual magnitude 6.5, lie two other open clusters: **Collinder 465** and **Collinder 466**, in a very rich area with several faint stars situated in the border of IC 2177.

A conspicuous dark lane is also visible, situated between Collinder 465 and the star V569 Monocerotis, toward the open cluster NGC 2335.

To the East, at about 24 arc minutes, there exists an emission and reflection nebula

(Continued on page 9)

Nebulae (Continued from page 8)

catalogued as **Gum 1**. This object is not visible when you try to observe it with an 8" telescope without a nebular filter (perhaps it would be interesting to try to observe it under a darker sky!). Three bright stars are visible in the middle of the eyepiece field, but nothing obvious is visible around the star HD 53367 (magnitude 7) where this nebula lies, according with sky charts and catalogues.

Observing again Gum 1 with the same magnification but this time using an UHC filter, the nebula is barely visible, and averted vision is necessary. It looks like a very faint nebulosity. I had a similar view using 78x and UHC filter.

The elusive nebula NGC 2327

Moving South we found a very small reflection and also an HII region situated in a rich starry field. Using low magnifications, NGC 2327 is not obvious at all. A big stream of stars is visible following the nebula IC 2177.

Observing the field carefully and using the star configuration as a guide (the stars within red circle), in the position where NGC 2327 is situated, an object with stellar appearance is visible. At 106x with UHC filter this object looks almost stellar with a small nebulosity surrounding it. Is it NGC 2327?

Finally I moved my telescope to the South end of Seagull Nebula. This is also a very impressive field. Several stars and interesting stellar chains are visible here. To the right side of the eyepiece field a beautiful crown of 5 stars is clearly noted.

Cederblad 90 (Ced 90) is situated in the south end of the Seagull Nebula. In that region, and with low magnifications, a small region embedded in nebulosity came to view, also some dark structures were visible to the South in the same eyepiece field. Bright but faint nebulosity surrounds the star HD 53623 and it is necessary to use averted vision. Using a nebular filter (UHC for example) Ced 90 looks a little bigger, embedding the faint stars situated to the left. I had a better view of this characteristics using a little higher magnifications (53x).

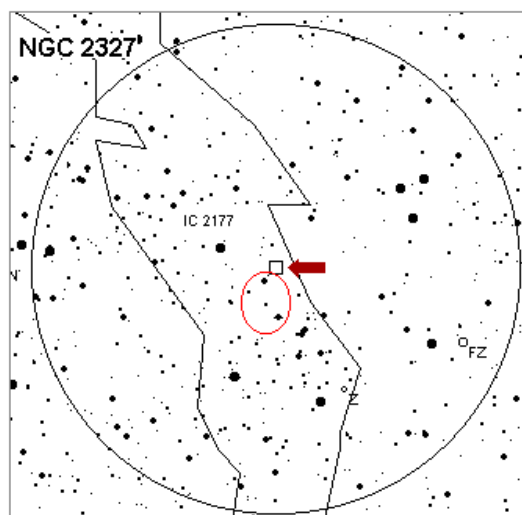
The Thor's Helmet nebula (NGC 2359)

A very beautiful diffuse nebula lies at about 4 degrees from the star Gamma Canis Majoris (magnitude 4.1). It is NGC 2359, a striking nebula. It is clearly visible even without filter and you can identify some of the shape showed in the picture to the right. With 42x **NGC 2359**, also known as the "Duck Nebula", is easily visible as smooth nebulosity in a rich starry field. An awesome view is reached when you put on an UHC filter. A fainter filament (indicated with number 2 in the picture) is visible toward a place where another nebula (IC 468) is situated. In this zone is an extremely faint nebulosity barely visible (maybe part of IC 468 ?) With 53x and a UHC filter, the filament is again observed and the brighter zone (number 1 in the picture) is visible very well. Moreover, a narrow dark lane seems to cross the nebula in its central part.

Using higher magnifications, for example 106x, some stars are visible in the brighter part.

After the observation of NGC 2359 I moved the telescope view near the star Tau Canis Majoris where a small nebula (15' x 15') lies: **vdB 96**. When the observation was made of this nebula its altitude was 45° above west horizon.

The nebula was not visible at all even using an UHC filter, I think maybe it is necessary for a bigger telescope or a darker sky (and a higher altitude?) to see something.



To Be Continued in the July 2008 issue of the Rosette Gazette...



BOARD MEETING MINUTES

May 5, 2008

OMSI Classroom 1

Margaret Campbell

Attending: Larry Godsey, Greg Rohde, David Nemo, Margaret Campbell, Jan Keiski, Sameer Ruiwale, Dareth Murray, Ken Hose, Matt Brewster, Bob McGown.

Officer Reports

- Secretary: Quorum met with 10 voting members present.
- Treasurer: We have \$20,828.58 in club assets, with an approximate \$2600 expense to Camp Hancock not paid yet, and \$18,600.04 in the site fund. We are \$662 to the good so far this year on a budget that was \$1,100 short. Several club officers have not spent their full budget yet.
- Programming: Greg Cermak of JPL will be speaking about the James Webb Space Telescope (JWST), a large infrared-optimized plus optical, space telescope, scheduled for launch in 2013

In June, John Flinn from Eugene will speak about the aurora borealis, and photographing them. He will have large format prints for viewing and some available for sale.

- Observing: Dave Nemo confirmed that we can use the Maupin site for the three parties on calendar. Larry Godsey also reported that we had permission to use Dob Valley at Camp Hancock one time at the last outing. There were 60 registered at this last star party. Jan reports that the sno-park at White River is open and that the parking lot is cleared back to pre-slide condition.
- Community Affairs: No report.
- Media: No report.
- Membership: We have 305 members, above where we were last year, but below two years ago. Brought in \$406 in April.
- New Member Advisor: Jim will send an email.
- Sales: \$190 in sales in April.
- Library: Jan brought a copy of Sky & Tel's 100 Most Spectacular Sky Wonders to show the board. She will be purchasing a copy for the library. Margaret expressed that this may be a good publication for RCA sales too.
- Scope Library: Nominal
- IDA: Bob's been following new styles of lights, more LED lights coming along.
- Magazines: Nominal
- Webmaster: See demonstration under new business.
- Site Committee: About 50 raffle tickets have been sold, putting us close to break even point. It's time to advertise in newsletter.
- SIGs: No report

- ALCOR: No report
- OMSI: Jim Todd, Sameer Ruiwale, and the OMSI VP of Education have signed a new annual contract between RCA and OMSI, which is the same as last year's. Sameer Ruiwale read the entire contract to the Board. Moved and seconded to ratify the contract as read, and passed unanimously. Note: Larry uses emails sent by Jim Todd to count as documentation of our volunteer hours for purposes of meeting our obligations under the contract, and to maintain our 501(c)(3) status.

Old Business

- Astronomy Day: Because the cost of renting one corner of Pioneer Place was \$480, we decided to see if we could have Astronomy Day at OMSI. Solar scopes will be there. Handouts in storage can be given out. These plans were confirmed by Jan via a phone call to Jim Todd who was very receptive to hosting RCA at OMSI for Astronomy Day. He volunteered to set up tables for us and supply NASA handouts he has.
- Forum/email update: The committee is currently working on a second possible program because the first one didn't have all the features members wanted, though it worked well. It's called "Simple Machines eForum."
- Awards Committee: Dareth prepared a list of people who have won the Galileo award, with a paragraph on each of the winners, for posting on our website. There was a suggestion that the criteria for the award also be on the website. The list of other awards with winners from RCA will be on the website tonight. Dareth also presented the criteria for the AL Young Astronomers award and a letter written by Chris Lee in application for this award. Jan moved and Bob seconded, Board voted unanimously to recommend her, but we suggested that she rewrite her letter of application to highlight her qualifications better.
- Sister Clubs: The sister club committee has agreed on the final wording. Margaret will circulate a copy of it on the Board email. Jan reported on new officers of GAMA. Leo Cavagnaro is the VP of Observing and will be liaison with RCA. Aurelio Fornas is the new president.
- Website Design: Larry and Dareth presented a demonstration of the new website design, and took commentary from the Board. David Nemo will send out proposed changes. All board members were once again encouraged to go to the Board website for a link to the proposed new website and give feedback. Larry also pointed out that our new webhost, Go Daddy, will give us 100 email addresses, and we can have a generic address for each officer at rosecityastronomers.org.
- Starlight Parade: We have received and deposited the \$250 return of our application fee.

(Continued on page 11)

Board Meeting Minutes (Continued from page 10)

- 20th Anniversary: We have confirmed that June is the month of our founding, so Sameer will make the announcement in our newsletter.

New Business

- Annual Budget: Larry presented a proposed new budget, and took comments. There was some discussion about our newsletter costs, since this is the largest single expense category, though it is down considerably since we went to an online option. It costs \$21/person/year to mail the newsletter, and we're down to only 40-50 members who receive it by mail. We agreed to push a bit harder for the online option as a "green" option. Ken will make announcements at the RCA meetings to remind people and ask them to switch.
- Downtown South Park Blocks Light Pollution update: Sameer presented a discussion he had with the city about the lighting project. What the city most especially needs is information that they can use about manufacturers who can make the kind of lights we are asking for within the design guidelines they have selected (which is basically to look like the old lights). This is information we can get from IDA. There will be a second open house on Tuesday, June 10. We need to get representatives to that meeting. It would be good to get the information to the project manager ahead of the meeting. Sameer would like RCA to be present and is especially interested in making a professional and informed presentation to the city. Greg wants to be part of this, because he's working in Hillsboro on the same issue.

Meeting was adjourned at 9:00 p.m. Respectfully submitted,
Margaret Campbell-McCrea

Action Items:

1. Doug needs to order porta-potties for the Maupin star party.
2. Jan will ask Jim Todd for permission to set up outside OMSI for Astronomy Day. Jan will come down around 10 a.m. to facilitate set up. Dareth will send out an email to the RCA membership.
3. Dareth will put it on website when we confirm it.
4. Sameer will review Chris Lee's letter of application for the Astronomical League's Jack Horkheimer award for exceptional young astronomers. the Board webpage and check out the new RCA Board web page and provide feedback.
5. Sameer will send Margaret the contact information about the t-shirts and sweatshirts that we just bought.
6. Sameer will check the IDA website for lighting manufacturers' information. Sameer will ask Lisa Elbert, contact for the Downtown South Park Blocks Lighting Project, for the name of the manufacturer that they will use.

Telescope Workshop

When: Saturday, June 14, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

The Rose City Astronomers, **Science Special Interest Group** (SCI-SIG) will be meeting June 14 at 3pm. Following the Telescope Workshop at Technical Marine Services.

Information about SCI-SIG

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

Be Kind, Renew on Time!

It's that time of year again, astronomy friends, to renew your membership with the Rose City Astronomers. As most of you are aware, we have a fiscal calendar year from July 1 to June 30th. If you are new to the club, you may have paid a prorated membership fee.

We begin a new fiscal year with the good news that dues will remain the same at \$24.00. This is a bargain for all the benefits available to you--as we are sure you are well aware.

How to renew? Checks or cash are accepted at the general meeting. Plenty of renewal forms available also. You may print the renewal form from the RCA website and mail it with your check (no cash in the mail, please).

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, June 18, 7 PM.

Topic: "Ham Radio Night"

Presented by: Russ Paul

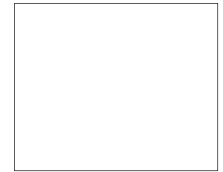
Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)

or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



June 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

June 2008

Jun 2	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Jun 5-7	Thu-Sat	NWRAL Star Party	Goldendale, WA	
Jun 6	Fri	Downtowner's Luncheon	Kell's	Noon
Jun 14	Sat	Telescope Workshop	Swan Island	10am-3pm
Jun 14	Sat	Science SIG	Swan Island	3pm
Jun 14	Sat	OMSI Star Party	Rooster Rock S.P.	
Jun 16	Mon	General Meeting	OMSI Auditorium	7pm
Jun 18	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm

July 2008

Jul 5	Sat	RCA Star Party	Stub Stewart State Park	
Jul 7	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Jul 11	Fri	Downtowner's Luncheon	TBA	Noon
Jul 12	Sat	OMSI Star Party	Rooster Rock S.P.	
Jul 19	Sat	Telescope Workshop	Swan Island	10am-3pm
Jul 19	Sat	Science SIG	Swan Island	3pm
Jul 21	Mon	General Meeting	OMSI Auditorium	7pm
Jul 23	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION

Message Line: (503) 255-2016

Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 7

Newsletter of the Rose City Astronomers

July, 2008



RCA JULY 21 GENERAL MEETING 1608-2008: Clarifying the Anniversary of the Telescope. Presented by Peter Abrahams

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
.... Magazines
.... Awards!
- 3 .. Classic Telescopes
- 5 .. Southern Nebulae
- 9 .. The Observer's Corner
- 10. The Birth of RCA
- 11. Oregon Star Party
- 12. June Board Minutes
- 13. Telescope Workshop
.... Science SIG
.... Membership Renewal
.... Cosmology SIG
.... New Astronomy Book
- 14. Calendar

2008 will mark the quadricentennial of the telescope, a simple instrument with an ambiguous origin. It is possible that objects similar to telescopes existed many years before 1608, and very likely that telescopes were in use shortly before 1608. The question of the utility of these optical devices is unknown, but they were not likely to be reasonably functional. As an instrument is incrementally improved to the point of practicality, the date of 'invention' is difficult to define.

1608 is the year of the first telescope with associated unambiguous documentation surviving into the modern era. When Hans Lipperhey applied for a Dutch patent covering his telescope in October 1608, the proceedings became the earliest account of a telescope that can be dated with certainty and leave no question that it was a functional instrument. However, the patent application was denied, the rejection stating that the reason was prior art.

More important is the circumstance that Lipperhey's telescope is the example that began the very rapid dissemination of telescopes. The instrument

had been reported in diplomatic channels even before the patent application was filed, telescopes were fabricated elsewhere within weeks and in many locations within the year, and were exported around the globe to Japan within 5 years. In contrast, any previous telescopes were kept secret, or were inoperable prototypes, or were a proposal or design that was not fabricated. These predecessors had little or no effect on the course of history, as compared to Lipperhey's invention, which initiated the course of events that led to today's telescopes.



HANS LIPPERHEY.
inventor of the telescope.

Peter Abrahams, past-past-President of the RCA (and secretary previous to that,) is an unaffiliated writer on the history of telescopes and binoculars, from Portland, Oregon. Papers by have been published in "Rittenhouse: Journal of the American Scientific Instrument Enterprise", "Journal of the Antique Telescope Society", and "Amateur Telescope Making Journal".

Papers and bibliographies can be found on his web site:

<http://home.europa.com/~telscope/binotele.htm>

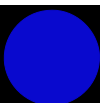
All are Welcome! Monday July 21
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Planetarium



RCA is a member of the Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.
Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.
Moon photos below courtesy David Haworth

New Moon
July 2



First Quarter Moon
July 9



Full Moon
July 18



Last Quarter Moon
July 25



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	OPEN	youth@rosecityastronomers.org	.

RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope

Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

Awards



**Jack Horkheimer Award
First Place :Christina Lee**

- Awards a \$1000.00 cash award
- a trip to the National Convention in Iowa
- A Telescope donated by Celestron.



**Brett Schaerer
Lunar Club Award # 602**



Ophiuchus, the Serpent Bearer, is pictured holding the coils of the fanged beast Serpens in Elijah Hinsdalt Burritt's popular 1835 *Atlas Designed to Illustrate the Geography of the Heavens*. Ophiuchus and Hercules are head to head in the illustration.

Classic Telescopes

JOHN W. SIPLE

OPHIUCHUS or Aesculapius, the God of Healing and the Serpent Wrestler, figures prominently in ancient sky lore. From birth, Ophiuchus (Oh-fee-you-kus), as the son of Apollo and the nymph Coronis, was destined to become a legendary individual of great deeds. This prophecy was fulfilled when he began restoring the mortally wounded back to healthy life.

Ophiuchus is an imposing night sky constellation during the hot summer months, covering 948 square degrees. The southern portion plays host to the Sun, Moon and planets, which makes Ophiuchus the 13th member of the Zodiac. For lovers of the starry skies, the Serpent Bearer is spotted from top to bottom with all types of globular star clusters, many of which are within easy reach of small backyard instruments.

In response to an overwhelming temptation to observe these blazing conglomerations of stars, a refractor telescope with an aperture of 2.4-inches (60mm) was selected. Refractor telescopes from yesteryear often give a surprisingly good performance when trained on double stars and bright Messiers. The limiting

magnitude is theoretically around 11, but experienced observers can push this barrier further, revealing subtle tints in double stars and intricate detail and structure in remote deep-sky objects.

Royal Astro Optical Ind. Co., Ltd.'s model S-5, manufactured during the 1950s and '60s, is a favorite among classic telescope collectors. This durable refractor telescope has a focal length of 910mm, where the coated, air-spaced objective lens sets a standard of excellence for contrast, sharpness, and suppression of harmful aberrations. Sears,



M19, one of the most elongated of globular star clusters in the Milky Way Galaxy. The bright Messier object is another favorite for small telescope users in Ophiuchus. Photographs dramatically display the cluster's unusual distorted shape.

(Continued on page 4)



The extraordinarily fine globular star clusters, M10 (top) and M12.



Roebuck & Co. realized the scope's significance and offered it in their catalogs as #6301 for \$189.50. Other major importers of fine telescopes from Japan, such as ATCO, also sold the equatorial refractor under their own labels.

Pointing the Royal Astro 2.4-inch instrument in the direction of Ophiuchus's midriff, the pair of globular star clusters, M10 (NGC 6254) and M12 (NGC 6218), drift into the eyepiece field. Further south, halfway between Theta (θ) Ophiuchi and Tau (τ) Scorpii and against the

Classic Scopes (Cont'd from page 3)

faint dusting of the Milky Way, is Messier 19 (NGC 6273). All three of these impressive globular star clusters have the same relative brightness (magnitude 7) and size (15 arcminutes), but are completely different when seen through the eyepiece.



The author's 60mm Royal Astro S-5.

The great optics of the Royal Astro 2.4-inch scope, combined with a Tele Vue 17mm Plössl ocular (54x), shows M10 as perfectly round with a partially resolved outer halo of minute stars. M12, located 3° to the NW, is the most impressive of the pair, where the view at medium power faintly echoes 19th century astronomer Lord Rosse's assessment: "Long straggling tentacles of a slightly spiral arrangement. Finely grouped."

The oddball of the trio is M19, a globular star cluster known for its oval appearance; the deep-sky object is 10 to 15 percent longer N-S than E-W. At 54x in the 2.4-inch refractor, M19 is an egg-shaped stone of glowing light that surpasses expectations. The bright oval core is surrounded by an outer envelope dotted with occasional flecks of glittering stardust.

Swinging north toward the 3rd-magnitude star Cebalrai (Beta Ophiuchi), binocular



The big and beautiful open star cluster IC 4665, found 1.5° northeast of the Serpent Holder's shoulder. This collection of 7th magnitude and fainter stars lies 1,400 light-years away.

and telescope enthusiasts will enjoy the huge, loose open star cluster IC 4665. Also called the "Black Swallowtail Butterfly Cluster," IC 4665 shines with a total light of a magnitude 4.2 star and is 2/3° across. Low power views are best; at 18x in the 2.4-inch refractor 30 blue-white stars completely fill the eyepiece field.

NGC 6633 is considered one of the finest objects in Ophiuchus for stargazers. In the 2.4-inch refractor, NGC 6633 is richer and slightly more compressed than IC 4665. At low power the internal geometry of the 27' diameter cluster suggests a giant hook, or more fancifully, the body of a wasp.

Double star observers can find solace within the borders of the constellation. The "Big Three" double stars are Rho (ρ), 36, and 70 Ophiuchi. Interestingly, the constellation's best binaries currently have the same close separation of about 4 arcseconds.

Rho is a real show stopper in the Royal Astro telescope at 227x; the

yellowish-white and blue pair of magnitude 5.3 and 6.0 gems form an entrancing wide triangle with two other 8th-magnitude stars. Meanwhile, 36 Ophiuchi, a perfectly matched pair of 5.1 magnitude orange stars, vies for the observer's attention.

One of the fastest-changing binary systems, 70 Ophiuchi, is found in the asterism called the "Bull of Poniatowski." At a power of 227x, the primary star, shining at magnitude 4.2, is a golden yellow, while the 6th-magnitude secondary star is rusty orange. Since first detected in 1842, perturbations in their orbits have generated a search by astronomers for unseen planets.

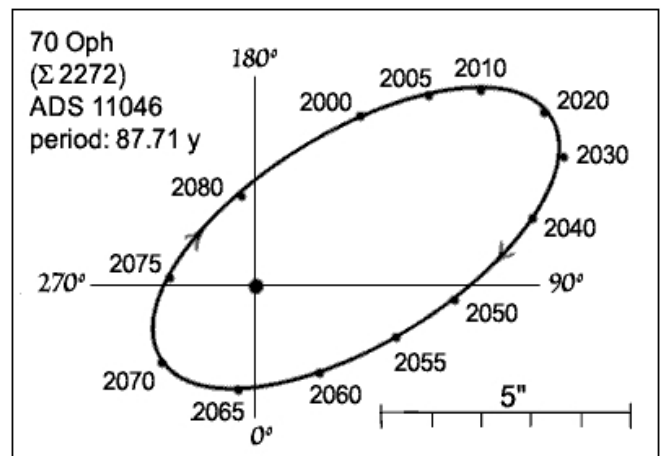


IMAGE CREDITS: ©T. Credner & S. Kohle, AlltheSky.com (M10); Chris Deforeit (M12); Doug Williams, REU Program/NOAO/AURA/NSF (M19); Gary A. Blevins (IC 4665); and Richard Dibon-Smith (70 Ophiuchi orbital diagram).

OBSERVING THE NEBULAE COMPLEXES IN VELA-PUPPIS-CANIS MAJOR REGION

by Leo Cavagnaro

Part 2 of 2 Continued from the June 2008 Rosette Gazette.

The second observing night was Saturday April 5, from a different observing site, a nearby one called Canota, at 1,400 meters above sea level. That night the sky was very clear so I decided to continue observing some nebulae in Canis Major and Puppis.

An interesting nebulae named **Sh2-301** (also Gum 5) is found at about 3.2 degrees from the star Gamma Canis Majoris. I had a chance to observe this nebula through a 16-inch telescope. It was clearly visible using an OIII filter. To the East of this nebula is visible a line of three bright stars. Observing this nebula with 75x it looks like a round and smooth nebulosity with some faint stars within it. Averted vision helps a lot. A prominent bright lane of nebulosity is visible emerging from the main part, reaching and surrounding the star HD 54957 of magnitude 7.4.

Nebulosity is also visible around the star HD 54977 of magnitude 8.1.

Puppis Region

In the observing program there are four (4) bright nebulae and two (2) clusters with nebulosity that lie in this constellation. I began with a close pair of nebulae: **Sh2-302** & **vdB 97** at almost 3 degrees from the very well known open cluster Messier 47. I tried to observe it at 42x and 78x with the UHC filter as help but no nebulosity was visible in the eyepiece field. On Thursday May,1 I had another chance to continue with this observing program. The observing site was again Canota.

NGC 2467

Situated in the northern part of Puppis, close to the star omicron Puppis (magnitude 4.5) you find an excellent object. Actually it is an open cluster with nebulosity. First, I observed it using 42 magnifications and even without a filter the nebula was clearly visible. The nebula looks round and a relatively bright star is visible near its center. The surrounding star field is very rich with a lot of faint stars forming interesting groups and shapes, and also some brighter stars. The UHC filter works very well to see this nebula. It looks more contrasted and other faint nebulae structures are visible to the left, where the brighter stars in the field are situated. Also, some dark structures are visible in the eyepiece field.

With 106x the nebula looks wider and some faint stars are visible within the nebula. Using a nebular filter, NGC 2467 looks smooth. It reminds me a little bit of the planetary nebula NGC 1514 in Taurus.

NGC 2579, a challenging object

The observation of this small nebula (see DSS image in next page) or cluster with nebulosity according to some sources, was one of the most challenging and interesting times of this observing program. When I pointed my 8-inch telescope to that area using low magnifications I thought, "*Well, nothing obvious there*". I checked my charts and eyepiece fields and at first I could identify a sort of spiral-shaped asterism (see picture in next page). Then I focused my attention on the star TYC 7134-2023-1 (visual magnitude 10.2) because, according to the DSS image and detailed charts, the nebula should be there.

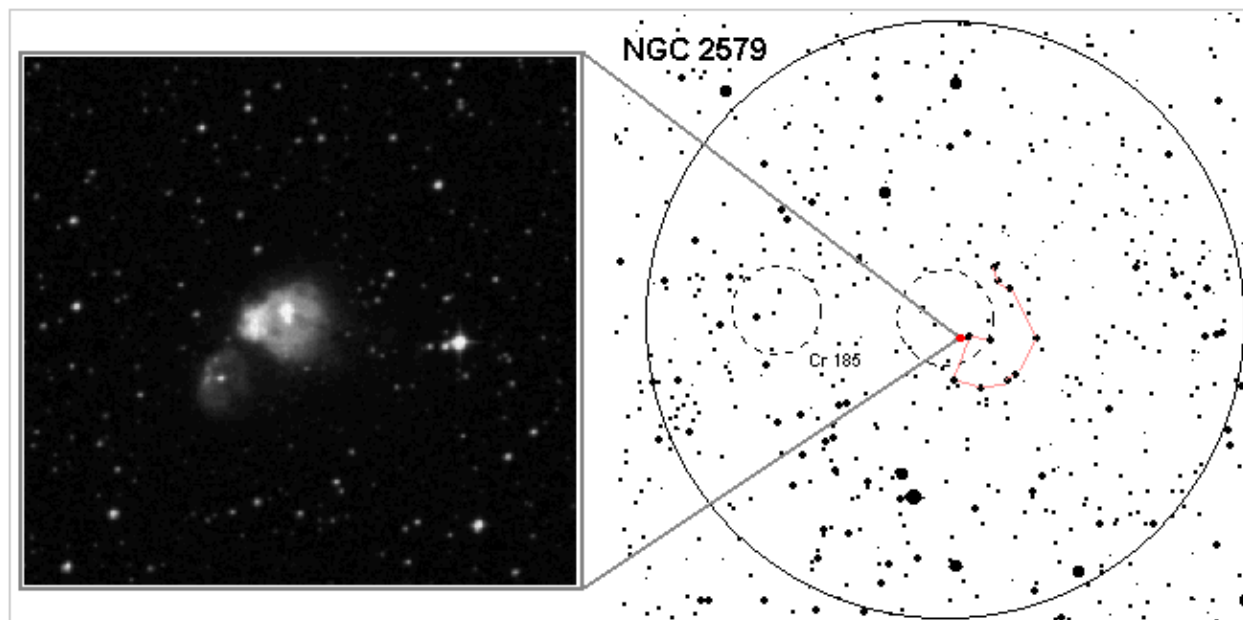
Using this time higher magnifications (106x), NGC 2579 came to view even without a nebular filter. The nebula is visible, perfectly great!. It looks like a very small, round and smooth hazy patch very close to the star TYC 7134-2023-1.

With the help of the UHC filter the nebula looks a little brighter and bigger. With this filter you can see the nebula surrounding the bright star TYC 7134-2023-1. With averted vision a small bright spot (a star?) is visible within the nebula. Observing the nebula again with 213x the bright point in the nebula is more obvious (especially with averted vision).

(Continued on page 6)

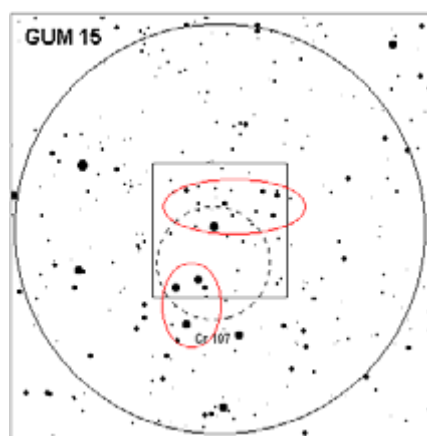
Southern Nebulae (Continued from page 5)

As soon as I returned home I looked for more detailed information on NGC 2579. I found an interesting paper recently published (July 2007) in the Cornell University e-library (www.arXiv.org). The scientific team point out that this object is an HII region with a small companion, a ringed nebula (40"x50" in size) named ESO 370-9 (visible lower left in the DSS image). According to this paper there have been identification problems with NGC 2579. Despite its description as a "double star in a pretty small nebula" and sufficiently precise coordinates in the NGC, it has been misclassified with other nearby objects. It has been misclassified as a reflection nebula in the SIMBAD database and it is identified as a planetary nebula in the Strasbourg-ESO Catalogue of Galactic Planetary Nebulae.



The red spot in the picture indicates the position of NGC 2579. With red lines I indicate the spiral-shape or question mark-shape asterisk I used as a guide to find that nebula.

Vela Region



Some bright nebulae and a famous supernova remnant are found in the west part of this southern constellation.

For this latitude, this constellation reaches about 75 degrees of altitude early in the night during late March so that date is the best moment to explore that region.

Part of the famous Gum nebula lies in this constellation. Discovered by Collin S. Gum, this huge and almost circular object with an angular size of 36 degrees is possibly an HII region, but its nature remains unclear.

The first target I observed was **NGC 2626**, part of the Gum Nebula complex. Through an 8-inch telescope with low magnification this nebula looks faint in an interesting star field. In the center of the nebula a star is clearly visible. I think maybe that nebula looks faint because it is situated in the Milky Way path (almost 0 degrees of galactic latitude) and the background sky does not look very dark, so the

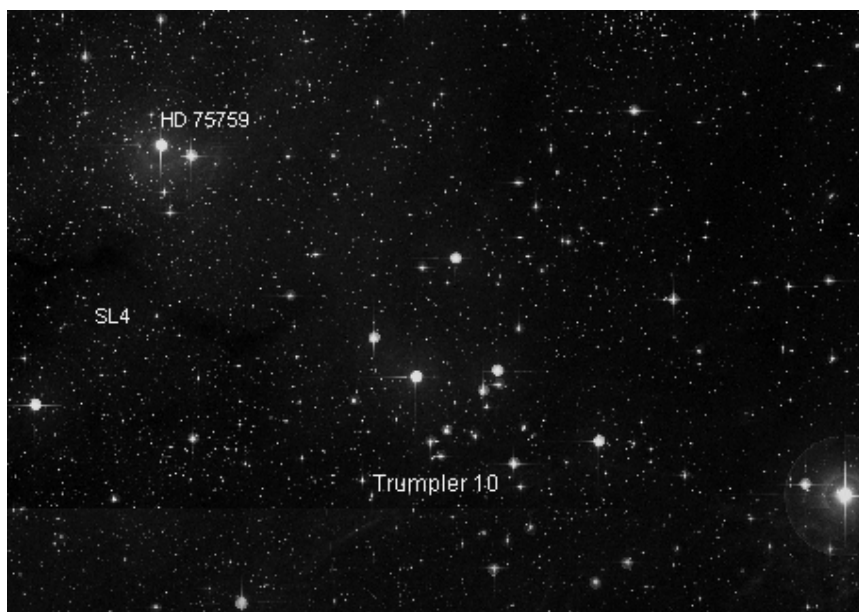
contrast is not the best. I tried to see it with higher magnifications and the UHC filter but I had a bad view. I read a report by the observer Steve Coe (Saguaro Astronomy Club) where he also claims that UHC does not help much on this nebula. With even higher magnifications, but without filter, the nebula looks a little better, with a slightly elongated shape and smooth appearance.

Gum 15 is situated nearly 2 degrees East of NGC 2626. The red circles on the picture above indicate zones where I

Southern Nebulae (Continued from page 6)

could see very faint nebulosity, getting a better view using an UHC filter. Lower on the eyepiece field the open cluster **Collinder 197** is visible, embedded in a very faint nebulosity.

Then I moved my telescope 1.5 degree from Gum 15 to try to observe the wide nebula **Gum 17**. It is a very big nebula (about 1.3 degree) so it is necessary to use wide fields (low magnifications) to observe it. Some nebulosity is visible around the brightest star in the field (HD 75759, magnitude 6). Maybe the most prominent feature in this area is the dark nebula **SL4** (see picture below) situated in the southeast part of the bright nebula. Close to this nebula is visible the open cluster (OB Association?) Trumpler 10. It looks like a sparse swarm of bright stars.



Brief comments about the object Trumpler 10

Trumpler 10, a stellar swarm visible with binoculars even from urban skies, is catalogued as an open cluster, with a Trumpler classification of II,2,p. However, some researchers suggest that Trumpler 10 is an OB association situated near the morphological center of the Gum Nebula, and it can account for most of the photoionization of the Gum Nebula with another association, Vela OB2. Vela OB2, first identified and discussed by Kapteyn (1914) as the “Vela Group”, spans a large part of the Gum Nebula.

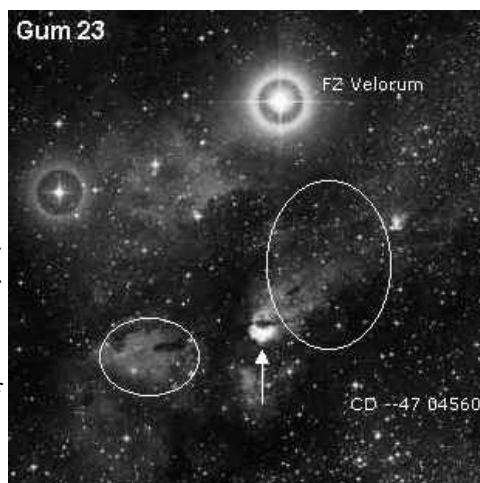
Trumpler 10 lies in the Northwest part of constellation Vela.

Saturday, May 3, I completed this observing program. The observing site was again Canota. I worked in constellation Vela, observing some nebulae that are part of the big Gum complex. Observing this part of the sky was a very exciting experience.

Near the star HD 78004 there are two Gum nebulae. That star can be used as a guide to find them (see map in first page in last month’s Rosette Gazette).

At 50 arc minutes we find **Gum 23**. With low magnification and without filter I could see a little nebulosity (very faint). In the eyepiece field the brightest star is FZ Velorum (magnitude 5).

Using the UHC filter the nebulosity is viewed better. The nebulosity was visible in the zone in the small circle (lower left on this image), where a line of three stars was visible also. The other faint patch of nebulosity is situated between the stars FZ Velorum and CD—47 64560 (middle right on the image). It looks bigger than the other one. Close to the star FZ Velorum, and between both patches, a dark region is visible.

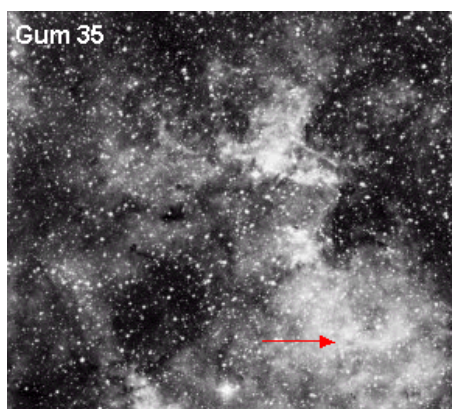


Observing this object with higher magnification (53x) and the UHC filter the nebula still looks faint but a small hazy and brighter spot is visible in the region indicated by the arrow. Averted vision is necessary to see this small feature.

About 1.7 degrees south of the star HD 78004 there exists another nebulae (**Gum 35**).

Gum 35 is visible through a 8-inch telescope. However is a challenging object for observers who have telescopes with this aperture. I used low magnification in order to try to see the whole complex. Some faint stars are visible embedded in

(Continued on page 8)



the nebula. Gum 35 looks very elongated. When we use a nebular filter (UHC for example), we can improve the view of the nebula. With averted vision we can discern two hazy patches, the bigger one is indicated with the red arrow in the picture. At about 25 arc minutes Southwest to Gum 15, and visible in the same 1 degree eyepiece field, a very compact and small group of stars is visible, we are talking about the open cluster Markarian 18 (Mrk 18), with a magnitude of 7.8 and 2 arc minutes in size.

The Vela Supernova Remnant and the “Pencil Nebula” (NGC 2736)

The Vela Supernova Remnant, produced by a star that exploded approximately 11,000 years ago, is roughly spherical in shape and with an angular diameter of about 7 degrees.

Last year (2007) I could see a small filament situated in the south part of this big Supernova Remnant, using an OIII filter and my own telescope. I had some advantages: a very dark and steady sky and a site at good altitude (2,000 meters above sea level). This time I tried again but under a little brighter background sky and from a site situated not so high like that from where I observed this object (Uspallata Valley). The experience was not the same. This supernova remnant is a very challenging object, at least for an 8-inch telescope, and personally I think some conditions are really necessary to see it: To know very well where and what to observe, to stay as alone as you can to get concentrated and to spend all time you need observing through the eyepiece to try to identify and see those faint filaments.



An easier part to see, and maybe the brighter part of the Vela Supernova remnant, is its eastern filament catalogued as NGC 2736. Situated at about 1.4 degrees from the star HD 78004, NGC 2736 (also RCW 37) was discovered in the 1840s by Sir John Herschel and it is known as “Pencil Nebula” and also “Herschel’s Ray Nebula”. This filament of nebulosity is almost the only sign of the eastern part of the vast bubble of expanding shock wave from a stellar explosion thousands years ago, the Vela Supernova Remnant.

I observed NGC 2736 with my telescope and also with a 16-inch telescope. A big difference!

Through an 8-inch telescope this filament is barely visible even with averted vision, but when you use a bigger telescope (16-inch for example) the nebula looks great, very long, smooth and narrow nebulosity. In both cases I used an UHC filter.

Left: The Pencil Nebula (NGC 2736). Its brighter part is visible through an 8-inch telescope.

For comments or questions on this article, e-mail Leo Cavagnaro, GAMA (Grupo de Astrónomos Mendocinos Aficionados), Mendoza, Argentina at mcava@ciudad.com.ar



My Favorite Messier

Do you have a favorite Messier object, one that you always have to look at if it's above the horizon? My favorite isn't the most spectacular, but it fits my eye and telescope field of view so well that I can't resist at least a quick look whenever it's well placed in a dark sky.

M71 is my favorite Messier and has been for a long time. I find it in my observing notes for the first time on May 30, 1982 but I know I'd seen it many times before that because it was already calling me back to eyepiece nearly every time I observed. Note that should read "observed during the summer" because that's about the only time I observed back then – actually that situation hasn't changed all that much over the years...

Anyway, more often than not I'd save M71 for last so it would be the last celestial sight I'd take away for the evening – rather like saving the tastiest morsel of food for the last bite to savor the taste longer. I didn't realize it was my favorite Messier until I started thinking about writing this article. One of the reasons I keep writing these articles is for this kind of self discovery so writing this one in particular has been a blast.

I came to appreciate M71 with an 8" f4 Newtonian which excels at wide field views, and that's why M71 became my favorite Messier – it's at its best when seen as part of its surroundings. Check out the DSS photo below, and you'll see a fairly even spread of Milky Way stars punctuated by some of the bright stars of Sagitta. The star density at first gradually and then more dramatically increases toward the center of M71 like a pile of stars swept up by some gigantic hand and left in a mound.

Of course that's only an image that springs to my sleep deprived mind as M71 is actually a sparse globular cluster. But even that knowledge of its basic nature took a long a time to nail down. It was only in the 1970's that the debate on whether M71 was a rich open cluster or a sparse globular cluster was resolved. It's a relatively young globular at only about 9 to 10 billion years old and even though



M71, one square degree DSS image. The star 9 Sagittae is the brightest star in the right center of the image. North is up, west is to the left.

that's great stuff to know about this intriguing clump of stars, a good wide field of view through a modest telescope under a dark sky is needed to properly experience this special starscape.

A similar view can be had of NGC 6603 in the M24 Star Cloud with a large scope, but everyone with any scope can appreciate M71. Use your lowest power eyepiece, scan through the arrow shape of Sagitta and just about one third of a degree east and a hair north of 9 Sagittae you'll find M71. This is only about 4 degrees southwest of the Dumbbell Nebula, about 7 degrees east of the Coathanger and about 9 degrees southeast of Albireo. You'll also find the sparse open cluster H20 about a half degree south of M71, which you'll see a bit of at the bottom edge of the DSS photo.

All this is to say this is an interesting area

so there's a lot of competition for attention and I fear that M71 often gets the short end of the observing stick. Perhaps that's because it isn't immediately spectacular and takes some time to appreciate with its surroundings, but that's just my guess.

Most times a photo doesn't do justice to what you can see through the eyepiece, but this DSS image comes decently close. Through the eyepiece you might note a few stars have a subtle hue, but to me the most gratifying aspect of this view is how M71 seems to grow organically from the Milky Way rather than look like an object separate from it. This isn't a knock your socks off sight but it is wonderfully evocative of the starry richness of our home galaxy,

That's why M71 is my favorite Messier.

The Birth of RCA

By Dale Fenske, Historian/ALCOR

Has it really been 20 years? Time goes so quickly. It seems like only yesterday when I exchanged my 60mm Sears refractor for a giant 10" Cave reflector with a German equatorial mount. (At that time a monster scope was 12 1/2".) I was anticipating some serious astronomy with the Messier list as the agenda. My new scope could view many deep sky objects that I had been missing with the 60mm telescope.

Frustration is the word for what came next. On a cold May evening, I tried to find my first Messier object (M1) and spent more than two hours wandering aimlessly through the star fields between Taurus and Auriga, without success! I needed help!

The very next day a serendipitous thing happened. Unknown to me, it was Astronomy Day. I went shopping at Vancouver Mall and Portland Astronomical Society (PAS) was celebrating with a display of telescopes and astronomy photos set up inside the mall. I chatted with Fred Dorey, Don Botteron, Larry Mahon and a few others. They told me about the star party PAS had planned at Gabriel Park for that same evening invited me. I was beside myself with excitement.

At Gabriel Park that evening, I asked them to find my missing object, the Crab Nebula (M1). They quickly found it and let me gaze into their scopes. I looked closely and could not believe what I saw. I exclaimed, "Oh, is that it?" I had seen it the night before but did not realize how M1 was supposed to appear. I had passed right over it many times. This gave me a taste of what the sky was really like and what I needed to do to see it. I was hooked.

I then joined the Portland Astronomical Society because I recognized my need to learn more. This was my first introduction to an organized astronomy club. That first year was mind expanding. I memorized the positions of the constellations, the Messier list and 100's of other objects. I learned the sky the old fashioned way. I invented personal sky pictures and connective stories to aid my memory to pinpoint objects. There were no go-to-scopes, no computer aided finders and no lasers. When I review the observing club documentation of others members, it still sparks fond memories of my own early discoveries.

When I joined PAS in 1986 the Portland

world of astronomy was operating under a black cloud of negative public opinion. This happened because in 1976 PAS, and others interested in astronomy, tried without success to build a grand Astronomical Center in the St. Johns area. It was to include a large auditorium, a 20" public viewing telescope and a large solar heliostat with a light path running through the smokestack. Funding was secured and construction began. I'm told that personality problems then arose and that egos flared. The astronomical construction party and the local neighborhood association quarreled so bitterly that the squabble became public knowledge. Then City of Portland officials became involved in order to settle the dispute. The City confiscated the entire facility including all astronomical equipment donated to the site. Everything on the property was returned to the City and all astronomical dreams for this facility were quashed.

Due to this former cloud of gloom, by the time I joined the club in 1986, PAS membership had dwindled to only 30 or so members. Meetings were held wherever a room could be found, usually at a local college. OMSI had already tried their own method of astronomical revival by starting a second astronomy club, called the OMSI Astronomers. Their membership averaged between 15-20. Often the two clubs held their meetings together at the old OMSI by the Zoo.

The birth of the Rose City Astronomers began in this climate. In 1987 John Buting served as president of OMSI Astronomers and I served as president of the Portland Astronomical Society. When we held our public meetings jointly at OMSI, each president solicited for membership from the audience and, in essence, competed for new members. This seemed silly since the objectives of the two clubs were really identical. John and I met and agreed to attempt to unite both clubs into one cohesive and friendly unit.

At following board meetings, held in private homes, officers from both clubs responded positively. The proposal was presented to the both memberships, agreement was reached and one astronomy club was formed in January 1988. The combination membership total was 40. By June 1988, after much discussion, we selected a

new name - Rose City Astronomers. Our dues were \$12 a month.

The new Rose City Astronomers added new officers to try to rebuild credibility and public interest. RCA appointed a new officer, called OMSI Liaison, to ensure smooth communications between OMSI and RCA. The club voted to support all of OMSI's astronomy-related events and to coordinate publicity with OMSI. In return, RCA found its new home. OMSI's Jim Todd fostered our relationship with OMSI from the very beginning and was very instrumental in our success. We are indebted to you, Jim. Thank you.

The new RCA by-laws described the duties of two Vice Presidents, one dedicated to publicity and outreach and the other to meetings and membership. During this time, VP Chuck Dethloff started the Oregon Star Party at Steens Mountain, south of Burns. The Rosette Gazette was established as our official newsletter. The first issue sported the Rosetta Nebula (NGC 2244) on its cover, with Robert Duke as editor. We contacted Richard Hill, the science editor for the Oregonian newspaper, to propose an astronomy column for the public. Richard liked the idea. Robert Duke volunteered as writer of astronomy related columns to inform the public and to promote RCA in the Oregonian.

Since that time, the Rose City Astronomers made a meteoric rise in membership (pun intended). By 1993 RCA had more than 275 families in their membership. While peaking at more than 400, today there are 318 family memberships. Our current board meetings are attended regularly by more officers and members than the total public meeting attendance back in 1988. Star parties and other events scheduled through RCA and OMSI are undisputed successes, sometimes having thousands in attendance.

Truly, 1988 was an exciting year for the Rose City Astronomers. This brief summary describing the birth of RCA will be followed by future articles describing the growth and maturity of the RCA club. You RCA members have made it a success. You are invited to write a description of the highlights of your memories of astronomical events, starparties, etc. during the past twenty years. Your articles will appear in the Rosette Gazette.

The OREGON STAR PARTY is held in the isolation and darkness of the Ochoco Mountains in Eastern Oregon located 4.5 hours from Portland and 50 miles east of Prineville, Oregon. At 5000 feet above sea level, the star party takes place in a 40 acre clearing and is accessible most of the way from Prineville via a paved road, with only the last 4 miles on a graveled road. Come join us August 28th through August 31st for the darkest skies in the Northwest. Information, directions, registration, activities are listed on the website at <http://www.oregonstarparty.org>.



For those who have yet to experience OSP, you can review stories from the prior years, and do some planning for this year right there on the web site. For most RCA members, it is about a 4.5 hour drive from the Rose Garden. So mark your calendars, bookmark your browsers, and get ahead of the crowd by signing up for the 2008 OSP. So consider joining us for both excellent planetary and deep sky observing with about 600 of your soon-to-be closest friends. We are able to partake of good food, espressos, showers, vendors with tons of astro gear, and a great array of speakers. And while you visit our web site, please consider joining the volunteer group. It is a great way to contribute to the fun, and to meet a number of new friends.

REGISTRATION - Pre-Registration closes on August 1st and must be in our hands by then. You can only order 2008 OSP T-shirts, Sweatshirts and Dinners on the Pre-Registration Form. The only on-site sales of t-shirts and sweatshirts will be on Saturday in the Volunteer / OSP Information Tent if there are any extras left over after people who Pre-Register and pre-order get theirs. So if you don't pre-register before August 1st,

you'll have to register at a higher fee on-site at the star party in the Registration Tent and take your chances on getting a 2008 OSP T-shirt or Sweatshirt.



SPEAKERS - We've managed to get a great list of speakers again this year. There will be great presentations on Asteroid Occultation Timing by Tony George, String Telescopes by Albert Highe and a panel of 4 (our own 'string quartet') discussing the latest in string telescope technologies, Garrett Keating talking about the Allen Array, and Tony Flanders with an indepth look behind the scenes at Sky & Telescope Magazine. Plus talks on Space Gravitation by Bob McGown and Howard Knytych on the Ultimate Fate of the Universe and others



ACTIVITIES - Don't forget the Telescope Walk-about, the Mars Rover Races, the Meteorite Hunt, the Solar System Walk, the Kids vs. Adult quiz, the Swap Meet, the Limiting Magnitude

and Sky Identification programs. There are a lot of things to do during the day at OSP in addition to the very dark night skies.



YOUTH ACTIVITIES - This year Andy has another exciting schedule of activities for the kids from 10am until 4pm every day. Parents are encouraged to volunteer to help in the Youth Tent.

VOLUNTEERS - The Oregon Star Party has a dedicated committee of 30 people who work year around planning for the outing. But it still takes a lot of volunteers to make it actually happen. We still need people to volunteer for a 2 hour shift to help with registration, parking, shower ticket taking, setup and cleanup. Contact Jan Keiski, our Volunteer Coordinator at jikeiski@comcast.net with your name, email address or phone number, and if you have any area and time you would particularly like to volunteer for and she'll get back to you. For youth activities contact Andy Phelps, aphelps@spiritone.com; for adult mentoring contact Mark Dakins, dakins@earthlink.net; and for youth telescope mentoring contact Bernie Kuehn, kuehnb@earthlink.net. Again this year there will be door prizes just for volunteers.

BURGERS & LATTES- yes, Mary will be back with the Chuck Wagon serving up breakfast, lunch, dinner and late night snacks as in the past and Shawna will be back with the Espresso Blast for cold drinks during the day and caffeine at night. This year both the Chuck Wagon and Espresso Blast are again planning on being open for business Wednesday afternoon through Sunday Noon for us.



BOARD MEETING MINUTES

June 2, 2008

OMSI Classroom 1

Margaret Campbell

Attending: Tom Nathe, Greg Rohde, Ken Hose, Sameer Ruiwale, Larry Godsey, Jan Keiski, Dave Nemo, Margaret Campbell-McCrea, Dale Fenske, Bob McGown

The meeting started at 7:10 p.m.

Officer Reports:

Secretary: May minutes finalized.

Treasurer: RCA current assets are \$23,430.94, but we owe OMSI \$5,188 for two Camp Hancock star parties. Site Fund current assets are \$18,342.84.

Observing: Maupin event had nine parties. The weather was a bit iffy: no wind, but mosquitoes. The owner is still willing to have us come. We are scheduled again for June and September. There was a short discussion of ways to thank the owner for allowing us to use his property.

Programming: June's meeting will be John Flinn talking about aurora borealis.

Community Affairs: No report.

Media Director: No report.

Membership: In May there were 13 renewals, 3 new members for a total of 299 members. We took in \$319.

New Member Advisor: No report.

Sales Director: \$245 in sales in May.

Library Director: Nominal.

Telescope Library: Nominal

IDA: No report.

Magazines: Nominal.

Webmaster: Board members were encouraged to test the new web pages and provide their feedback, because the new website is going to be up and running by the June meeting.

Site Committee: Nominal.

SIGs: The new Science SIG is going well. Jim Reilly talked to the group about meteorology. Next month Tom Nathe will talk about measuring lunar heights. Dan Grey has donated an Astro-Grid CCD camera to RCA, which can be used like a video camera. There was a short discussion of new IRS rules and our record-keeping of physical assets that are donated to the club. Greg Rohde will give a receipt for it as an asset.

ALCOR: Dale Fenske voted for the slate of officers on our behalf.

OMSI: The June meeting will be in the auditorium; July and August meetings will be in the planetarium.

OLD BUSINESS:

- Forum/eList: Dave Nemo gave a brief history of the committee's work to this date on setting up a forum that will meet our standards. We agreed to conduct the RCA Board business in June via the forum as a means to testing it. Board members can leave feedback comments under User Test topic.
- Sister Club Proposals: Voted on and passed the Sister Club Guidelines with minor changes and the understanding that Margaret and Sameer will determine any further amendments, with one abstention.

- Youth Co-ordinator: Our volunteer, Jeannie, is currently working with the telescope making workshop. She's met many RCA people, is getting herself started, comes recommended by several long-term RCA people. The Board agreed to appoint her Youth Co-ordinator, but left it up to Jeannie as to when she will start. We agreed to invite her to the next meeting, and ask her to bring a short discussion about what she's thinking of doing.
- 20th anniversary: Dale wants to do a booklet or brochure, and get all the past presidents to contribute their memories. He emailed them all and hasn't had a response from anyone. He was advised not to wait too long and go ahead and write an article. We agreed to make an announcement at the June meeting, and serve a birthday cake. Greg Rohde will get two cakes from Costco and his wife will decorate them. The 20th anniversary logo is on the Board website.
- Street Light Replacement Project: Sameer faxed several articles to South Block project, with a list of specifications for lighting. There is a meeting next week on this issue, which Sameer and Greg will be attending. The meeting is on Tuesday, June 10th, 4:30 – 6:30, 1900 SW Fourth Ave., room 2500B.

NEW BUSINESS:

- Budget: The Board reviewed the proposed budget for 2008-2009 fiscal year. The discussion that followed included an insertion of \$500 for Astronomy Day so we can have a bigger event next year. Bob McGown asked for an off-budget donation to Linus Pauling House as a thank-you for having our Cosmology SIG meeting there. There was a review of the SIG budget, which is budgeted at \$50 since SIGs are to be self-sustaining. The Board voted on next year's budget unanimously. There followed an agreement to discuss a dues increase for the following year's budget.
- Accounting software: Larry Godsey will archive the Quick-Book system he has been using, and will start a new one. This will involve changing the name of a few categories to fit better with what they really are. He will post these changes on the board forum.
- Proposed new email addresses: Larry Godsey handed out a list of generic email addresses, such as president@rosecityastronomers.org that can be used for contacting whoever holds that position by linking to their personal email address. The Board agreed that it's very good, but suggested adding "-sig" for the SIGs.
- Astro-Imaging SIG proposal: Patrick Smith wants to get the AI SIG up and running again, since there are 23 people who are interested. He submitted a three-page proposal, which the Board felt was very ambitious. There was some discussion about his ideas regarding charging for "faculty." We agreed to get back to him and ask him to drop any mention of outside experts and money, but keep the rest. The Board will discuss the money issue later.

The meeting adjourned at 9:10 p.m.

ACTION ITEMS:

1. Sameer will think of a way to thank owner of Maupin field.
2. Sameer will send out message to Board that we will be using forum for Board business for the next few months.
3. Sameer will get back to Jeannie about the best time for her to take on the kids program responsibilities, and invited her to the next Board meeting. Also, send email to Jenny Forrester to see if she still has kids program materials, toys, equipment, etc.

The Local Galaxy Group & Galactic Neighborhood

Visual and CCD Observing Guide



By Robert McGown & Dareth Murray

RCA members can be the first! The first to be a single digit award winner for a brand new Astronomical League Observing Guide co-authored by Bob McGown and Dareth Murray, famed RCA astronomical travelers. It will take the A.L. a few more weeks to get this guide up on their website and made available to any other clubs. So, come on down to the RCA sales table and pick up your copy of *The Local Group and Galactic Neighborhood Observing Guide!* Now some details about the guide:

The Local Group & Galactic Neighborhood Observing Guide is designed for detailed visual and/or CCD observation of the three local super clusters. Most of the galaxies, clusters and clouds in this observing program are visually accessible with a 10 -12.5" telescope, although there are individual objects within some of the groups that are beyond almost all amateur observers. One of the challenges is to go as deep as you can. This is a guide to observe those classic galaxies in a new light seeing and discover things that we have all overlooked. Give your eyes and mind an adventure exploring the island universes that share the space time we live in.

Using a CCD camera with an 8" or larger scope and a good drive will be helpful for many of the fainter galaxies and clusters, you don't need a CCD camera to complete the program, just a keen sense of vision. Here is a quote on the guide from noted Local Group expert Dr. Paul Hodge at University of Washington:

"*The Local Group & Galactic Neighborhood Observing Guide* is a gold mine...This book provides a superb guide to the gold mine, showing where the large golden veins are and how to find even the mine's smallest shiny nuggets."

Telescope Workshop

When: Saturday, July 19, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

Science Special Interest Group (SCI-SIG)

Next meeting is July 19 at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-omsi.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

Be Kind, Renew on Time!

It's that time of year again, astronomy friends, to renew your membership with the Rose City Astronomers. As most of you are aware, we have a fiscal calendar year from July 1 to June 30th. If you are new to the club, you may have paid a prorated membership fee.

We begin a new fiscal year with the good news that dues will remain the same at \$24.00. This is a bargain for all the benefits available to you--as we are sure you are well aware.

How to renew? Checks or cash are accepted at the general meeting. Plenty of renewal forms available also. You may print the renewal form from the RCA website and mail it with your check (no cash in the mail, please).

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, July 23, 7 PM.

Topic: "Occultations"

Presented by: Tom Nathe

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-omsi.org/cosmologysig.htm>

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



JULY 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

July 2008

Jul 5	Sat	RCA Star Party	Stub Stewart State Park
Jul 7	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Jul 11	Fri	Downtowner's Luncheon	TBA Noon
Jul 12	Sat	OMSI Star Party	Rooster Rock S.P.
Jul 19	Sat	Telescope Workshop	Swan Island 10am-3pm
Jul 19	Sat	Science SIG	Swan Island 3pm
Jul 21	Mon	General Meeting	OMSI Planetarium 7pm
Jul 23	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm

August 2008

Aug 1	Fri	Downtowner's Luncheon	TBD Noon
Aug 1-3	Fri-Sun	Trout Lake Star Party	Trout Lake, WA
Aug 4	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Aug 9	Sat	RCA Star Party	Stub Stewart State Park
Aug 6-10	Wed-Sun	Mt. Bachelor Star Party	Mt. Bachelor
Aug 11	Mon	OMSI Perseid Meteor Watch	Rooster Rock S.P.
Aug 16	Sat	Telescope Workshop	Swan Island 10am-3pm
Aug 16	Sat	Science SIG	Swan Island 3pm
Aug 18	Mon	General Meeting	OMSI Planetarium 7pm
Aug 20	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
Aug 27-31	Wed-Sun	Oregon Star Party	Indian Trail Spring

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-omsi.org>).

RCA CLUB INFORMATION

Message Line: (503) 255-2016

Web Site: <http://www.rca-omsi.org>

The

Rosette Gazette

Volume 20, Issue 8

Newsletter of the Rose City Astronomers

August, 2008



In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - RCA Library
- 3 .. Classic Telescopes
- 5 .. The Observer's Corner
- 7 .. Eyepiece Dilemma
- 8 .. Christina Lee's Award!
- 9 .. New RCA Website
 - Camp Hancock S.P.
10. RCA Forum
 - Oregon Star Party!
11. June Board Minutes
12. Telescope Workshop
 - Science SIG
 - Cosmology SIG
- 13 Meteor Watch
 - Rooster Rock Photos
14. Calendar



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

RCA AUGUST 18 GENERAL MEETING

“Looking Into the Nano”

Presented By Eric Sanchez

The first use of the concepts in 'nano-technology' (but predating use of that name) was in "There's Plenty of Room at the Bottom," a talk given by physicist Richard Feynman at an American Physical Society meeting at Caltech on December 29, 1959. Feynman described a process by which the ability to manipulate individual atoms and molecules might be developed, using one set of precise tools to build and operate another proportionally smaller set, so on down to the needed scale.

The term "nanotechnology" was defined by Tokyo Science University Professor Norio Taniguchi in a 1974 paper[3] as follows: "Nano-technology' mainly consists of the processing of, separation, consolidation, and deformation of materials by one atom or by one molecule."

A new generation of analytical tools such as the atomic force microscope (AFM), and the scanning tunneling microscope (STM), combined with refined processes such as electron beam lithography and molecular beam epitaxy, allow the deliberate manipulation of nanostructures, and lead to the observation of novel phenomena.

Dr. Sanchez designed a breakthrough microscope while doing post-doctoral work at the Department of Energy and Harvard University. He now spends time at his microscopy laboratory at Portland State University where he images with light at the nano-scale.

Scanning Near-field Optical Microscopy (SNOM) has generated great interest from biologists and material scientists. SNOM is a relative new technique, which allows for imaging biological and material systems at spatial resolutions significantly lower than the diffraction limit. This technique has demonstrated optical imaging resolutions less than 20 nanometers, at room temperature and atmospheric pressure.

All are Welcome! Monday August 18

Social Gathering: 7 pm. Meeting Begins: 7:30 pm.

Location: OMSI Planetarium

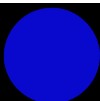
Ee Image of reconstruction on a clean Au(100) surface, as visualized using scanning tunneling microscopy.

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

New Moon
August 1



First Quarter Moon
August 8



Full Moon
August 16



Last Quarter Moon
August 23



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	Jean London	youth@rosecityastronomers.org	503-642-4831

RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope

Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through check-out at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-omsi.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



CLASSIC TELESCOPES

JOHN W. SIPLE AND PAUL CARLSON



Star charts often show the constellation Lyra as a bird of prey; in Arabic, Vega is derived from *Al Nasr al Waki*, “The Swooping Eagle.” As a musical instrument Lyra looks more like a zither than a traditional lyre or harp.



The famous Ring Nebula and Double-Double along with a collection of fine binary stars—there is a preponderance of orange and blue pairs—occupy the little constellation. Telescopes in the 2.4 to 3-inch range will give many hours of pleasurable viewing of Lyra’s highlights.

THE LYRE of Orpheus, a gift from the messenger of the gods Hermes, charmed every listener with its music. In the quest by Jason and the Argonauts for the Golden Fleece, Orpheus’s music lulled the guardian dragon to sleep and prevented the Sirens from forcing the intrepid sailors into the sea. The most famous tale involves the Underworld, where the beautiful sounds from the harp invited the release by Hades of Orpheus’s love Eurydice.

Lyra, Orpheus’s cherished harp, is seen in the starry domain as a small but distinctive grouping sandwiched in between Hercules and Cygnus, where the six brightest stars form an equilateral triangle on one corner of a parallelogram. The constellation’s lead star is Vega or Alpha (α) Lyrae (the “Harp Star”), the fifth brightest in the night sky and reigning member of the Summer Triangle.

To plumb the depths of Lyra, a classic Unitron 3-inch F/16 Photo-Equatorial refractor was selected. Built to the highest standards of mechanical and optical precision by Unitron Instruments, Inc., the performance of the 3-inch refractor telescope was little short of stunning when trained on the Lyre’s multitude of celestial wonders.

First observational contact was with the “Harp Star,” a brilliant blue-white diamond riding high overhead for mid-latitude northern observers. The constellation’s lucida is one of Sol’s closest neighbors, lying at a distance of only 26 light-years. Vega was the Pole Star during the dawn of civilization in Mesopotamia and will again be a pivotal star 12,000 years from now. In the sci-fi

movie *Contact*, based on Carl Sagan’s bestselling novel, the Vegan star system was the location of a transfer point in a galaxy-wide hyperspace network.

“There Lyra, for the brightness of her stars,
More than their number, eminent; thrice seven
She counts, and *one* of these illuminates
The heavens far round, blazing imperial,
In the *first* order.”

At 46x in the Unitron 3-inch scope, Lyra’s brightest star is simply bedazzling, an optical attraction stronger than any other. In larger achromatic instruments having a slight blue excess in color correction, “ice-blue” Vega is a never-to-be-forgotten sight. Rather easily seen in the Unitron refractor is a 9th-magnitude companion star about one minute of arc away toward the south.

Only a short hop 1.5° northeast from Vega is the multiple star Epsilon ($\epsilon^{1,2}$) Lyrae, which is familiar to stargazers as the Double-Double. The celebrated quadruple system consists of a 2.6” pair (magnitudes 5.0 and 6.1) and a 2.3” one (magnitudes 5.2 and 5.5) a wide 208” apart. A test of good eyesight is the ability to separate the 208” distance without the benefit of optical aid.

Testimony by users of Unitron equipment from the company’s literature describes how easy it is to split the Double-Double. On a steady night, both of the close pairs are just resolved in the author’s 3-inch Unitron refractor at 63x, but show lots of dark sky between them when the magnification is boosted to 200x with a stock 6mm Orthoscopic ocular. Seen through

(Continued on page 4)



Left: M57, the Ring Nebula in Lyra. The famous planetary nebula, measuring 80” X 60” across and shining at magnitude 9.3, resembles a miniature smoke ring in the 3-inch Unitron refractor. The magnitude 14.8 central star was not seen.

Right: The globular star cluster M56 lies in an extremely rich field of the Milky Way. The compact gray glow was first recorded by Messier on January 19, 1779.



Classic Scopes (Continued from page 3)

the telescope, the elegant cream-colored components of ϵ^1 and ϵ^2 are aligned nearly perpendicular to each other.

Zeta (ζ) Lyrae, a dashing duo of magnitude 4.3 and 5.9 suns some 44" apart, forms the remaining corner of the equilateral triangle with Vega and Epsilon. The attractive double is best seen in the Unitron telescope at medium power, where the color contrast is most evident. The tints of the two stars in the 3-inch refractor are reddish and blue-green, but other observers have reported combinations of greenish white & orangish white and pale yellow & pale lilac.

The naked-eye pair Delta¹ (δ^1) and Delta² (δ^2) Lyrae is found by stopping at the northeastern corner of the constellation's parallelogram. The intense bluish-white and ruddy-orange stars, widely separated by 630", are a grand sight in the Unitron at 30x with a 40mm Plössl eyepiece. A spray of 15 tiny stars down to 10th magnitude or so, shown on star atlases as Stephenson 1 (Delta Lyrae Cluster), surrounds the main pair. Taken collectively, the assemblage is an extraordinary visual delight!

Beta (β) Lyrae, the "Tortoise Star" and Struve's Eclipsing Binary, forms a miniature Y-shaped asterism in the eyepiece field with three other stars. Sheliak has a magnitude 8.6 companion star 46" distant, and two fainter 10th-magnitude suns lie 67" and 86" away. Beta prime itself varies in brightness from magnitude 3.3 to 4.3 over a 12.9-day period. (The primary consists of two hot, massive class B7 and A8 stars in a close dance around each other,



where tidal forces have distorted their shapes into ellipsoids.)

The constellation's chief deep-sky attraction is M57 (NGC 6720), popularly known as the Ring Nebula. It is readily found halfway between Beta (β) and Gamma (γ) Lyrae. The annular nebula, resembling a tiny smoke ring, has about the same apparent diameter as Jupiter but shines much dimmer at magnitude 8.8.

The astral doughnut has a decidedly oval appearance when viewed through the small Unitron refractor. The striking planetary nebula bears magnification remarkably well, displaying several bright luminous patches on its misty disk and a dark central hole. The central star of M57 is notoriously difficult to detect visually and is a challenge object for large amateurs' instruments.

At 30x using the 3-inch Unitron refractor, the vari-colored double star O. Struve 525 is visible along with the Ring Nebula in the same starry field. The binary star has been given the name "Miniature Albireo" because of an uncanny resemblance to its famous neighbor Beta Cygni.

The second Messier object in Lyra is the globular star cluster M56 (NGC 6779), located between Gamma Lyrae and Beta Cygni (Albireo) and set against a rich backdrop of the summer Milky Way. In the 3-inch Unitron refractor at a power of 150x, the 8th-magnitude object is seen as a

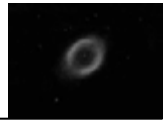
Above: A cool disk of material surrounds Vega in this artist's illustration. Eventually the star may form a planetary system of its own. **Below left:** The cover of the Unitron 1972 catalog displaying their fully-equipped 3-inch Photo-Equatorial model.

fairly uniform circular glow that lacks a bright core region. A few scattered members on the periphery of M56 are resolved, but the rest of the globular cluster remains a featureless spot of milky light.

Moving in a northerly direction from M56, amateurs will soon encounter the intriguing combination of double stars Struve 2470 and 2474. Nicknamed the Double-Double's Double, this alluring celestial treasure consists of nearly identical pairs spaced 600" apart. The individual pairs have greater separations (14" and 16") and noticeably fainter components than their famous counterpart ϵ Lyrae to the northwest, but still present to the observer an incredible display of symmetry in nature.

A dedicated star-hop is required to positively identify the deep red carbon star T Lyrae, our last object on this listing of many of Lyra's finest stars and deep-sky splendors for small telescopes. The ruddy sun (5 on the carbon band scale) has an irregular period with magnitude range of 7.7 to 9.6. The unpredictable changes in light output are a thrill to watch in the Unitron telescope. If lucky, the variable star will be caught during its "dim" stage when exhibiting the darkest red hue.

IMAGE CREDITS: www.fillingthesky.com/phaenomena.html (Lyra star map); Martin S. Mitchell, Derbyshire, England (Vega); Al Kelly (M57); Bill Patterson – laastro.com (M56); and Paul Doherty (Vega space art).



Oregon Star Party Tips

These tips are some things I've found important over the last 17 years of star partying and may not apply to anyone but myself, but know that each item earned its place here the hard way.

1. **Make a list of everything you want to take to the OSP and be sure everything is in working order before packing it up.** You'll discover the enormous usefulness of sunscreen, hand wipes, cutlery and a clean towel if you forget them, so make doubly sure they get packed. Obvious items like telescopes, eyepieces and food should definitely be on the list too. Oh yeah, bring an extra pillow – I almost always forget mine so I may need to borrow one.
2. **Be sure the interior lights of your vehicle don't come on when you open a door at night.** This may be as simple as slightly pulling up on your parking brake or as intimidating as pulling a fuse, but it will save you the frustration and embarrassment of compromising the dark adaptation of those nearby. If you can't figure out how to turn off these lights then either remove the light bulbs or place red tape on their covers so they're very dim.
3. **Anytime you lock your vehicle be sure you have a spare key in your pocket.** Locking yourself out is inconvenient and really embarrassing, but on the plus side you'll hear lots of interesting ideas on how to get back in from a surprising number of people of who have done the same thing. Some of the suggestions involve breaking a window or drilling out a lock but the most common one is to make sure you always have a spare key in your pocket.



Stars, stars everywhere, but what to look at?

4. **Have a plan on what you want to observe.** You're likely to be under the most pristine skies you'll see all year and there are few things more frustrating than looking up and wondering what to look at. The OSP committee has come up with three excellent observing lists (<http://www.oregonstarparty.org/awards/2008-prog.htm>) so

there's no need to start from scratch, but some advance preparation will greatly enhance your observing pleasure. For instance, locating and marking the objects you want to observe on your star charts will not only help you find them more quickly, it will also help determine the order in which you observe them. This will help avoid missing an object because it's already set in the west or hasn't yet risen in the east and is a good idea even if you plan to follow one of the OSP lists. I also highly recommend learning a little about what makes each object on your list unique, outstanding or otherwise interesting.

5. **If you plan to wander the observing field and look through other people's scopes, recognize that some of these folks have planned their observations in advance and may be on something of a schedule.** You're likely to come across at least a few observers who will be trying to see an obscure and faint object as it's setting in the west and have spent an hour tracking it down, so they may not be much fun to hang around until they move on to less challenging objects. Don't linger around these intent observers unless you're sure your company is welcome. If it's hard to tell just say thanks and move along to the numerous folks who obviously delight in sharing views through their scopes.
6. **Resist the temptation to move an unattended scope at night!** The owner will probably be right back and may be one of those intent observers mentioned above. Nobody likes the company of a grumpy observer, especially the person who just moved their scope.
7. **Imagine the clothes you'd wear for ice fishing – that's how you dress for observing:**

<http://www.freshwater-fishing-canada.com/icefishingclothing.html>



No kidding, these people are dressed appropriately for observing at the OSP.

8. **Clean your eyepieces before going to the star party** because once you're there it will only take one tiny particle of that famous OSP dust to put an ugly scratch on your

(Continued on page 6)

OSP Tips (Continued from page 5)

expensive glass. And be super careful when cleaning your eyeglasses too.

9. **Take extra and fully charged batteries** for your telescope, Telrad, red flashlight – anything that needs a battery.
10. **If you're bringing family members, make sure they each have a red flashlight.** Remember, only dim red light is needed – a regular flashlight with a single layer of red plastic over it will be way too bright. Also make sure that everyone realizes the importance of not shining their red flashlights at people and especially their faces.
11. **If you can push your scope over so can the wind,** so don't leave your Dob pointing straight up during the day! The chances the wind will blow your Dob over are greatest in this configuration, so better to have the scope pointing down around 20 degrees so the wind will merely twirl it around a bit. Have a way to lock your scope at this altitude so the wind can't catch the nose, flip it up and then crash it to the ground. Been there, done that. If your scope is lightweight you might consider taking the tube out of the rocker box during the day and storing it in your vehicle to completely remove the chance of any wind induced carnage.



Nice scope covers, but do not leave your Dob pointing straight up during the day... the photo on the right shows a much safer orientation. Note the water jugs hanging off the front end of these



This near disaster happened because the tarp covering my scope was loosely tied down and ballooned up in the wind. Because the scope wasn't fixed in altitude the wind caught the tarp, lifting the scope up and flipped over to the ground. Amazingly, almost everything escaped unscathed - including the optics - but I did have to build a new UTA cage.

12. **If you plan to cover your scope with a tarp get one large enough to completely cover it.** Or break down your scope into a small enough package so a smaller tarp completely covers it. Also make sure you have enough clips or rope to completely tie down the tarp because if left loosely attached it can make a suddenly powerful sail when the wind picks up – see the above photo. Silver or white are the best colors, but don't use clear plastic as it will create a greenhouse effect and your scope will take even longer to cool off, and perhaps dry off, at night.



Rain? We don't need no stinkin' rain! But just in case, a snugly fitted tarp will save the day. Note the tarp used as ground cover as well.

13. **A piece of outdoor carpet around your scope works great to keep dust down while observing,** and if you have room take an extra piece of carpeting to put outside your tent, vehicle or RV to keep dust down around them. Take some 16 penny nails along (don't forget a hammer) to nail down the corners of the carpet to the ground. A large rock on each corner helps too. An alternative to outdoor carpet is to use a big tarp, but they're not as durable as carpet and make a crinkly sound when you walk on them. On the other hand a tarp folds up into a much smaller space and they're less expensive.



A little bit of outdoor carpet takes the edge off the famous OSP dust.

(Continued on page 7)

OSP Tips (Continued from page 6)

14. **Shade is scarce at the OSP and pop-up awnings are a great way to make your own.** Secure the awning so the wind can't blow it away but know that anchoring them with stakes is sweaty, frustrating and potentially futile work because just beneath all the famous OSP dust are rocks, and lots of them. Tie each corner to something heavy - I've come to like plastic buckets (the orange ones from Home Depot) that can be filled with rocks. There's a surplus of rocks at Indian Trail Springs so a side benefit of filling up a few buckets is fewer rocks to trip on in the dark around your scope and campsite.



Canopies, vehicles and tents at the 2008 Golden State Star Party. Note that the canopies are placed to the north of the vehicles for extra mid-day shade.

15. **Secure a tarp to the side of your awning to increase morning and afternoon shade,** but beware that this will make your awning more susceptible to wind. If you have

the space, you can put the awning next to your vehicle for extra shade.

16. **Take some time to absorb the beauty of the pristine night sky with just your eyes.** Watch how the Milky Way moves across the sky during the night, look for the faintest stars and galaxies you can detect without optical aid, the Gegenschein around midnight and the Zodiacal Light and Band in the morning. You'll see lots of meteors too - in fact if you keep track of when I'm not looking up you'll be sure to see all the brightest ones. Also, the best sunrises I've ever seen have been at the OSP and they're a great way to end a fabulous night of observing. After soaking in all this glory, compare it to your sky at home and then become a member of IDA

(<http://www.darksky.org/mc/page.do>).



OSP sunrise. This is also quite possibly the quietest environment you'll ever be in - you can practically hear your ears trying to listen.

SOLVING AN EYEPIECE DILEMMA

By Stan Seeburg



*Image courtesy
<http://www.televue.com>*

My favorite eyepiece is a 14mm Tele Vue Radian. It's a gem both optically and mechanically but has one drawback that interferes with its operation at star parties where viewers often press the easily adjustable eyecup down to its lowest position. I prefer it to be in between its lowest and highest points.

Just before a recent star party I made a quick-fix by securing a rubber band above the 1.25-inch barrel. I knew that a rubber O ring would solve the problem. Not wanting to expose the eyepiece to the grunge of a plumbing store, I bought several sizes, cleaned them with alcohol and figured that one of them would work well, which it did.

After putting it on to the barrel I ran into a problem. In attempting to stretch it over the larger diameter part of the eyepiece with one hand and trying to hold the eyepiece cup at its maximum separation with the other, I wasn't able to do so. The rubber band came to the rescue. Once the ring was secure it was just a matter of using a toothpick to remove the band and adjusting the ring to the desired position.

I mentioned the reason for my visit to the store's clerks who were very helpful and a couple of new converts to amateur astronomy may have resulted!

Congratulations to our First Place Winner, Christina Lee!

Christina Lee, the 2008 First Place Jack Horkheimer Award winner for the Astronomical League, gave a presentation about the "Galaxy Zoo" program at the 2008 ALCON in Des Moines July, 2008.

Christina was presented with a plaque, a check for \$1,000 and a Celestron telescope as well as an all-expense paid trip to the convention for her and her parents.

She is a member of the Rose City Astronomers in Portland, Oregon and the Vancouver Sidewalk Astronomers. Christine is a very active club member who has made presentations about science, astrophysics, galaxies, and other science topics. Christina is a volunteer for the Galaxy Zoo project that is classifying millions of galaxies obtained with Sloan Deep Sky Survey telescope. She is also currently grinding a 6-inch mirror at the RCA Telescope Workshop. (See photo at right)



In addition to being a regular attendee at the RCA Cosmology/Astrophysics Special Interest Group (SIG) for the past two years, in March 2008, she gave a presen-

tation on "Black Holes: Behind the Event Horizon" and discussed the models for black holes and their many mys-

teries. In November 2007, she presented on "Engineering in Microgravity".

In the summer of 2007 she interned with Dr. Mark Weislogel at Portland State University's Department of Engineering through Saturday Academy's Apprenticeships in Science and Engineering. They attempted to predict how water behaves and how to utilize its properties of capillary action.

A Junior, she has served as the "astronomy expert" for Central Catholic High School's Science Bowl team for the last two years, sponsored by the Bonneville Power Administration. They won 12th place out of 64 teams for Oregon and Washington States for 2007. Central Catholic High School Varsity Science Bowl placed 4th for Washington and Oregon States in 2008.

Christina is a shining star in the Rose City Astronomers and we are all very proud of her accomplishments. We know she will go on to great things in the future.



New RCA Website!

We don't know if you noticed, but recently our RCA Webmaster unfurled a newly redesigned web site for the Rose City Astronomers club. We're also transitioning to a new web address at <http://www.rosecityastronomers.org>.

The old web site won the Astronomical League Mable Sterns award in 2003, and the new web site is even bigger and better. Among the added information is a new Star Party area, updated SIG info, and a new Knowledge Base that is growing as we add new information for both beginners and the experienced viewers. Congratulations to Dareth Murray for improving on what was already an award winning website.

Camp Hancock Star Party September 26-28

With the grand-daddy of dark sky parties coming up (The Oregon Star Party, of course) you might still need another weekend in late September to wind down your viewing season.

Larry will be taking registrations at both the August 18th and September 15th meetings, or you can mail your registration in to him. Mail In Registration and Payment Deadline is Tuesday, September 16th. If we reach our capacity earlier we will cut off registration earlier, however we do expect to get permission again to use the "Dob Valley" which will increase our capacity by quite a bit.



September 26-28 will be the final RCA outing of the year and OMSI's Camp Hancock with meals and cabins fits the bill for a great outing for our cool fall weekend. Dark skies, warm cabins, real bathrooms, warm showers, good meals and great friends top off the last outing of the year for RCA. There's also electrical outlets on both Astronomy Hill and the Ridge for those who need power for their scopes, CCDs and computers. Wireless internet service is also available at Hancock.



Lots of information for our outing, including pictures, downloadable Camp Hancock information, Clarno Fossil bed information, Driving maps and instructions, etc. can be found on the newly redesigned RCA website under Star Parties. Join us for the final fall fling at Hancock.

OSP 2008

So what is there to do in August with warm sunny days and cool clear nights? You could stay up all night, sleep in until noon, enjoy your breakfast, lunch and dinner outdoors with the warm sun on your back and a light breeze ruffling your hair while you enjoy astronomical and scientific talks, take a tour through the forest of telescopes, visit vendors selling astronomical equipment, goodies and other related items, drool over giant telescopes, admire the handiwork of unique homemade scopes and go for a walk in the woods, or just kick back, relax and chat with some 600 of your closest friends.

Then as the sun sets and the warm daytime temperatures drop, the world around you comes alive with the sound of dust covers being removed from telescopes, the whirring of the goto scopes, the chatter of people setting up telescopes, planning their evening viewing and the occasional burst of "WOW! YOU GOTTA SEE THIS".

One of the largest and darkest star parties on the North American continent comes alive August 27-31 with warm sunny days and cool clear nights in the high desert area of Ochoco Mountains 50 miles east of Prineville, Oregon. At 5000' feet in elevation and 50 miles from the nearest city, the sky is so dark that the milky way is the major source of light pollution. The saying the 'you gotta see it to believe it' is no truer anywhere than at OSP.

The talks during the day range from "String telescopes - from theory to implementation", "The Latest Info on the Allen Tele-

scope Array", "How to Identify what's in your Astrophotographs", clear up to the "Ultimate Fate of the Universe".

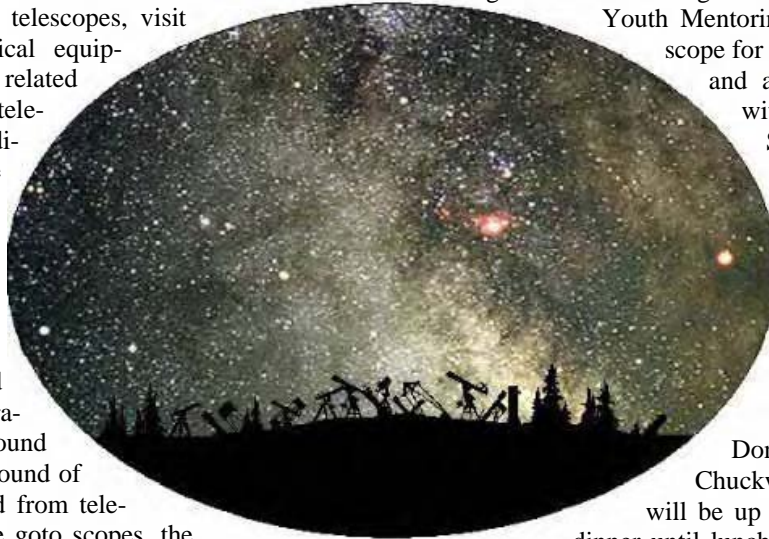
Need help for yourself or the kids? We have mentoring programs that are designed for both adults and kids. The Youth Mentoring program provides a telescope for the evening, an adult mentor, and a Planisphere to take home with them (courtesy of Edmund Scientifics). The Adult Mentoring program provides a mentor to help you with your scope at your camping site. We also have a "Limiting Magnitude" session and three "Sky Tours" during the week-end.

Don't want to bring food? The Chuckwagon and Espresso Blast will be up and running Wednesday for dinner until lunchtime on Sunday. Breakfasts, Burgers, 'Dogs, Sandwiches, desserts, caffeine, non-caffeinated and iced drinks will be available. The shower truck will be back with those hot showers that feel so good after a night observing, or a cooler one late in the day to clean up and cool off.

So, plan now to join us for the 21st annual Oregon Star Party. If you didn't pre-register don't worry, we still have lots of room on our 40 acres and you can register on-site.

For details, driving directions, maps, and information go to our website at oregonstarparty.org.

See you at OSP



RCA Forum To Go Online August 11

After several months of discussion, research, testing and more testing, the RCA Board of Directors has decided to retire the email listserv, and launch the RCA Forum as the primary means for club members to share information and conversation with other members, and club officers to send announcements of activities and club business to our membership.

While the email listserv has served the club well for many years – the Board feels that switching to a forum will not only offer enhanced features and flexibility to the online conversations that help keep our members in touch with each other and our hobby, but is a move that will keep us closer to the mainstream of modern communication practices.

The RCA Forum is tentatively scheduled to go live on August 11. Watch for a message on the email listserv about the procedures for activating your account on the Forum – or check the RCA Website (follow link to Forum) after August 11 for instructions. At the August 18 club meeting there will be an extended orientation and demonstration of how to register and use the Forum.

The email listserv and special group lists will be suspended the first week of September.



BOARD MEETING MINUTES

July 7, 2008

OMSI Classroom 1

Margaret Campbell-McCrea

Attending: Greg Rohde, Matt Brewster, David Nemo, Ken Hose, Doug Huston, Carol Huston, Dareth Murray, Larry Godsey, Dale Fenske, Jan Keiski, Jeannie London, Sameer Ruiwale, Margaret Campbell. A quorum was met with 13 present.

The meeting started at 7:08 p.m.

Officer Reports:

- Secretary: June minutes finalized.
- Treasurer: Larry provided not only a monthly report, but a year-end report. RCA current assets are \$20,617.72 and the Site Fund is \$18,675.24. We reviewed the last year's expenditures and noted that most areas ended up under-budget.
- Programming: 2008 is being celebrated as the 400th anniversary of the telescope, so Peter Abrahams will be presenting a talk on the development of the telescope. In August, Dave Jolle will be speaking on the Allan Array. Both meetings will be in the planetarium.
- Observing: The Stub Stewart event was a washout because of clouds. The Maupin event had 25 camp sites and was successful. Doug reported that Wilsonville City wants to have a star party this weekend (July 12-13) on a bridge they are opening up over a wetland. Greg agreed to help out, and Doug will advertise the event on the RCA list. We hope to get 2 – 3 largish telescopes out.
- Community Affairs: No report.
- Media Director: No report. However, we discussed putting out a press release about Christina Lee's winning the AL Youth Award to the Oregonian and the Columbian. Dareth will write that press release / article. Dale also mentioned that he's going to contact the Oregonian about the cutback in science reporting, and especially the loss of Bob Duke's regular astronomy article.
- Membership: We had 318 members at the end of our fiscal year. One-quarter of our membership is new members. In June we had 70 renewals and 8 new members. There was some discussion about getting the email addresses of members and contact information for family members who have different names or email addresses. Ken will look into that.
- New Member Advisor: No report.
- Sales Director: \$207 in sales in June.
- Library Director: Jan noted that in June the library received 20 books in donations, all high quality. She also showed a new book called Star Finder from DK Books that she ordered from the library.
- Telescope Library: Nominal
- IDA: No report.
- Magazines: Nominal.
- Webmaster: [Report under New Business.]

- Site Committee: Nominal.
- SIGs: The science SIG has moved and Tom Nathe will make an announcement about the new time and place when he returns.
- OMSI: The July and August meetings will be in the planetarium.
- ALCOR: Nominal.

Old Business:

- Forum/eList: Dave Nemo gave a brief written history of the committee's work to this date on setting up a forum that will meet our standards. There was extensive discussion about the new Forum. The general agreement is that the Forum works well and meets the needs of the RCA members, including those who still want to get all their RCA communications by email. The focus of the discussion was when and how to transition the club membership to the forum. The plan was generally outlined as:
 - have a 15-minute tutorial on the new forum for one or two meetings.
 - Have it live at a meeting for practice sessions
 - Members will have the option to participate in the Forum, or not.
 - Send out instruction or help memos via the old-style email to club members
 - The announcements will begin with the July meeting, and the change over will take place over time, with Sept. 1 discussed as a possible change over time.
 - Larry and Dave will be studying alternate registration procedures, and Dave will be working with the Forum Committee on developing a transition plan that works out the details of timing and communications. Doug moved and Dale seconded that we transition our communications to the forum as described above. The vote was unanimous.
 - Street Light Replacement Project: Sameer reported on attending the second open house. The design of the lights will replicate the original lights, but because of Bob's comments at the first open house, the design team is working with the manufacturer to find ways to shield the lights better. The next step is that the city will put a few test lights in at the end of July and invite public comment. Sameer will send out a notice to the club when that happens.

New Business:

- Sameer introduced Jeannie London to the Board. Jeannie has been a classroom elementary school teacher for seventeen years. She is just coming back to her high school interest in astronomy, and volunteered to run the RCA youth program. She described in detail her experiences and ideas, and said she is especially interested in eventually adding the teens back into the program. She asked for a focus group to assist her in designing an educational program for our youth. We decided to open a topic on the youth program on the RCA Forum, and that Jeannie will do something small for the summer meetings just to get started, and build a larger program over time. Carol

(Continued on page 12)

Board Meeting Minutes (Continued from page 11)

moved and Greg seconded that Jeannie be our Youth Director. The vote was unanimous.

- **Website Design:** Everyone on the Board has looked at the new pages. They are essentially ready to go. Dareth and Larry will send out an announcement to the club email list about the change. Both the new and old site addresses will work, i.e., rca-oms.org and rosecityastronomers.org will both work. There are over 140 pages and 3,000 links on the new site.
- **Trout Lake Star Party:** Some members of the Tacoma Astronomy Club were thinking of attending, but there is no word at the moment as to whether they will or not.
- **Sister Club with GAMA:** Margaret motioned and Jan seconded that we begin an official Sister Club relationship with GAMA as outlined by the guidelines. The vote was unanimous. Carol will create the certificates and bring them to the next RCA meeting for Sameer to sign.
- **AL relationship with local clubs:** Carol mentioned that the AL wants input from local clubs about what it can do for them. She agreed to start a new topic on the Forum for that discussion.
- **Videotaping our speakers:** Sameer asked for enough money to buy a video camera on sale which we could use to put our speakers on our website. There was no vote taken on this item, but there was no objection either.

Action Items:

1. Sameer will think of a way to thank owner of Maupin field.
2. Margaret will send Bernie Kuehn and Jenny Forrester's contact information to Jeannie London.
3. Carol will track down some AL astronomy lessons for kids.
4. Dareth will write press release and/or article on Christina Lee.
5. Carol will create certificate of sister club relationship.

The meeting adjourned at 9:08 p.m.

Telescope Workshop

When: Saturday, August 16, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johndelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

Science Special Interest Group (SCI-SIG)

Next meeting is August 16 at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, August 20, 7 PM.

Topic: "The Birth, Near-Death & Resurrection of the Kazan Observatory"

Presented by: Michael Meo

Place: Linus Pauling Complex,
3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)
or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rca-oms.org>).

The location is announced on the RCA general email discussion list. Information on how to join this list is at <http://www.rca-oms.org/emaillists.htm>

Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwind.com



Photo by Jan Keiski



Perseid Meteor Shower Watch at Rooster Rock August 11, 2008

The Oregon Museum of Science and Industry (OMSI) is getting ready for its largest star party of the year on August 11! Stargazers will be meeting at Rooster Rock State Park at 9 p.m. to watch and enjoy the wonder of the Perseid Meteor Shower.

August brings one of the year's most famous and enjoyed meteor shower - the Perseid Meteor Shower. Hundreds of star lovers from across the Pacific Northwest are expected to attend OMSI's biggest star show of the year. The event, sponsored by OMSI, the Rose City Astronomers, the Vancouver Sidewalk Astronomers and Oregon Parks and Recreations will have telescopes set up for attendees to use. Jim Todd, OMSI's planetarium manager, will be presenting informal talks about the meteor shower, constellations, and the summer sky.

The Perseid Meteor Shower occurs when the Earth enters the path of debris left by the comet Swift-Tuttle in its last trip past

the Sun. Swift-Tuttle follows a highly eccentric orbit around the Sun with an orbital period of about 130 years. The comet last passed by the Earth in December 1992.

This strong annual shower can produce 20 to 60 meteors an hour, though because of the light pollution and other factors, "many are too faint to see with the naked eye," Todd said. "Still, an observer in a dark subdivision can hope to see few meteors on the peak nights. This year the waxing gibbous Moon will not be a factor during the prime meteor-watching after midnight. Under these conditions, you might see a Perseid or two each minute."

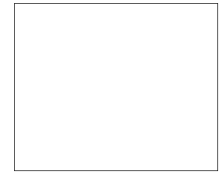
Rooster Rock State Park is located 22 miles east of Portland on I-84 at exit 25. The event is free, and there is a \$3 per vehicle parking fee for public. For possible weather cancellation, call (503) 797-4610 on August 11 after 4:00 PM to get the latest information.

Scenes from Rooster Rock Star Party July 12, 2008

By Jeff Bonadurer



Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



AUGUST 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August 2008

Aug 1-3	Fri-Sun	Trout Lake Star Party	Trout Lake, WA
Aug 4	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Aug 8	Fri	Downtowners' Luncheon	Kell's Noon
Aug 9	Sat	RCA Star Party	Stub Stewart State Park
Aug 6-10	Wed-Sun	Mt. Bachelor Star Party	Mt. Bachelor
Aug 11	Mon	OMSI Perseid Meteor Watch	Rooster Rock S.P.
Aug 16	Sat	Telescope Workshop	Swan Island 10am-3pm
Aug 16	Sat	Science SIG	Swan Island 3pm
Aug 18	Mon	General Meeting	OMSI Planetarium 7pm
Aug 20	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
Aug 27-31	Wed-Sun	Oregon Star Party	Indian Trail Spring

September 2008

Sep 5	Fri	RCA Star Party	Stub Stewart State Park
Sep 5	Fri	Downtowners' Luncheon	TBD Noon
Sep 6	Sat	RCA/OMSI Star Party	Rooster Rock State Park
Sep 8	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Sep 13	Sat	Telescope Workshop	Swan Island 10am-3pm
Sep 13	Sat	Science SIG	Swan Island 3pm
Sep 15	Mon	General Meeting	OMSI Planetarium 7pm
Sep 17	Thurs	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
Sep 26-27	Fri/Sat	Dark Sky Star Party	Camp Hancock

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-omsi.org>).

RCA CLUB INFORMATION

Message Line: (503) 255-2016

Web Site: <http://www.rca-omsi.org>

The

Rosette Gazette

Volume 20, Issue 9

Newsletter of the Rose City Astronomers

September, 2008



RCA SEPTEMBER 15 GENERAL MEETING “When Will We Discover the Extraterrestrials?” Presented by Dr. Seth Shostak



Allen Telescope Array Begins Scientific Observations

In This Issue:

- 1.. General Meeting
- 2.. Club Officers
.... Magazines
.... RCA Library
- 3.. The Venerable 2.4-Inch
- 5.. Southern Observing
- 9.. Maupin Star Party
.... Late Member Renewal
.... Camp Hancock S.P.
- 10. August Board Minutes
- 11. Telescope Workshop
.... Science SIG
.... Cosmology SIG
.... Downtowners
- 12. Calendar

The scientific hunt for extraterrestrial intelligence is now into its fifth decade, and we still haven't uncovered a confirmed peep from the cosmos. For that matter, we still don't know if life – at any level of intelligence – exists beyond Earth. Could this mean that finding aliens, even if they're out there, is a project for the ages – one that might take centuries or longer?

New technologies for use in the search for extraterrestrial biology suggest that, despite the continued dearth of hard evidence for life elsewhere or signals from other societies, there is good reason to expect that success might not be far off – that within a few decades we might find evidence of sophisticated civilizations.

Why this is so, what contact would tell us, and what such a discovery would mean, are the subject of this talk on the continuing efforts to establish our place in the universe of thinking beings.

Dr. Shostak is the Senior Astronomer at SETI Institute in Mt. View, California. He hosts the SETI radio show, Are We Alone? each Sunday night, where he interviews guests who are on the leading edge of science discovery and technological advance. Shostak readily translates the most complex scientific discoveries into terms accessible to the non-scientist. He has written hundreds of articles for newspapers, magazines, and the SPACE.com web site, as well as three books, including a popular textbook on astrobiology.

All are Welcome! Monday September 15
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Auditorium



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

First Quarter Moon
September 7

Full Moon
September 15

Last Quarter Moon
September 21

New Moon
September 29



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	Jean London	youth@rosecityastronomers.org	503-642-4831

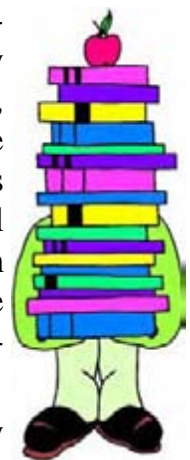
RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through checkout at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.



The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-omsi.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566

If you were to take a poll of amateur astronomers (and probably some professionals) as to what was the first telescope they started off with, chances are it would be a 2.4" refractor – with many others saying a 2.4" refractor was the first scope they looked through.

THE VENERABLE 2.4 – INCH (60 MM.) REFRACTOR

By Rodger W. Gordon*

Why the 2.4"? First of all, it was affordable, and second, it was portable. Consider, for example, the popular Unitron 2.4" and 3" alt-azimuth refractors of the 1950's and 1960's. The 2.4" cost \$125. But the 3" was \$265. That's \$140 more for just a gain of .6 inch of aperture. And if we go back to the 1930's, the least expensive Zeiss 60 mm. alt-azimuth refractor (appropriately named the "Traveling Telescope") was \$348, but the 80 mm. (3 $\frac{1}{8}$ ") least expensive model was \$592. And a 3" is less transportable or portable than a 2.4".

The number of firms that offered or still offer a 2.4" is legion. Zeiss, Unitron, Tasco, K-Mart, Lafayette Radio, Mayflower, Sans and Streiffe, Bushnell, Sears, Criterion, and Goto Optical (Japan) is a partial listing. For a while Edmund sold the 2.4" Goto, but never manufactured their own 2.4" until the 1980's when they offered a 2.4" F/8 on a table-top mount. Nikon never advertised a 2.4", but they straddled it by selling both a 2.6" and a 2.2". In the 1980's Celestron had a 55 mm. (2.2") F/8 apochromat (Fluorite) and recently TeleVue started offering a highly portable 60 mm. apochromat. Surprisingly, the Alvin Clark firm never offered a 2.4", except in finder form and one special military contract.

The heyday of the 2.4" refractor was the 1950's through the 1970's, and this isn't just in the telescope arena. 60 mm. spotting scopes for nature and other similar terrestrial work have long been the most popular size. The 60 mm. Bausch and Lomb spotting scope in its green crackle finish is legendary and, though no longer made, is not difficult to find on the used market.

In the 1970's and 1980's, the East German Zeiss firm at Jena sold over 20,000 63/840 refractors to their government for use in their elementary/secondary school system and many others went to the U.S.S.R. In East Germany, astronomy was a REQUIRED course in their school system. In the United States, astronomy has not been a required public school course since 1896, when it was dropped from the curriculum.

A 60 mm. refractor of good to excellent quality will show the polar caps and some of the dark areas of Mars. The red spot of Jupiter and some of the belts and an occasional festoon are easy to see. With Saturn's rings open, Cassini's division can be discerned. The Moon, of course, shows thousands of craters in a 2.4". Epsilon 1 and 2 is a classic double star test. A less difficult test on a really good night is the companion of Rigel (it's a tough test for a 2" refractor – 50 mm.).

On a really dark night in a 2.4" at low power, the Lagoon Nebula's outline is readily traceable including the "dark lane" nearly bisecting it in two, and the globular cluster M13 starts to show stars at its outer edges. Theoretically, the 2.4" will resolve doubles down to 1.8" arc, but I've elongated Pi Aquilae into a "breadloaf" with an intensity minima. That star has a 1.4" arc separation and both my 2.4" Unitron and 2.4" Zeiss will show it that way.

The 60 mm. refractor telescope is still popular today as an instrument to get started in astronomy, or as a second or third telescope for traveling or quick set-up. A 2.4" was my first astronomical telescope in 1956. I collect 2.4" 's and two of them that I once had I gave to my daughter. (My very first telescope was a 30 X 40 mm. terrestrial spotter obtained in 1952.) A friend of mine who owns an 8" Zeiss refractor also has a 63/840 Zeiss mounted on it as a "second scope."

(Continued on page 4)



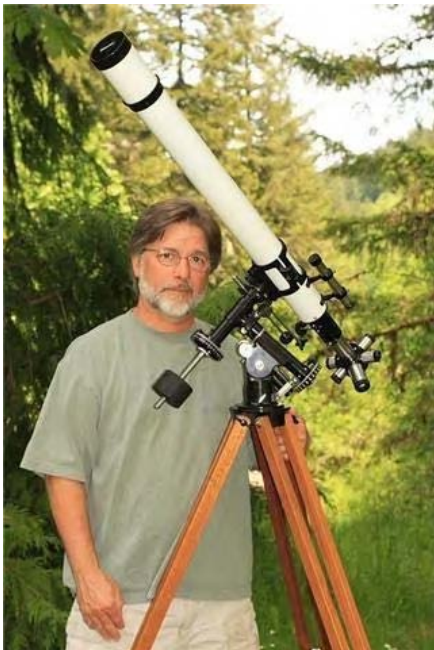
The author's 2.4" Zeiss traveling telescope from the 1930's.

Venerable 2.4" (Cont'd from page 3)

The first marking that I saw on any planet was the South Polar Cap of Mars – a never-to-be-forgotten-thrill – on August 14, 1956, the same day that my Sears 2.4" arrived at my home, then in Pen Argyl, Pennsylvania. In 1958, when I graduated from high school, my 2.4" Sears was featured on a double-page spread in the middle of the class yearbook, whose theme was the advancement of science in '57-'58 with the I.G.Y. and the launching of space satellites.

How many 2.4" or similar sizes have been made in the last one hundred years or so? I would venture to say in the millions – especially if one considers all those sold in Japan, the United States, or in Europe, etc.

The classic 2.4" Unitron F/15 that in alt-azimuth form originally cost \$125 will now run on the collector's market ~\$500, and in the equatorial mode around \$1,100. But a 2.4" Zeiss traveling telescope from the 1920's or 1930's can go for \$1,800 to \$3,000 – if you can find someone willing to sell theirs. Very few 2.4" s, antique or modern, have a 6-inch focusing range like the



Philomath, Oregon resident Jerry Kovacs and his 2.4" Unitron.

earlier 2.4" Zeiss, so it could be used also as a terrestrial "spotter" if necessary and focus down to about 25 feet away or less.

There's something about 2.4" refractors that transcend their popularity. They look like what most people think a telescope should look like. 2.4" s have been offered on table top mounts for even more portability. The 50th anniversary of the Mogyey firm was celebrated by offering a 2.4" brass model, even though the 2.4" size was not among the "standard" product line.

If you're looking for a collectable 2.4" from the past, look for one that has an air-spaced objective instead of a cemented one. Most of the imported 2.4" refractors had cemented objectives which were cemented usually with Canadian Balsam. Over a 40 to 75 year period the Balsam dries out and sometimes will separate and if it doesn't separate, it can put a strain on the crown and flint elements – often resulting in astigmatic images.

Firms that offered 2.4" air-spaced objectives were Zeiss, Unitron, Goto, and, in the 1970's, some Sears models had air-spaced O.G.'s. Tasco's better product line used air-spaced objective lenses. You can tell if a lens is air-spaced by checking to see if there are three small equidistant "spacers" (usually aluminum) at the edge of the objective lens when you look down the front. Their absence is a good indication the lens is a cemented one. Most 60 mm. spotting scopes (then and now) have cemented objectives.

The future of the 2.4" still looks pretty good – be it in apochromatic or achromatic form – and some current 2.4" s have electronic controls on them. Beware of "department store" 2.4" s often advertised and promoted around Christmas time at, say 400X to 575X. The objectives may be fairly good, but the mounts are usually rickety and not well made. Focusers are plastic and wear quickly, giving a loose focus in a short time. Finders often have a diaphragm

behind the lens to cut out edge aberrations. The main objective may have one of these "diaphragms," so the 2.4" may only be 2" clear aperture or less.

In theory, a 2.4" refractor under dark skies should reach 11.0 magnitude. But it will do far better. In the early 1960's, both Roger S. Kolman and Thomas Osypowski reached +12.2 with an even smaller 2" refractor as part of Kolman's experiments with noted AAVSO members participating in finding the real limits of telescopic magnitude.



Star clusters are ideal targets for classic 2.4" refractor telescopes.

Walter Scott Houston reached +14.6 with his uncoated 4" Clark refractor under dark Kansas skies, but when he moved to Connecticut, he needed a 10" to do the same.

2.4" s will undoubtedly be part of the astronomical scene for the foreseeable future. Why not drag out your venerable 2.4" refractor and enjoy the glory of the night sky?

*Roger W. Gordon is an internationally recognized expert on eyepieces and telescopes. In 1962 he was an independent co-discoverer of the four day rotation period of Venus' upper atmosphere. A prolific author, Gordon's articles have appeared in *Sky & Telescope*, *Journal of the Association of Lunar and Planetary Observers*, the former *Star and Sky*, and *Review of Popular Astronomy*. He is one of the few amateur astronomers to have been published in the professional journal, *Icarus*. He is currently a regular contributor to *The Practical Observer*.

THE OBSERVATION OF NGC 6334, NGC 6357 AND THE OPEN CLUSTER PISMIS 24

by Leo Cavagnaro

In the well known constellation Scorpius reside many prominent and famous deep-sky objects. Well known is the open cluster NGC 6231, also known as the “Scorpius Jewel Box”, the globular cluster Messier 4, one of the nearest globular clusters to us or the open clusters M6 (Butterfly cluster) and M7 (Ptolemy’s cluster) both visible to the naked eye. If you want to take a step further and observe other objects also situated in this constellation, you can, for example, try to find a couple of nebulae nicknamed “Cat’s Paw” (NGC 6334) and “War and Peace” (NGC 6357). Within the last one is found a peculiar open cluster catalogued as Pismis 24, containing interesting massive stars.

On Friday, July 4th, I had the opportunity to drive northwest reaching the Andes mountains with the plan to observe these nebulae. I set up my telescope in a place named **Paramillos** (latitude -32 degrees), at nearly 2,700 meters above sea level and approximately 25 km from Uspallata Valley.



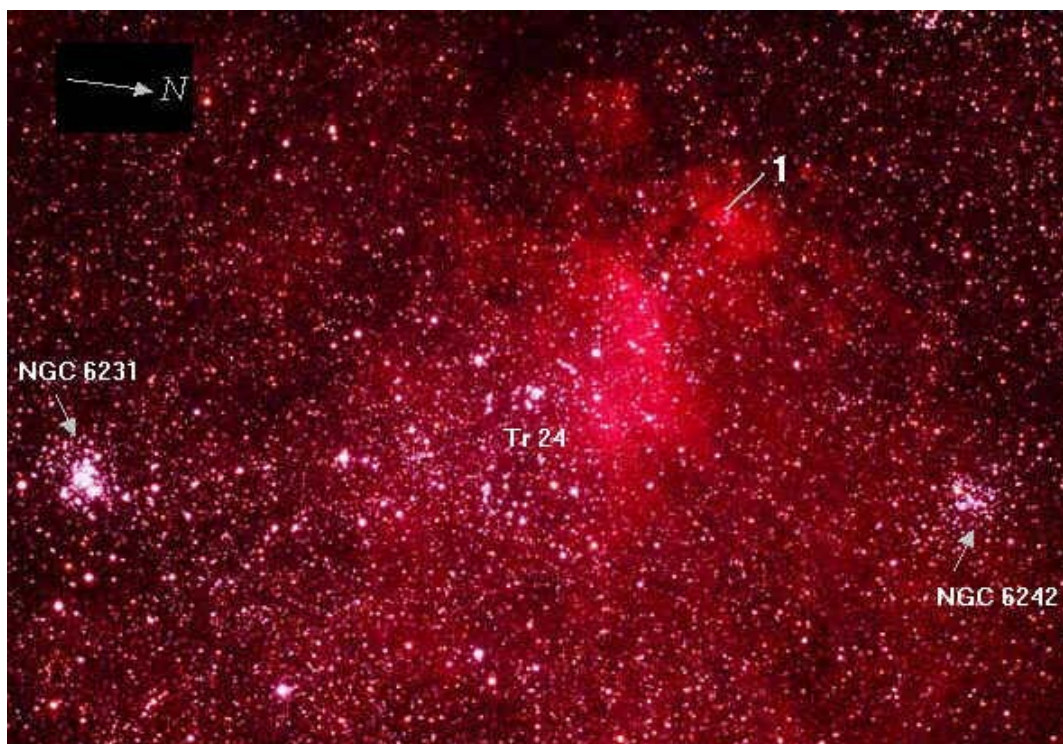
The Southern Hemisphere winter is a good time to observe the region of the sky toward the Milky Way center, with the constellations Scorpius and Sagittarius very high in the sky. I made the observations that night under a very clear and steady sky. In the picture I took two days after observing I indicate with a red rectangle the zone where these nebulae can be founded. You should include these objects in your own observing program if you are thinking of a trip to the southern hemisphere to explore the southern constellations.

Before observing the two main nebulae in the observing program I aimed my 8-inch telescope to the southern region of the constellation (red circle on the picture above) near the open clusters Collinder 316 and Trumpler 24, both part of the Scorpius OB1 association, with the plan to identify and observe in detail a nebulosity known as the “Prawn Nebula” (IC 4628).

(Continued on page 6)

THE IC 4628 NEBULA

IC 4628 is about 1.5 degrees north of the well known cluster **NGC 6231** and situated in the northern side of the open cluster **Trumpler 24**. In fact, several stars in the field are members of this wide and sparse cluster. After identifying the starry field surrounding this nebula, I observed this object with low magnification (42x). At this time the nebula was very high in the sky, at 79 degrees of altitude. It was visible like an elongated and faint nebulosity in a rich starry field with some stars forming short chains. You can improve the image using an UHC filter. Using this kind of nebular filter the nebula looks wider, more contrasted and more elongated in the direction East-West.



A few bright stars are visible surrounding the brighter part of the nebula (the only part I can see with my telescope and filters) and outline it. More dim stars are visible embedded in the nebulosity. A more contrasted round and small patch is also visible (number 1 on the picture) and a bright narrow filament connects it with the main part of the nebula. IC 4628 is a big nebula, for that reason it is not a good idea to use high magnification if you want to observe the whole object, or at least the brighter and more detectable part.

I used an eyepiece that gave me a little higher magnification (53x). Using the UHC filter again the view is still very interesting and some dark structures are visible in the nebula, especially in its western end. A narrow dark lane seems to cross through the middle of the nebula. Taking the UHC filter off, the zone 1 shows a short line of faint stars very close to each other and embedded in a faint nebulosity.

Observing IC 4628 with the same low magnification but this time working with an OIII filter, the contrast is maybe a little worse. In my opinion, the UHC filter works better, definitely. According to several deep-sky observers around the world, the H beta filter works well on only a very few objects, like the California Nebula (**NGC 1499**) or the Cocoon Nebula (**IC 5146**). However, it was interesting to use it to observe this emission nebula. I was amazed because, in this case, this filter worked very well. Using low magnification (42x) and this kind of filter the image was very good with a good contrast and some dark structures within the nebulae were visible. However, the UHC was the best filter to use observing this diffuse nebula.

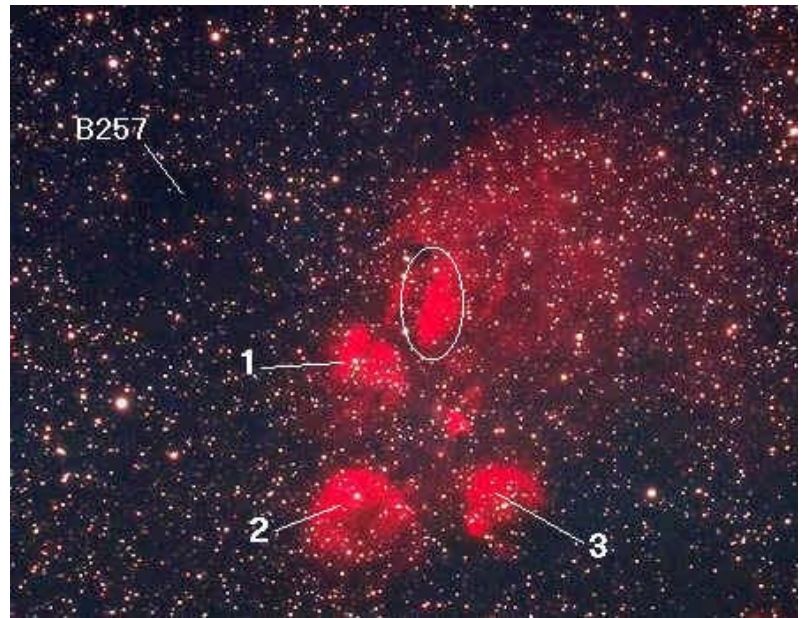
NGC 6334, THE “CAT’S PAW” NEBULA

This nebula, also known as “Bear Claw Nebula”, is one of the most prominent locations of massive star formation. The central region consists of a long filament with seven sites of massive star formation. At a distance of about 5,500 light years, it is visible in a rich star field when you observe it through a telescope. In the same eyepiece field is visible the dark nebula **Barnard 257** (B257) when observed using low magnification. B257 was barely visible. It helped the identification of a stellar configuration situated to the west of the dark cloud (to the right on the picture below).

(Continued on page 7)

Southern Hemisphere Observations (Continued from page 6)

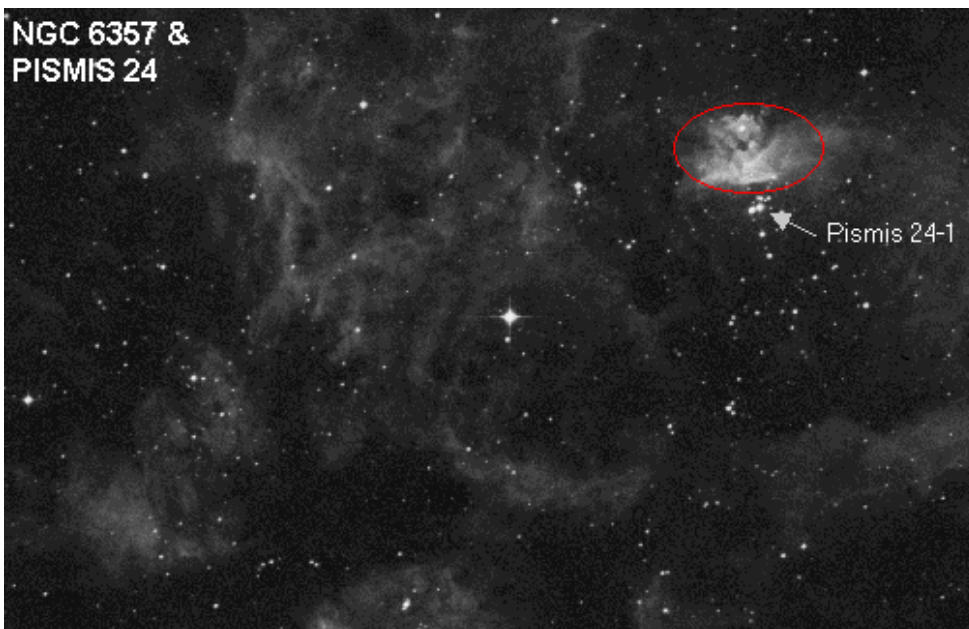
Focusing attention on **NGC 6334** at low magnification, and without filter, three hazy patches come to view. This nebulosity surrounds stars which are visible within. In the area indicated by number 1 nebulosity is visible, and to the right on the image (west) there are some very faint stars, very close to each other and embedded in a faint nebulosity. The most noticeable and bigger nebulosity is that surrounding the star of magnitude 9.4 HD 156738 (number 2 on the image). The nebula is also visible to the east of the star, always showing a smooth appearance. The patch indicated by number 3 is also visible without filter. Between nebulosity 1 and 3 some of nebulosity is detected embedding the stars situated there. The east end is more contrasted and easier to see visually.



THE OBSERVATION WITH UHC FILTER

This kind of filter allows you to see more contrasted nebulosity in zones 1,2 and 3. The zone in 2 is again the brighter one visible in the field. More structures are visible in this nebula when you use nebular filters. For example, with the UHC filter you can see the elongated nebulosity marked by the white ellipse. I also observed this nebula with an OIII filter but the view was not so sharp and contrasted. Even if the nebulosity 2 is clearly visible, some other structures begin to fade and they become more difficult to see. The H beta filter also works to see this nebula, at least to see its three brighter patches, but it is not the best option when you want to see it. In my opinion, the best filter to observe this nebula was the UHC, OIII filter in second place and then the H beta.

THE NGC 6357 NEBULA & THE OPEN CLUSTER PISMIS 24

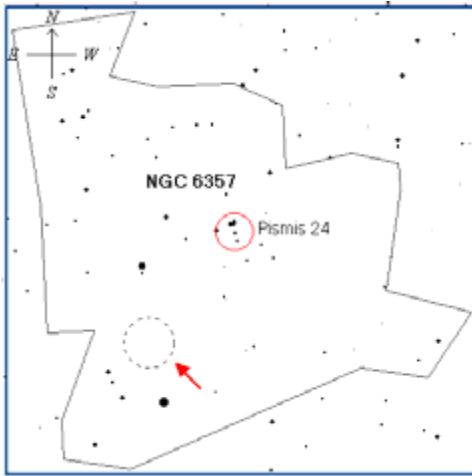


DSS image of NGC 6357 and Pismis 24. North is up.

Approximately 3 degrees from the bright star Shaula, one of the bright stars in the Scorpius tail, is found the diffuse emission nebula **NGC 6357**, usually known as “War and Peace” and discovered by John Herschel on June, 8 1837. The first attempt to see this nebula was using my 8-inch telescope without a nebular filter. After aiming the telescope to that region of the sky, the identification of the surrounding field was easy because there exists four bright stars with magnitudes

(Continued on page 8)

of 6 and 7 forming a straight line. Actually, they are the brighter stars in the eyepiece field. An open cluster can be found within the nebula, **Pismis 24**. After finding the accurate position among the stars of this star cluster (see comments below), I began with the observation of it and the associated nebula NGC 6357. There is an interesting story about this open cluster:



On the accurate position of the cluster and the nature of the star Pismis 24-1

I read an observing report where the observer claims he could not observe the cluster Pismis 24. This is a 9.6 magnitude object so it should be easily visible even with small instruments. I compared the information given by some planetarium software and by digitized images of the region where the cluster lies. Some sky charts indicate a wrong position for this cluster. Upper image here shows the correct position of this peculiar cluster. As the reader can see, the cluster lies some arc minutes northwest of the position given by some sky charts (indicated by the red arrow). If you aim your telescope to this place you will observe “a dark sky without stars”.



Pismis 24-1, also known as HDE 319718 (left picture), a 10.5 magnitude star and member of the cluster, at RA 17h24m43.41s and Dec -34°11'56.5" (J2000) was previously inferred to have a mass greater than 200 solar masses. On the paper “**Pismis 24-1: The Stellar Upper Mass Preserved**” written by J. Maíz Apellaniz et. al. and published in January 2007, the team of researchers determined, using data gathered with the HST (Hubble Space Telescope), the Magellan Telescopes in Las Campanas Observatory (Chile) and the J. Sahade Telescope in Complejo Astronómico El Leoncito CASLEO (Argentina) that Pismis 24-1 is composed of at least three objects, the resolved Pismis 24-1SW and the unresolved spectroscopic binary Pismis 24-1NE. Each component has about 100 solar masses, making them among the more massive stars

NGC 6357 is classified as an emission nebula. The whole nebula is not visible. However, the brighter part of it is easily visible, even without using a nebular filter. The brighter part, indicated by the red circle in the DSS image above, is better viewed using averted vision as a small patch of nebulosity. Very close to it, the small open cluster Pismis 24 is clearly visible. According to the software Skymap, this stellar group has a magnitude of 9.6 and its Trumpler classification is IV,2,p,n thus indicating associated nebulosity. If you use low magnification, you will see a sort of defocused star (the brighter in the cluster) and two fainter stars forming a line with that one. Some very faint stars are visible between those stars and the nebulosity.

Using low magnification, but this time with an UHC filter as help, you can get a more detailed view of the nebulosity. This looks better, showing an elongated shape and wider toward the direction where the cluster lies. The elongated shape of the nebula is more obvious using a little higher magnification and the same filter.

I used more power (156x) to see the cluster in detail. At this magnification I could see four stars that remind me of a very small version of the constellation Sagitta (The Arrow) in the northern sky.

At this magnification I could clearly see the bright star Pismis 24-1 (indicated on the DSS image) and also the star Pismis 24-17 (immediately to the left of Pismis 24-1 on the image). Pismis 24-17 is also a member of the cluster.

For comments or questions about this article please send me an email to mcava@ciudad.com.ar

Maupin Star Party
June 15-16, 2007
Photography by Anthony Hill



Next Maupin Star Party is September 26 - 28.
<http://www.rosecityastronomers.org/sp/maupin.htm>

It's past time to renew your RCA membership!

The membership year runs from July 1 through the end of June. Over 100 families have not yet renewed. Renewal dues are \$24. You can find renewal forms on the RCA website. You can either mail your dues to the address on the form or bring your check to the next RCA meeting. Help support your club and keep your membership benefits active.

Camp Hancock Star Party
September 26-28

With the grand-daddy of dark sky parties coming up (The Oregon Star Party, of course) you might still need another weekend in late September to wind down your viewing season.



September 26-28 will be the final RCA outing of the year and OMSI's Camp Hancock with meals and cabins fits the bill for a great outing for a cool fall weekend. Dark skies, warm cabins, real bathrooms, warm showers, good meals and great friends top off the last outing of the year for RCA. There's also electrical outlets on both Astronomy Hill and the Ridge for those who need power for their scopes, CCDs and computers. Wireless internet service is also available at Hancock.

Larry will be taking registrations at the September 15th meeting, or you can mail your registration in to him before then. Mail In Registration and Payment Deadline is Tuesday, September 16th. If we don't reach our minimum of 30 people we will have to cancel the outing. We do have permission again to use the "Dob Valley", but as of this date we only have 3 people registered.



Lots of information for our outing, including pictures, downloadable Camp Hancock information, Clarno Fossil bed information, Driving maps and instructions, etc. can be found on the newly redesigned RCA website under Star Parties. Join us for the final fall fling at Hancock.



BOARD MEETING MINUTES

August 4, 2008

OMSI Classroom 1

Margaret Campbell-McCrea

Attending: Larry Godsey, Dale Fenske, Ken Hose, Greg Rohde, Jeannie London, Sameer Ruiwale, Carol Huston, Doug Huston, Margaret Campbell-McCrea, Jan Keiski, Board Members; Peter Abrahams, Guest.

The meeting started at 7:12 p.m.

Officer Reports:

- Secretary: A quorum (10) was met with 10 board members and one guest attending.
- Treasurer: RCA has current assets of \$19,074.54, and the Site Fund has current assets of \$18,812.52.
- Programming: Dave Jolle will be speaking on the Allan Array in the planetarium for the August meeting.
- Observing: Both the Wilsonville star party and the Trout Lake Star parties were quite successful. The next event is the Stub Stewart Star Party on Saturday night, August 9th.
- Community Affairs: Doug Huston is handling the requests for Community Affairs while Patton Echols is in Africa. The city of Portland requested that we bring telescopes to their science fiction movie festival, but it was decided that this event was not a good fit because the movies were too early in the evening. However, we are interested in working with the city on other events.
- Media Director: No report. However, Dale's article was published in the July issue of the Gazette.
- Membership: We had 16 renewals and 6 new members in July. We brought in \$1,836. Our membership is now at 229. Last year at the same time, we had 175. There was some discussion regarding the process of letting A.L. know what our membership is for purposes of receiving the Reflector.
- New Member Advisor: Jim Reilly reported by email that there will be a new member orientation at 6:15 p.m. before the general meeting on August 18th.
- Sales Director: \$431 in sales in June.
- Library Director: Nominal.
- Telescope Library: A Celestron 8" SCT Ultima 2000, in new condition, with Goto control, 4 eyepieces, 4 filters and a camera attachment was just donated to the club.
- IDA: No report.
- Magazines: Nominal.
- Webmaster: No report.
- Site Committee: Nominal.
- SIGs: No report.

- OMSI: The August meeting will be in the planetarium. September and October's meetings will be in the auditorium. November's meeting will be in the IMAX, and December's potluck will be in the auditorium. 180 people came to the NASA feed of the solar eclipse (and the food was good.)
- ALCOR: Nominal.
- Youth Director: There was extensive discussion about the direction and nature of the youth program. Jeannie had attempted to reach the people the Board had suggested to her, but was unable to reach them. She has been building a children's library of books and currently has nine. Jan offered her several books from the RCA regular library. At the next meeting she will bring an outline of a program plan for RCA to consider. In the meantime, she would like us to find out how many kids there are in RCA families and their ages.
- Sister Clubs: Carol Huston created two copies of a very lovely certificate of sister club relationship. Sameer Ruiwale signed it in a ceremony which was linked by cell-phone to GAMA, and Jan video-taped it. Jan and Carol will send the certificates to GAMA with a cover letter from our president. Carol suggested an article for the Reflector, and Margaret volunteered to write it.

Old Business

- Forum/eList: Dave Nemo met with the Forum committee, and they have decided to start the Forum on August 11th and to discontinue the email list around September 1st. There will also be an announcement in the newsletter. Also, at the RCA meeting on the 18th, he will give a 15-minute demonstration of how the Forum works in place of Dave Powell's sky program. Dave will send an email regarding computer and internet access in the planetarium to Jim Todd and Matt, to make sure that the capabilities he needs to do the demonstration are there.
- Thank you gift to owner of Maupin property: The Board voted to give a \$250 donation to the owner of the property in Maupin as a thank-you for the expense and time-commitment in allowing us to have three star parties on his property this year. The vote was 10 yes, 1 opposed.

New Business:

- Review of bylaws. Since this topic has been tabled several times, Margaret volunteered to start a new topic on the Forum so that the Board members can look over the by-laws during the month and come to the meetings prepared to discuss suggested changes.

The meeting adjourned at 9:08 p.m. Respectfully submitted, Margaret Campbell-McCrea

Action Items:

1. Sameer will confirm with Dareth that she will write press release and/or article on Christina Lee.
2. Jan will make sure Jeannie had a working email for Jenny Forrester.
3. Jeannie will make a plan for the youth program.
4. Sameer will write a cover letter to GAMA.
5. Jan and Carol will mail the certificates to Argentina.

(Continued on page 11)

Board Meeting Minutes (Continued from page 10)

6. Margaret will write article on sister club relationship for Reflector.
7. Carol will continue to find materials for youth program.
8. Jan will donate books to the youth program.
9. Dave will confirm that he can do a demonstration of the new Forum pages in the planetarium.

OMSI Star Party

Autumnal Equinox Celebration

Sept. 6 at Rooster Rock State Park

Fall officially begins with the autumnal equinox, which takes place on Monday, September 22 at 8:44 a.m. PDT. On Saturday evening, September 6, OMSI, Rose City Astronomers and Vancouver Sidewalk Astronomers will celebrate the beginning of autumn with a free Star Party! Join us as we gaze at the pre-autumn night sky at Rooster Rock State Park, located 22 miles east of Portland on I-84 (east of Sandy River) at exit 25, starting at 8:30 pm. Parking is \$3 per vehicle.

Members of RCA and VSA will make their telescopes available to anyone who attends, and OMSI Planetarium Manager Jim Todd will present informal talks on the occurrence. From beginners to experts of all ages, visitors will have the opportunity to view the stars and other objects through a variety of telescopes.

Viewing highlights includes the planet Jupiter, the Moon, nebulae, clusters, and more!

For possible weather cancellation, call (503) 797-4610 on September 6 after 3:00 PM to get the latest information.

Telescope Workshop

When: Saturday, September 13, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

Science Special Interest Group (SCI-SIG)

Next meeting is September 13 at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rca-oms.org/clubprojects.htm#telescope>

Tom Nathe <tmnathe@verizon.net> RCA SIG coordinator

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, September 17, 7 PM.

Topic: "Mathematical Complexity Objects"

Presented by: Bob McGown

Place: Linus Pauling Complex,

3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)

or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rca-oms.org>).

The location is announced on the RCA general email discussion list. Information on how to join this list is at <http://www.rca-oms.org/emaillists.htm>

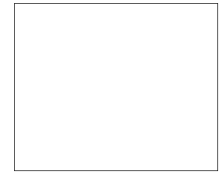
Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlk.com



Photo by Jan Keiski

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



SEPTEMBER 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

September 2008

Sep 5	Fri	RCA Star Party	Stub Stewart State Park
Sep 5	Fri	Downtowners' Luncheon	TBD Noon
Sep 6	Sat	RCA/OMSI Star Party	Rooster Rock State Park
Sep 8	Mon	Astro Imaging SIG	Beaverton Public Library 6:30pm
Sep 8	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Sep 13	Sat	Telescope Workshop	Swan Island 10am-3pm
Sep 13	Sat	Science SIG	Swan Island 3pm
Sep 15	Mon	General Meeting	OMSI Auditorium 7pm
Sep 17	Weds	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm
Sep 26-27	Fri/Sat	Dark Sky Star Party	Camp Hancock
Sep 26-27	Fri/Sat	Dark Sky Star Party	Maupin

October 2008

Oct 6	Mon	RCA Board Meeting	OMSI Classroom 1 7pm
Oct 3	Fri	Downtowners' Luncheon	Kell's Noon
Oct 11	Sat	Telescope Workshop	Swan Island 10am-3pm
Oct 11	Sat	Science SIG	Swan Island 3pm
Oct 13	Mon	Astro Imaging SIG	Beaverton Public Library 6:30pm
Oct 20	Mon	General Meeting	OMSI Auditorium 7pm
Oct 22	Weds	Astrophysics/Cosmology SIG	Linus Pauling Complex 7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Message Line: (503) 255-2016
 Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 10

Newsletter of the Rose City Astronomers

October, 2008



RCA OCTOBER 20 GENERAL MEETING The Space Elevator and Our Future Presented by Dr. Bryan Laubscher

In This Issue:

- 1.. General Meeting
- 2.. Club Officers
 - President's Message
- 3.. Classic Telescopes
- 6.. The Observer's Corner
- 8.. Mendoza Lunar Eclipse
- 9.. Cosmologist L. Krauss
10. Sept. Board Minutes
11. Lunar Club Awards
 - AMS Winter Forecast
12. NASA Space Place
13. Telescope Workshop
 - Magazines
 - RCA Library
 - Science SIG
 - Cosmology SIG
 - Downtowners
14. Calendar

The Space Elevator is a radical technology for accessing space. The concept was first published in 1960 and was subsequently popularized in science fiction stories. After the discovery of carbon nanotubes in 1991 the Space Elevator concept moved from the realm of science fiction to science possibility. Now there are small groups of researchers and enthusiasts working to develop the concept and further the development of the Space Elevator.

In this presentation the basic concept and economic motivation for building the Space Elevator will be discussed first. Then the major components, deployment scenario and technological challenges of the Space Elevator will be presented. Next, the promise of the space elevator: opening space as a place to solve problems on Earth, will be outlined. Specific examples of the future with Space Elevator technology will be mentioned such as space-based solar power satellites, low cost satellites and scientific missions, manned exploration and supplying lunar and martian outposts or settlements.

Dr. Bryan Laubscher is an astrophysicist and was a project leader at Los Alamos National Laboratory until he left in January of 2008. Over the last 20 years he has carried out re-

search and development in astrophysics, electromagnetic detection physics, space instrumentation, spacecraft, non-linear optics, laser technology, lidar and spectrometer development. In 2006 Bryan spent a year on entrepreneurial leave in Seattle starting a company to build high-strength materials based upon carbon nanotubes.



Image Courtesy NASA

All are Welcome! Monday October 20
Social Gathering: 7 pm. Meeting Begins: 7:30 pm.
Location: OMSI Auditorium



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

First Quarter Moon
October 7

Full Moon
October 14

Last Quarter Moon
October 21

New Moon
October 28



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	Jean London	youth@rosecityastronomers.org	503-642-4831

President's Message By Sameer Ruiwale

There have been some exciting new changes and developments in the club in the recent months that I would like to share some thoughts about. We recently initiated a sister club relationship with the GAMA (Grupo de Astronomos Mendocinos Aficianados) club located in Mendoza, Argentina. RCA members have had a long history of collaboration and sharing with GAMA - some RCA members have travelled to Mendoza and received great hospitality from GAMA members; Some GAMA members have attended ALCON 07 and OSP 07. A formal sister club relationship will allow greater collaboration and exchange opportunities for our members of our two clubs! To find out more about sister club relationships and guidelines for sister clubs, please visit the RCA website. I would like to thank all the sister-club committee members for drafting these guidelines and helping initiate this first Sister Club relationship with GAMA - I

look forward to many more sharing opportunities with them!

Another big change we have made is introduction of the RCA forum as a replacement to our current RCA-L email list. Based on member feedback received from a survey conducted last year and in an effort to enhance collaboration and sharing amongst our own members, we decided that the Forum was well suited to our communication needs. The forum brings several benefits - ability to create topic areas by subject, ability to organize messaged within these topic areas, ability to post images, easy search capabilities, ability to see different topic areas without having to subscribe individually, options to receive email notifications of topics and replies, etc.. The forum does represent a big change to how we have communicated with each other in the past -- however I very am encouraged with the response. In about a month

since introduction of the forum, we have had 66 new topics started on the forum with about 246 replies! This is great and I hope the forum continues to encourage more increased sharing and communication. As we have retired the RCA-L elist, please make sure to register on the forum, if you have not already done so. I would like to put in a big word of thanks to all in the forum committee - especially to David Nemo and Larry Godsey for enabling this for us.

Finally, if you haven't already visited the new RCA website - I encourage you to do so. Larry Godsey and Dareth Murray worked very hard to reorganize the website, enhancing the design and organization of content. The result is a great website that is easy to navigate and packed with useful information. The new website is a great way to commemorate the RCA's 20th anniversary.

Clear Skies
Sameer Ruiwale.

CLASSIC TELESCOPES

Discovering the hidden deep-sky treasures of Capricornus the Sea Goat with a Sears 3.5-inch refractor.

By John W. Siple

THE PROMISE of successful deep-space observing is kept when a Sears Discoverer refractor telescope is selected. From the late 1950's through the 1970's, Sears, Roebuck & Co. imported some extraordinary instruments from Japan. Sears' finest telescopes, advertised in their catalog pages as the "Discoverer" series, rival the best made instruments on the market today. They sold 2-inch (50mm) through 3.5-inch (90mm) refractors; the most popular model was a 3-inch with a finely crafted equatorial mounting.

Beginning in 1970, a novel new product, the advanced #6345, was added to the already existing Discoverer series. For an introductory price of \$499.95, the amateur astronomer received an "astronomical scope with a giant 3½-inch diameter objective lens that gathers 165 times more light than the human eye and shows a whole new world of stars that has only been read about." The streamlined "professional model," a masterpiece of the telescope maker's art, was touted as having the ability of magnifying up to 700 times, which was a typical advertising ploy for that time period and rarely realized in actual observing.

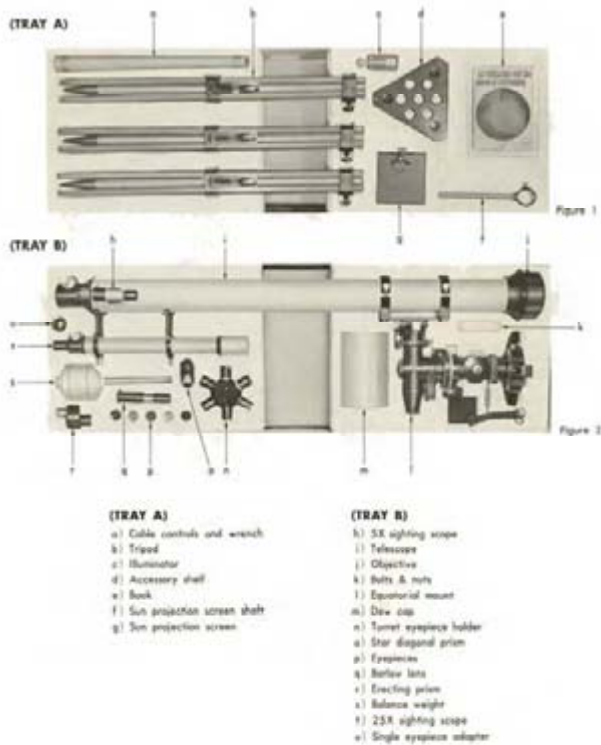


The Sears 3.5-inch F/15.6 (1,400mm focal length) equatorial refractor from 1970-72. The telescope is Sears' finest import from Japan.

The 3.5-inch (90mm) achromatic refractor was manufactured in Tokyo, Japan by the prestigious optical firm of Royal Astro Optical Industries Co., Ltd. (Their reputation for making quality telescopes remains unmatched even today.) The precision engineered Discoverer 90mm was originally intended for distribution in Japan, but Sears acquired all of the 600 prized telescopes for the U.S. market. Its debut created a flurry of keen interest among serious amateurs and sent a clear message to the users of top notch instrumentation that one of Japan's best refractors had now arrived.

Royal Astro Optical Industry employees regard the moderate-sized refractor as their finest effort in telescope making; painstaking care went into the manufacture of every single part down to the tiniest nut and bolt. The coated, air-spaced Fraunhofer-type objective lens was figured by master opticians to tight tolerances, resulting in a lens that is completely free of optical errors and capable of reaching deep into the cosmos with unparalleled clarity.

The classic 90mm equatorial refractor was discontinued just two short years later in the autumn of 1972, when a clearance price of \$299.95 was used to sell the last remaining stock of telescopes. A short period of sales and limited production run, combined with the unusually good mechanical and optical characteristics, has resulted in a very rare, highly collectable instrument. Whenever an example appears on the secondary



The Sears Discoverer stored in its cardboard container. The carefully labeled packing diagram is a useful guide when assembling the big refractor telescope.

(Continued on page 4)

Classic Scopes *(Continued from page 3)*

market, a price of \$1,100-1,500 is usually realized. Of course, this is for a complete, all-original 90mm telescope having a “perfect” (unchipped) objective lens. Each instrument has its own serial number, which is inscribed on the top of the rack-and-pinion focusing mechanism along with the scope’s lens diameter, focal length, and model number.

A supreme example of a Sears Discoverer 90mm refractor telescope, serial number 990112, was used to view the hidden celestial treasures of Capricornus the Sea Goat, a broad star grouping of late summer and autumn nights found hovering above the southern horizon. Capricornus, known by the ancients as the “Southern Gate of the Sun,” is an inconspicuous zodiacal constellation that resembles an inverted cocked hat or boat. The Tropic of Capricorn, or the point on the earth’s globe where the sun is directly overhead at noon during the winter solstice, is derived from this waterborn constellation.

Capricornus lies in a part of the sky known as the “Sea,” a vast area that spans most of the celestial sphere and inhabited by Pisces the Fishes, Cetus the Whale, Hydra the Sea Serpent, and many other legendary creatures of past oceans. In Greek mythology, Capricornus (Capricorn) is identified with the god Pan, who escaped the horrible monster Typhon by metamorphosing himself into the form of a sea goat, a creature with the head of a goat and the tail of a fish. Antiquated star atlases often give a fanciful representation of the “god of Waters.” (See Burritt’s famous depiction below.)

Capricornus, although associated with the water world in mythology, is a true desert for deep-sky observers. It has only one notable star cluster, the globular Messier 30 (NGC 7099) shining at magnitude 7.5, and a very poor selection of faint galaxies that are beyond the reach of the Sears 90mm refractor. However, an enticement for amateur astronomers is a smattering of predominantly gold and blue double stars scat-



Capricornus the Sea Goat as illustrated in Elijah H. Burritt’s star atlas from the early 19th century. During the month of October the zodiacal constellation is on the meridian around 8 p.m.



The naked-eye optical double star α^1 and α^2 Capricorni found in the head of the Sea Goat. This view through the Sears Discoverer 90mm refractor shows the golden tints of the widely-spaced pair along with several of the fainter companion stars.

tered throughout the western part of the constellation. And since the ecliptic passes diagonally through the main body of the constellation, observers can get extended glimpses of the moon, planets, and asteroids.

Alpha-1 (α^1) and Alpha-2 (α^2) Capricorni, known together as Al Giedi or “The Goat,” are located about 20° south-southeast of Altair and in the NW corner of the boat-shaped constellation. Nearby is the radiant of the meteor shower known as the α Capricornids. The attractive naked-eye pair, separated by a whopping 378" or slightly more than 0.1° , is a result of a chance alignment (optical double) of two solar type suns that are not gravitationally bound to each other. The two stars lie at distances of 500 and 100 light years, respectively.

In the Sears Discoverer 90mm refractor low powers work best on this fascinating hybrid system, where 4.3-magnitude Alpha-1 is seen as a yellow orb tinged with orange, while 3.6-magnitude Alpha-2 radiates a soft, pure golden light. Each saffron gem has another easily visible companion star nestled nearby in the eyepiece field. Far more difficult a challenge to split is an 11th-magnitude bluish star centered only 7" from Alpha-2. William H. Smyth (1788-1865), a prominent English astronomer, recorded seeing this elusive attendant to Alpha-2 as “in evanescent flashes, so transient as again to recall Burns’ snow-flakes on a stream.”

A noble field glass triple, also located in the head of the Sea Goat and 2.3° south-southeast of Al Giedi, is Dabih (β Capricorni). At 35x, the Sears 90mm scope shows a strikingly beautiful star system, where a deep blue secondary star of 6th-magnitude circles at a healthy distance of 205" from the 3rd-magnitude yellowish-orange primary. The remaining 9th-magnitude tertiary star sits 227" to the southeast from the brighter main sun. All three stars are again beautifully framed in the Sears 40mm guide refractor at 25x.

(Continued on page 5)

Classic Scopes *(Continued from page 4)*

Following the constellation's outline to about 4° southeast of Beta, stargazers will encounter a pleasing mix of optical double stars that comfortably fit into the same low power eyepiece field. The equilateral triangle formed by the double stars Rho (ρ), Pi (π), and Omicron (\omicron) Capricorni is best viewed in the Sears Discoverer 90mm refractor at magnifications ranging between 50x and 100x, but higher power is needed to clinch a positive observation of Pi's close companion star. Each delightful pair gives the telescopist a different aspect of separation, color, and magnitude.

The star of the group easiest to resolve is ρ Capricorni, where a large gap of 256" separates the two components. In an ocular providing 54x, the 5th-magnitude primary sun looks pale yellow, while the 7th-magnitude secondary star has a definite rust color. Positive proof of the refractor's outstanding performance is given by testing it on π Capricorni, a very difficult challenge since the secondary star glows faintly at magnitude 8.5 and lies at a distance of only 3.4" away from the 5th-magnitude primary. To successfully resolve the tight pair



The planet Neptune was discovered twenty minutes of arc east and 3° north of δ Capricorni on the night of September 23rd, 1846. This remarkable portrait is by James Hastings-Trew.

of white and blue stars in the Sears refractor the magnification must be stepped up to nearly 300x under steady skies. The constellation's beauty queen of double stars is \omicron Capricorni, a flashy pair of 5.9 and 6.7 magnitude suns separated by just over 21". The closely matched pair of blue-white stars is a nice sight in the Sears Discoverer at 82x.

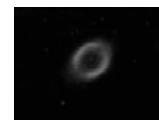
Although not a member of the triad, Sigma (σ) Capricorni, another fine double star located 2.5° southwest from the group's center, deserves honorable mention. This sparkling duo consists of a deep yellow 5th-magnitude primary star and a pale blue secondary star of magnitude 9.2 orbiting a leisurely 55" away. The unequal double lies in an attractive field, where a patch of stars immediately to the south adds to the view.

On the opposite side of the constellation and 0.4° west-northwest of 41 Capricorni is M30, a globular star cluster discovered by Charles Messier in August 1764. The sharply concentrated glow has a diameter of about 5' in the Sears 90mm refractor, but catalogs list a value twice that size. In the refractor at 156x, Messier 30 has an asymmetric appearance because of the presence of several very noticeable stubby arms or "straggling streams of stars" on the north side of the cluster. However, the rest of the globular star cluster remains a mottled mass of milky white light with a central blaze. Astronomer T. W. Webb (1807-85) fittingly described M30: "Moderately bright, beautifully contrasted with 8 mag. star beside it. Comet-like on 64x. With higher powers, resolvable."

Fortunate indeed is the amateur astronomer who has the controls of a Sears Discoverer 90mm equatorial refractor telescope at his or her fingertips. Mechanically sound and optically perfect, this Sears import from Japan is at the forefront of a modern day classic telescope gold rush. Never before has a refractor telescope had such an impact on those who like astronomical equipment from the recent past. Hidden treasures lie not only in the constellation Capricornus, but also in the closets, attics and basements of amateur astronomers, where fine examples of these 90mm telescopes from yesteryear await another chance to collect light from distant stars and galaxies.



Messier 30, a globular star cluster found in the eastern part of the constellation near the 5th-magnitude star 41 Capricorni. This dense collection of suns lies at a distance of 27,000 light years. Photograph courtesy of Daniel Verschatse.



M74 and M77

For the most part the only times I've been excited about observing M74 and M77 have been during a Messier Marathon. Both of these galaxies are nearly unobservable during late March because they set before the sky is truly dark, making their observation more an exercise in extreme detection. They're the first two Messier objects to check off your marathon list, otherwise you have no chance to see the entire list in one night.

I've only seen M74 and M77 in a dark sky a couple times over the years and I've been overdue for quite awhile for another good look. Unfortunately, they're best placed for observing when our weather is usually at its worst so the opportunity often passes. However, staying up late during the August or September new moon is the next best thing and I took that opportunity at this year's Oregon Star Party.

I went after these two galaxies early on Saturday morning, August 30, when the sky was typically OSP dark and transparent. The seeing was quite steady and the light breeze from earlier in the evening had mostly died down. With M74 in Pisces and M77 in Cetus they were both well placed (3am to 4am) so overall the conditions for observing were ideal. Also, I was pumped up about all this, so I was primed for a good look at these two galaxies. Here's what I saw:

M74



M74 sketch, 28" f/4 at 251x.



M74 DSS image.

Notes made at the scope:

"Wow, what a terrific face-on spiral galaxy in a dark sky! The tight core with a star-like nucleus has an equally bright star near it (supernova?). Two main spiral arms with two HII or star clouds also stand out well giving the arms great personality. Best at 251x, 3:36am."

First of all, the star near the core isn't a supernova as I conjectured in my notes, but it sure looked like it might be! You can see the same star in the DSS image by looking closely at the core area. Dang.

Whenever I make a sketch of a Messier object I like to compare it to the sketch made by Stephen James O'Meara in his book *Deep-Sky Companions: The Messier Objects*. Very often his sketch, made with a 4" refractor, shows as much as mine made with a 28" reflector. That hardly seems fair, but then O'Meara is renowned for his exceptional observing skills, plus he put several hours of observation into each of his Messier object sketches.

In this case my sketch shows more, but not by much. If you have O'Meara's book, turn to page 211 to check it out. All things considered I'm happy to see as much as I do in about a half hour as O'Meara does in several hours – but then I wouldn't mind living in Hawaii like he does...

(Continued on page 7)

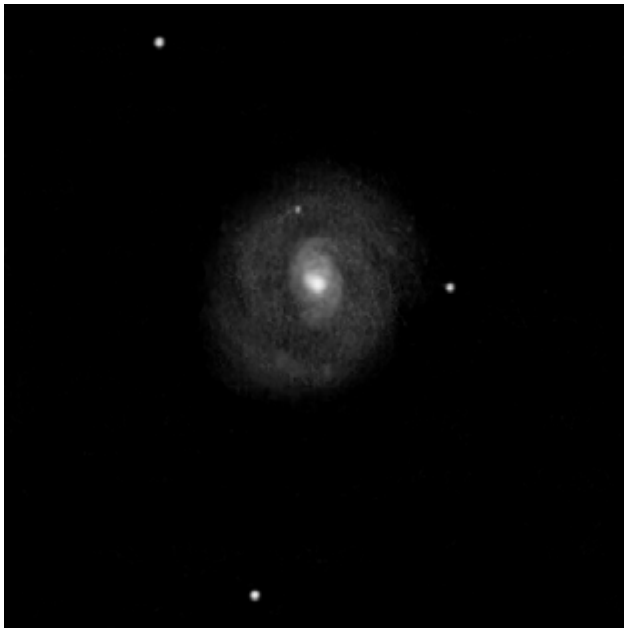
The Observer's Corner (Continued from page 6)

My observing technique is to examine an object at wide range of magnifications to see what each power can reveal, and then to settle on the magnification that shows the most detail. I start my sketch at this point and if needed I'll shift the power up and / or down to help finish the sketch. I'll increase the power if there's a part of the object that can benefit from it, and decrease the power to help put the object into a better context with its surroundings.

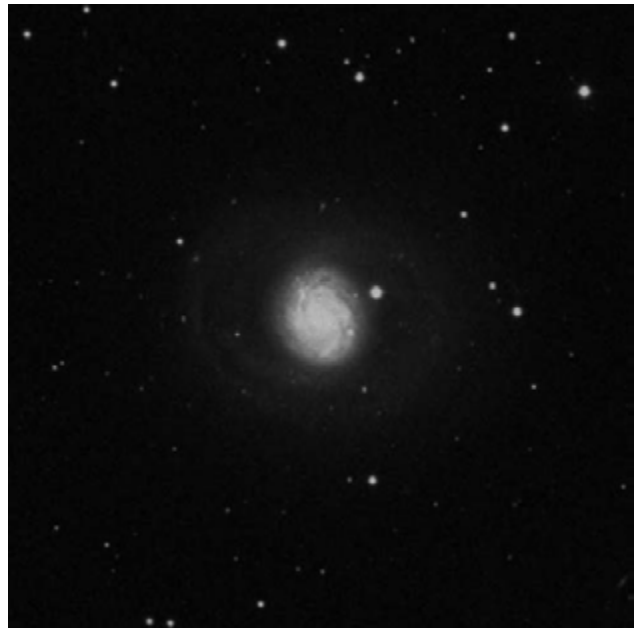
I'll clean up my eyepiece sketch a little the next day when I can see it in daylight and I'm well rested. That involves making the stars rounder as I tend to draw them as short dashes at the scope, and to blend areas of nebulosity to more closely resemble what I saw in the eyepiece.

To get the sketches as they're shown in this article I scanned the originals into Photoshop to clean up any marks that weren't part of the sketch, perhaps do a little more blending, then make the stars rounder still, and then finally invert the sketches into the negative and more realistic images seen here.

M77



M77 sketch, 28" f/4 at 467x.



M77 DSS image.

Notes made at the scope:

"M77 is about 1/4th the apparent size of M74 but it's much brighter. The bright star-like core is embedded within an elongated whirl that looks like a planetary nebula. The outer portion of the galaxy is the faintest part but also shows some spiral action with a few HII/star cloud highlights. Best at 467x, 4:12am."

The listed size of M74 is 10'.5 x 9'.5 compared to M77 at 7.1' x 6'.0 so my perception of their apparent sizes shows how different a visual estimate can be from a photographic measurement.

I was immediately struck at how much like a planetary nebula the core of M77 looked and it took a minute or two for the much dimmer outer spiral arms to come into definite view. The bright core took magnification well which should mean that medium size scopes should get a nice view under good conditions. This is confirmed by O'Meara's sketch (page 218 in his book) which is just about as detailed as mine.

Even though I didn't spend hours observing each of these galaxies like O'Meara did, the time I did take to sketch them helped me see more details than I would have seen otherwise. As a general rule I'll make a sketch of an interesting object if it's within my ability to do so. My motivation to sketch is not only to see the most that I possibly can during an observation but to also to have a permanent record of what I saw, and that's a big part of what makes my notes my most prized possession.

M74 and M77 are no doubt under-observed by those of us in the Pacific Northwest because of our usually very cloudy and wet Autumn weather. Hopefully we'll get a few breaks this year and we'll have a chance or two to see these galaxies during their true prime observing time.



THE LAST LUNAR ECLIPSE OF 2008 VIEWED FROM MENDOZA, ARGENTINA

*The eclipse on August, 16 was a partial one.
From Mendoza we could see the last moments of this phenomenon*

Report by Leo Cavagnaro

We had two lunar eclipses this year. The first one was a total eclipse that occurred on February, 20th and was visible from the Americas. On August, 16th there was a partial eclipse.

This was the number 29 of 83 eclipses of Saros Series 138. This Series began with a small eclipse on October, 5 1503 and it will end with a small eclipse on March, 30 2982. The eclipses of this Series occur in the Moon's ascending node. At the time of this phenomenon, our satellite was in Constellation Capricornus, near the border with Constellation Aquarius.

satellite rose at 7:07pm local time (UT-3hours). Moreover, the eclipse ended when the Moon was at only 6.5 degrees of altitude. For those reasons we needed an East horizon without big trees or buildings.

The Observation from Mendoza, Argentina



I took this picture with my Canon A570 IS digital camera at 7:19pm local time, with the Moon very low in the sky.

Yes, it was a rainy and gray day in Mendoza Saturday morning. All of us thought it would be impossible to drive to a place some miles away from Mendoza city to observe the last minutes of the eclipse, with the Moon partially immersed in the umbral shadow. We waited until 7pm to see if it would be possible to aim our binoculars, digital cameras and telescopes toward the East. But why drive so many miles away to see a lunar eclipse? Well, because from Mendoza (latitude -32.9 longitude 68.8W) we saw the eclipse in progress when our



Picture of the eclipse taken with a digital camera using eye-piece projection with an 8-inch telescope working at low magnification

It was mostly cloudy at 7pm. However, we could see a clear eastern sky from our observing site situated 15 miles North of Mendoza. The picture here was taken at 7:26pm local time, 18 minutes before the umbral phase ended.

The Moon's trajectory took it through the northern umbral shadow, resulting in a partial eclipse that lasted 3 hours 8 minutes. However, it was a short phenomenon for observers situated in the west region of our country. We could see the eclipse for only 37 minutes (7:07pm to 7:44pm)

Greatest eclipse took place at 6:10pm local time (9:10pm UT) when the eclipse magnitude reached 0.8076.

From these geographical coordinates the Moon was below the horizon for us at that moment. At 7:44pm local time the Moon left the umbra and we saw the usual appearance of a

(Continued on page 9)

Lunar Eclipse (Continued from page 8)

bright full Moon. Astronomically, the phenomenon finished at 8:55pm local time (11:55pm UT), when the Moon left the penumbral shadow.

In spite of the low temperatures at the observing site (41F) we enjoyed this amazing astronomical phenomenon. There are four lunar eclipses next year. Three are penumbral eclipses and the last one is a partial eclipse.



Physicist Lawrence Krauss to speak at OMSI 7 p.m., Tuesday, Oct. 14.

The new Center for Inquiry Community of Portland is pleased to welcome physicist Lawrence Krauss to speak at its kickoff event at the Oregon Museum of Science and Industry at 7 p.m., Tuesday, Oct. 14. Dr. Krauss is Foundation Professor in the School of Earth and Space Exploration and Director of the Origins Initiative at Arizona State University. He will present his ideas on how scientific discovery enhances our experience and understanding of the world, and how “anti-science” thinking is threatening our common good.

“Most people think that science is something that other people do, something separate from everyday life—and they think that’s OK,” said Krauss. “But it’s not OK. Whether we’re talking about the environment, energy policy, economic competitiveness, or even national security, almost all of the major challenges we face as a society have a scientific or technological basis.”

Krauss, an acclaimed teacher, lecturer, and prominent theoretical physicist, will talk about the way the public’s scientific literacy—or the lack of it—is affecting policies about global warming, missile defense, stem cell research, and evolution/science education. The talk will be a look at the fascinating discoveries and advances

of modern science as well as a discussion of the dangers facing our society if we fail to grasp what science teaches us about ourselves and our world.

“We don’t need a nation of physicists,” Krauss explained, “but if we’re going to solve these problems, we do need citizens and leaders who at least understand the values and methods of science.”

This event, “Science, Non-Science, and Nonsense: From the Classroom to the Capitol,” celebrates the kickoff of a new local advocacy group: The Center for Inquiry Community of Portland. CFI Portland is an educational nonprofit organization created to advance science, reason, and freedom of inquiry in all areas of human endeavor. Through outreach, social services, and public events such as this, the new CFI Portland promotes critical thinking and science education while providing a positive, rational, and ethical alternative to the reigning paranormal and religious systems of belief.

The event is FREE and open to the public. For more information, visit www.centerforinquiry.net/portland. To arrange an interview with Dr.



Krauss, please contact Lauren Becker, 716-636-4869, ext. 406.

Lawrence M. Krauss, cosmologist, is Foundation Professor in the School of Earth and Space Exploration and Director of the Origins Initiative at Arizona State University. He is an activist for the public understanding of science and is on the steering committee of ScienceDebate2008.

The Center for Inquiry/Transnational, is a 501(c)(3) nonprofit, educational, advocacy, and scientific-research think tank based in Amherst, New York, with additional outreach communities in dozens of cities throughout North America. The Center for Inquiry’s research and educational projects focus on three broad areas: religion, ethics, and society; paranormal and fringe-science claims; and medicine and health.

The Center’s Web site is <http://www.centerforinquiry.net>.



BOARD MEETING MINUTES

September 8, 2008

OMSI Classroom 1

Margaret Campbell-McCrea

Attending: Dave Nemo, Greg Rohde, Sameer Ruiwale, Jan Keiski, Ken Hose, Margaret Campbell, Larry Godsey, Dale Fenske, Patton Echols

Meeting called to order at 7:15 p.m.

Officer Reports:

- Secretary: A quorum has not been met; nine voting members attending.
- Treasurer: Financial activity was nominal in August. The Club has \$21,022.12 in current assets and the Site Fund has \$18,851.13.
- Programming: September's program will cover the Allan Array's SETI in auditorium. The speaker is Seth Shostak.
- Observing: There was discussion of the mistake regarding the date of the star party at Stub Stewart Park. In spite of the unforeseen problem, we were able to recover, and 25 RCA members attended and showed the night sky to about 70 people. On the same night, OMSI had its final star party of the season at Rooster Rock. Jim Todd reported to the Club that about 25 scopes and many RCA members came, with over 350 people coming out to view through their scopes. He was very pleased with the way this year's observing season has gone.
- We discussed the idea that it might be good to have two star parties on the same night, giving eastsiders and westsiders a chance to go to either. Sameer will talk to Jim Todd about having events on both sides of the city.
- Community affairs: We have been contacted by a film crew that wants a "guide to the sky" for a documentary about kids and nature. It would apparently involve having someone at a star party working with kids. The Board expressed interest in the project, and asked Patton Echols to learn more about it.
- Also, Lawrence Kraus wants RCA to help publicize a talk that he is giving, on physics at the Science in the Public Interest lecture. (I missed this point - - can someone clarify?)
- Media Director: Nominal.
- Membership: There were 6 new members and 16 renewals in August. We have 229 paid up members; last year we had 179. \$498 in dues was received.
- New Members: No report.
- Sales: \$254 was collected in August.
- Library: Nominal.
- Telescope Library: Nominal.
- IDA: No report.
- Magazine Subscriptions: Nominal.
- Webmaster: No report.

- Site Committee: Nominal.
- Youth Director: No report.
- SIGs: No report.
- ALCOR: Dale got the roster too late to add recent members, but they will be added for the next Reflector.
- OMSI: We'll meet in auditorium for future meetings until May 2009.

Old Business

- Forum/eList transition: Dave Nemo reported being pleased with the transition so far. Sameer had gathered some statistics between August 9 and September 4: 70 new topics have been created, and there have been 400 or more posts. That is all much better than we've had on the email list.
- Nevertheless, 120 people still haven't signed up and not all of the Board have participated as they should, even though they are all signed up. Also, Board members can and should send out global messages to the whole club, about things like changes in meeting dates or searches for volunteers. Dave agreed to send out instructions to the Board members on how to do that. We agreed to send one more broadcast message reminding members to sign up. For those who do not, we'll contact them and sign them up. Also, after September's meeting, we will drop those who have not renewed their membership. Ken will send out broadcast message to member list reminding them to renew or they will be dropped. The last day of September will be the cut-off date for the old email list.
- Press Release and/or article on Christina Lee: Not done.
- Article for the Reflector on Sister Clubs: The deadline for submission is October 15, and Margaret will meet that deadline. She will circulate the article to the Board before sending it in.
- Youth Program: Jan has set aside books for Jeanie for the Youth Program.

New Business

- November Meeting: The November meeting will be in the auditorium, not the IMAX theater.
- Elections: We need three Board members and three general RCA members to create a nominating committee: Margaret, Dale, Greg volunteered. We will send out a broadcast message to RCA for three more members. We must have a slate of nominees by the October meeting, and elections in November. Sameer will send out message to club asking who wants to continue their position, or change it.
- Starlight Parade: Sameer suggested getting started on the project early. Margaret will send Andy Phelps a message asking him if he wants to chair this activity in 2009. The first steps will be to form a committee and propose a budget.
- Harriet Tubman Leadership Academy for Young Women is looking for guest speakers and ideas for activities for their 8th grade science course this fall. We have a precedence of doing star parties at schools and providing speakers, but it seems they want more, including a person for a couple hours per week to

(Continued on page 11)

Board Meeting Minutes (Continued from page 10)

work with a science club. Patton said he has something like this before with the SUN program for five week in summer about one hour a week. After some discussion, we agreed that Sameer will write back for more specifics. Margaret expressed interest in learning more about the project.

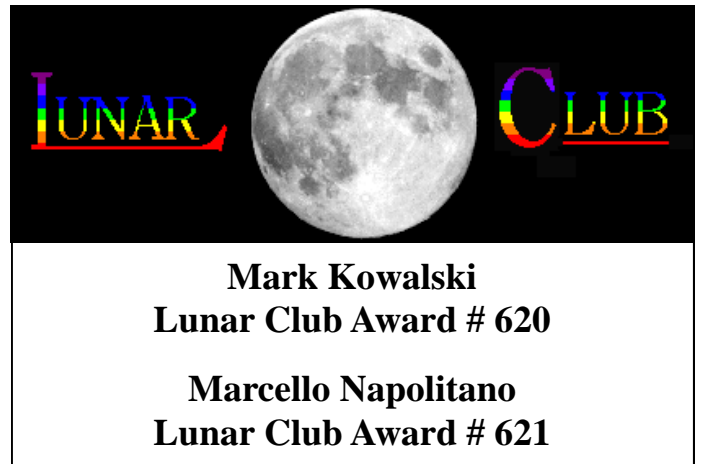
- Astronomy Display Grant at Multnomah County Library: The library is applying for a grant to sponsor a "Vision of the Universe" exhibit. The application asks for local partners, and they asked us to be a local partner. We will allow them to reference us as a partner for speakers and activities, but at the moment there is no need to have these planned out. Sameer will write a letter to them by 9/19 giving general support and assent; Sameer will put the application on the Board Forum.
- Bylaws: Tabled.

Meeting adjourned 8:40p.m. The next Board meeting is on 10/06.

Action Items:

1. Sameer will discuss the idea of joint or overlapping or simultaneous star parties with Jim Todd.
2. Patton Echols will learn more about the filming project.
3. Dave Nemo will send out instructions to Board members about how to send broadcast messages to the club.
4. Ken will send broadcast message reminding people to renew their membership or they will be dropped after the September meeting.
5. Dave will send a broadcast message reminding people to sign up for the Forum.

6. Margaret will write article on sister clubs for Reflector and will circulate it to the Board before submitting it.
7. Sameer will send out message to club asking who wants to continue their position, or change it.
8. Margaret will contact Andy Phelps about chairing the Starlight Parade project.
9. Sameer will reply to Harriet Tubman Leadership Academy about what they are looking for. He will forward Margaret Campbell's contact information.
10. Sameer will write a letter to Mult. Co. Lib. by 9/19 giving general support and assent; Sameer will put the application on the Board Forum.



OMSI HOSTS 16th ANNUAL "WHAT WILL WINTER BE LIKE" AMS MEETING FRIDAY OCT. 24

Prognosticators to Give Weather Outlooks for Upcoming Winter

Weather experts from the Oregon chapter of the American Meteorological Society (AMS) will gather at the Oregon Museum of Science and Industry (OMSI) on Friday, Oct. 24, 2008 from 10 a.m. to 12 noon for the 16th annual "What Will the Winter Be Like" meeting. The event is held in the OMSI auditorium and is free and open to the public.

"Will we have another La Nina this winter?" ponders Oregon-AMS president Kyle Dittmer. "We haven't seen a back-to-back La Nina since the 1970s - we're way overdue. Perhaps we'll just have a 'normal' winter, whatever that means anymore."

Experts in the field of weather will talk about the forthcoming winter. Mark Nelsen, KPTV meteorologist, will give a review of the past winter in the Pacific Northwest.

This year's speakers include: Steve Todd, Meteorologist-in-Charge, NOAA-National Weather Service Portland, Kyle Dittmer, Hydrologist-Meteorologist, Columbia River Inter-Tribal Fish Commission Portland, Pete Parsons, Meteorologist, Oregon Department of Agriculture, Salem, and George Taylor, Climatologist, Applied Climate Services LLC, Corvallis.

About Oregon AMS

The Oregon Chapter of the American Meteorological Society is the local arm of the national organization that promotes the use and understanding of meteorology in the Oregon and Southwest Washington area. New members are always welcome to join the Oregon AMS; information on membership will be available at the meeting.

<http://www.ametsoc.org/chapters/oregon/index.html>



NASA Image

Extreme Starburst

by Dr. Tony Phillips



A star is born. A star is born. A star is born... Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436. Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy,'" says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."

Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capak. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a



The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.

youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme

starburst. The merging galaxies must be pretty large."

Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile... A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at www.spitzer.caltech.edu/Media/mediainages. Kids can play the new Spitzer "Sign Here!" game at spaceplace.nasa.gov/en/kids/spitzer/signs.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years.

The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through checkout at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



Science Special Interest Group (SCI-SIG)

Next meeting is October 11 at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rosecityastronomers.org/sigs/science.htm>

Tom Nathe <sigs@rosecityastronomers.org>

RCA SIG coordinator

Telescope Workshop

When: Saturday, October 11, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.

6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, October 22, 7 PM.

Topic: "Indian Physicists' Night (with food)"

Presented by: Sameer Ruiwale

Place: Linus Pauling Complex,

3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)

or Dareth Murray, (503-957-4499).

<http://www.rca-oms.org/cosmologysig.htm>

RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rca-oms.org>).

The location is announced on the RCA general email discussion list. Information on how to join this list is at <http://www.rca-oms.org/emaillists.htm>

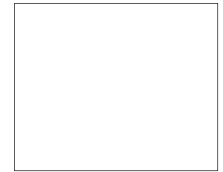
Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlinc.com



Photo by Jan Keiski

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3354



OCTOBER 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

October 2008

Oct 3	Fri	Downtowner's Luncheon	Kell's	Noon
Oct 6	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Oct 11	Sat	Telescope Workshop	Swan Island	10am-3pm
Oct 11	Sat	Science SIG	Swan Island	3pm
Oct 13	Mon	Astro Imaging SIG	Beaverton Public Library	6:30pm
Oct 20	Mon	General Meeting	OMSI Auditorium	7pm
Oct 22	Weds	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm
Oct 24	Fri	AMS Winter Forecast	OMSI Auditorium	10am

November 2008

Nov 3	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Nov 7	Fri	Downtowner's Luncheon	TBD	Noon
Nov 15	Sat	Telescope Workshop	Swan Island	10am-3pm
Nov 15	Sat	Science SIG	Swan Island	3pm
Nov 17	Mon	General Meeting	OMSI Auditorium	7pm
Nov 19	Weds	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Message Line: (503) 255-2016
 Web Site: <http://www.rca-oms.org>

The

Rosette Gazette

Volume 20, Issue 11

Newsletter of the Rose City Astronomers

November, 2008



RCA NOVEMBER 17 GENERAL MEETING

Earth as an Extrasolar Planet

Presented by Tyler D. Robinson, M.Sc.

Astrobiology is the study of the origin and evolution of life in the universe. One particular area of research encompassed by astrobiology is the detection and characterization of extrasolar planets. Missions like NASA's Terrestrial Planet Finder and ESA's Darwin will have the capabilities to detect and characterize extrasolar terrestrial planets, but these will not launch for another 10-20 years. Fortunately we have already discovered a terrestrial planet of particular interest to astrobiologists: Earth.

On three occasions within the last year, NASA's Deep Impact flyby spacecraft, which is now part of NASA's EPOXI mission, turned its instruments towards Earth, allowing us to study our planet in a manner similar to how we will eventually observe extrasolar planets. For each date of observation, visible images and near-infrared spectra of Earth were taken over a period of 24-hours. The preliminary results obtained from these data will be



Courtesy NASA Glenn Research Center

discussed as well as ongoing efforts to simulate the observations.

Tyler D. Robinson is a Research Assistant and Ph.D. Student in the Astronomy Department and Astrobiology Program at the University of Washington

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
- Large Hadron Collider
- 3 .. Rich Field Telescopes
- 5 .. The Observer's Corner
- 8 .. Astro League Awards
- 9 .. Home Observatories
- 11. Oct. Board Minutes
- 13. Telescope Workshop
- Magazines
- RCA Library
- Science SIG
- Cosmology SIG
- Downtowners
- 14. Calendar



RCA is a member of the Astronomical League.
<http://www.astroleague.org>

All are Welcome! Monday November 17

Social Gathering: 7 pm. Meeting Begins: 7:30 pm.

Location: OMSI Auditorium

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

First Quarter Moon
November 5

Full Moon
November 12

Last Quarter Moon
November 19

New Moon
November 27



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	Jean London	youth@rosecityastronomers.org	503-642-4831

The Large Hadron Collider

The Search for the Shaman Neutrino

By Robert A. Mc Gown



With the great advances in particle physics research, a consortium of universities has completed the construction of the largest microscope on Earth. This powerful new instrument in Geneva is known as the Large Hadron Collider (LHC). Groups of scientists from Oregon are participating in the bending and breaking apart of particles to uncover the underlying principles of reality and the universe at Geneva as well as at Pine Mountain Observatory.

Five thousand engineers and scientists have participated in the engineering, design, and construction of the LHC. In years past, while in the U.S. Navy, I had the opportunity to conduct research in various areas of physics. Dareth Murray and I had

the opportunity to travel to CERN during the 2002 transit of Venus event, which we observed at Lugarno and Zurich. The completed accelerator ring of the LHC is 27 kilometers in diameter. This instrument is capable of measuring many fine perturbations in the quantum field. The ground itself near CERN rises a full 25 centimeters at high tide at Lake Geneva, which is a beautiful place to visit.

Working with the physicists, engineers, and mathematicians of the Or L5 LBRT on black holes on the Moon, Walden, Billings, York, and I used Brookhaven research data to analyze moon soil for berms, radiation shielding, and the analysis of

(Continued on page 9)

RICH FIELD TELESCOPES REVEAL THE SECRETS OF THE AUTUMN NIGHT SKY

By John W. Siple and Tim McKechnie

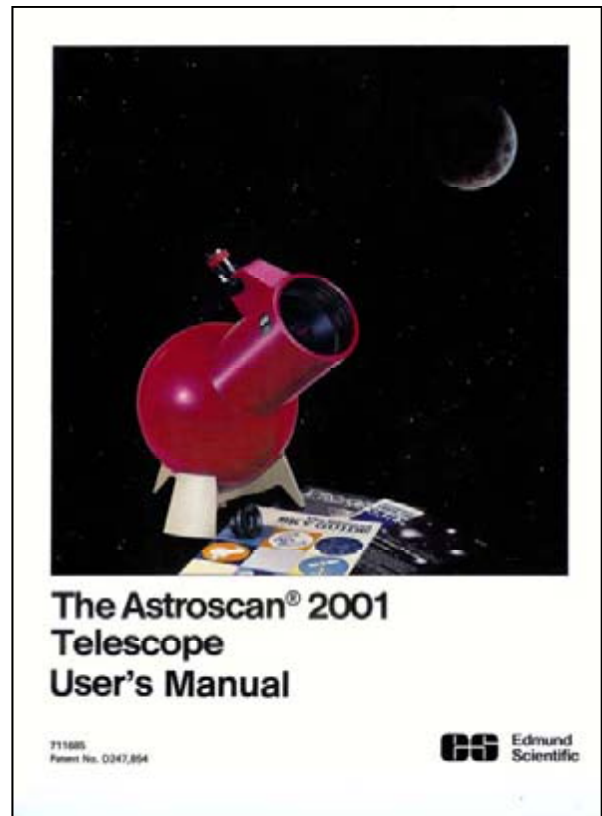
CELESTIAL ICONS of the autumn night sky, those elegant deep-sky objects with familiar names like the Double Cluster and the Great Andromeda Galaxy, possess an ethereal quality when seen in wide field instruments. Rich Field Telescopes (RFTs) are special purpose refractors and reflectors designed for one purpose—to show the widest, brightest fields and the most stars possible. They have some of the advantages of binoculars and therefore cover large swaths of the night sky. RFTs operate best at low power and away from major metropolitan areas, where the amount of sky coverage allows the amateur astronomer luxurious views of extended deep-sky objects and star fields.

In general, a Newtonian or refractor with a focal ratio of F/5.6 or less falls under the heading of a Rich Field Telescope. However, a vocal majority of amateur astronomers do not consider anything over F/5 to be a true RFT. Factors that influence the final choice of a Rich Field Telescope are ultimately dependent upon what aperture and magnification will show the greatest number of stars, a process known as star counting. The optimal RFT with a good, bright, wide field and the highest star count has an aperture of 3- to 6-inches and incorporates an eyepiece that provides about 21x. They are solidly built with few complications and many of the refractor varieties can be used as spotting scopes for day as well as night time observing. As a consequence, these scopes travel well to star parties and dark-sky sites. Their portability also makes them amenable for impromptu day trips; some brands can be stored in a camera bag or rolled up in a blanket.

Since low power eyepieces are frequently being used, RFTs are virtually immune to atmospheric turbulence. Spectacular vistas of nebulae, star clusters, and galaxies are obtained with the proper choice of a wide angle eyepiece. However, Rich Field Telescopes are not well suited for large lunar and planetary images or splitting close double stars; most only give sharp, crisp images up to about 25x per inch of aperture. All fast designs are prone to astigmatism and especially to coma, image destroying aberrations that can ruin an otherwise effective optical system. Specialized coma correctors, such as Tele Vue's popular Paracorr and the now discontinued (and coveted) Pretoria eyepiece from University Optics, help to alleviate that unfortunate malady in fast Newtonian reflectors.

Over the course of telescope history there have been many makers who have built and sold RFTs. Cave Optical Co.'s dual-capability 'Lightweight' 8-inch F/4.5 RFT from the 1970s (shown on next page) gracefully combines all of the features most sought after by deep-sky observers: ease of use, fine optics, and a solidly-built equatorial mounting with tracking capability. Celestron's extremely popular orange Comet Catcher, a 5.5-inch F/3.64 Schmidt-Newtonian, is perfect for sky sweeping and hunting down comets. Jaegers,

Inc., a major supplier of lenses and telescope parts to the amateur astronomer and a regular advertiser in *Sky & Telescope* magazine, offered 5-inch F/5 kits for wide angle views. A larger 6-inch achromat with more light gathering power was available for a slightly greater cost. The Optical Craftsmen and Coulter were also major players on the RFT scene, while smaller companies, such as Tuthill with its appealing 4-inch F/4 'Star-Trap,' attracted a growing crowd of enthusiastic deep-sky observers.



The famous Astroscan® 2001 Wide Field Telescope.

Today there are many Rich Field Telescopes on the market from just about every manufacturer. Orion, Celestron, Bushnell, and Meade all offer scopes with a tremendous ability in tracking down elusive objects. First among affordable RFTs is the Edmund Scientific Astroscan® 2001 Wide Field Telescope. This little red 'bowling ball' of a telescope with an aperture of 4¼-inches has been on the market since 1976 and is synonymous with Rich Field Telescope. The award-winning compact design is very solid and rugged, so handy it overcomes any minor inconveniences. Because of its construction, the Astroscan® is very simple to operate and is virtually indestructible. As such, it is an ideal 'first telescope' for the entire family, beginning students, or as a handy and reliable traveling piece.

(Continued on page 4)

RFTs (Continued from page 3)

Once you have the RFT of your choice, navigating the heavens above is remarkably easy, since nothing more than pointing the telescope in the right direction is required. A red dot finder can make locating objects easier for beginners and is a useful addition to the amateur astronomer's optical tool kit.

Even though a larger Rich Field Telescope gives glorious views of the night sky, there are some things that even the biggest scopes just cannot see. Bigger telescopes will show fainter stars but have narrower fields of view. The Double Cluster, for example, shows a great many stars in a 16-inch reflector but not all at once. You have to scan around a large area many eyepiece fields wide to see it all. And it's hard to take in its full grandeur when you cannot see all of it in one assembly, so-to-speak.

The observer's choice of an eyepiece is critical, since an RFT's potential is essentially wasted by picking a type that gives an insufficient amount of sky coverage. The ideal eyepiece size will be between 28mm and 35mm and one that gives an exit pupil of about 7mm.

Traditional cost effective Ramsdens, Kellners, and Huygenians give myopic views of the starry sky in an RFT; more expensive Erfles, Königs, Radians, and Panoptics are better with 60-70° apparent fields of view. Plössls and Orthoscopics may give sharp images but still have limited fields of 45-50°.

A variety of trustworthy space-age designs are now available for purchase in the marketplace. Naglers and related spinoffs sport huge 82° or more AFOV, while the new Ethos with its unprecedented 100° or 'triple-digit' apparent field—the long awaited answer to the astronomer's call for a picture window into the universe—provides deep-sky observers with an exhilarating, unforgettable spacewalk experience. The final choice of ocular ultimately depends on the user's pocketbook—what an amateur astronomer is willing to spend to bring the universe to his or her doorstep.

Great treasures of the autumn night sky abound for owners of Rich Field Telescopes. Some all-time favorites and sure bets to attract long lines at star parties are the Andromeda Galaxy M31



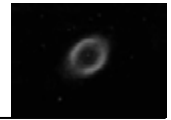
and its two nearby companions, the grand Pinwheel Galaxy in Triangulum (M33), the remote island universe NGC 253 in Sculptor that reminds observers of a glowing silver coin, and the incomparable Double Cluster in Perseus.

Not to be missed in an RFT are the open star clusters NGC 7789 in Cassiopeia and NGC 752 in Andromeda with their hordes of minute stars. In the constellation Pegasus, major attractions are the compact globular star cluster M15 and the tilted spiral NGC 7331; while toward the south in Aquarius the rich swarm of suns M2 calls out for attention. Countless other deep-sky targets can be found by consulting sky guides.

Rich Field Telescopes are excellent supplementary optics for owners of big aperture scopes who want something that can be grabbed off the shelf in a hurry during periods of clear weather. They are perfect instruments for eclipse chasers who must travel light when flying to remote locations throughout the world. The Milky Way is seen at its best in an RFT as well as the large galactic clusters and the occasional comet. But the real value of an RFT is for those objects that simply cannot be seen to advantage with any other instrument. Like a good pair of binoculars, an RFT should be in every observer's optical tool kit.

THE DOUBLE CLUSTER IN PERSEUS This pair of 5th-magnitude open clusters below is visible to the unaided eye as a hazy patch embedded in the Milky Way. NGC 884 (Chi Persei) is the cluster at left, while slightly richer and more impressive NGC 869 (h Persei) is shown at right. Photograph courtesy of Tom Matheson at <http://www.guidescope.net/index.htm>





21.95

"The widely accepted value for sky brightness at the zenith at a site completely free of man-made light sources and near solar activity minimum is: V mag. 22.0 per square arc second"
Brian Skiff (1.)

The drive to Steens Mountain from the Portland area takes about 8 hours, with the last hour and a half - about 18 miles - on one of the worst washboard gravel roads anywhere. Those 18 miles are awful; vibrating and shaking every part of your vehicle, telescope and dental work way more than going 10 miles an hour has any right to do.

But a few miles of crummy road is a small price to pay for the potential of super dark and transparent skies that this remote high desert fault block mountain is known for, and on the night of September 29-30, 2008 the Steens Mountain night sky more than lived up to its reputation.

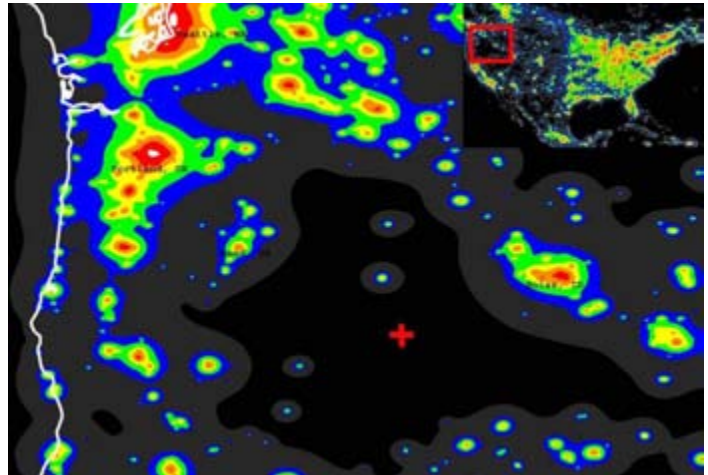
.....
Late September to early October is often the best time of year to go to Steens Mountain. The weather can produce long stretches of clear skies, the Aspen are near their peak color and generally the desert mountain scenery is at its finest. Plus, there are few people camping on the mountain so there's plenty of elbow room giving a true experience of solitude and quiet. It's one of the great environments of Oregon and retains most of its natural, wild character, becoming my favorite place since my first trip here in 1991. This year I joined my friends Chuck Dethloff and Bill Jameison for three nights of observing near the Fish Lake campground at 7500 feet altitude.

"The optimum altitude range seems to be from about 1500 up to perhaps 3000 meters (5000 to 9000 feet). Below 1500m, the amount of crud increases dramatically, and above 3000m most people have at least mild effects from lack of oxygen." Brian Skiff (1.)

Chuck arrived in the late afternoon of the 29th just as I was finishing setting up my scope. Bill had arrived the day before and already had one great night under his belt. We were set up on the south side of a low ridge that borders Fish Lake that had expansive views all around with the Steens summit in view to the south. Groves of Aspen trees in various shades of green to bright orange dotted the slopes of the high desert mountain terrain, all of which were highlighted by the dark blue late afternoon sky - wonderful.

Bill was ready with his 16", Chuck had his 24" scope set up before it got dark and I was ready to go with my 28", so everyone had time for dinner. Once twilight was over and the observing began it was apparent that we had a top-notch Steens Mountain night on our hands.

"The Australian Outback, the coast northwest of Perth, the Chilean observatory sites, and isolated places in the US Southwest, plus many others have sky brightness negligibly different from the natural background, which sets a fundamental (and more-or-less inescapable) limit on how dark a site can be."
Brian Skiff (1.)



Steens Mountain is marked by the red cross. Note in the USA inset that it's about as far from light pollution as any place in North America.

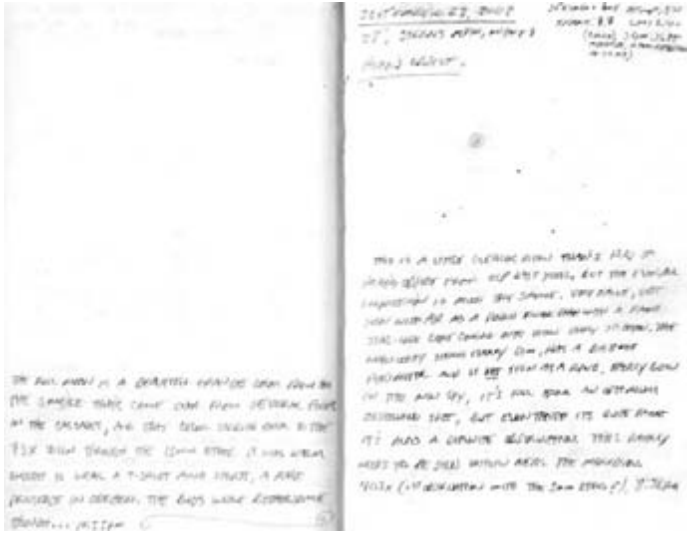
We had almost 9 hours of dark sky and as anyone who has stayed up all night this time of years knows, the evening has the summer Milky Way blazing in the southwest, and the morning sky has Orion approaching the meridian. It's a fascinating transformation to see three seasons worth of constellations march overhead in one night.

I could tell the sky was exceptionally dark and transparent with my first observation, Hoag's Object. Only about 25 degrees above the horizon this was still my best view of this small and faint ring galaxy. It looked very much like a small and faint planetary nebula with a round, fuzzy body and a tiny star-like core. I'm still wondering if I could have discerned the ring shape if it had been near the meridian.

The seeing was moderately steady at this point as I used 408x to sketch Hoag's Object. It stayed at this level for most of the night, tailing off just a tad toward dawn.

After a few familiar objects to further gauge the sky's transparency I moved the scope higher in the sky for a look at NGC 6781, a terrific planetary nebula. I've observed it many times but it looked denser, more complete which made it a pleasure to sketch. The planetary is quite round but not a complete circle, reminiscent of Comet Holmes last year. The central star was a bit on the faint side but a definite direct vision sight.

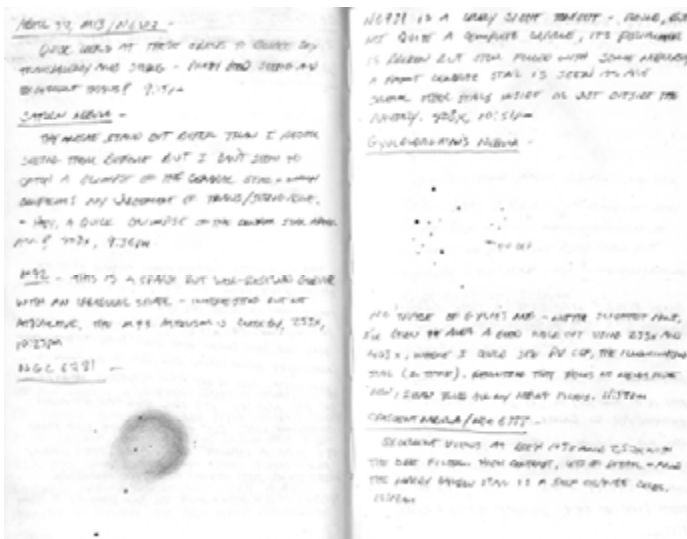
(Continued on page 6)



1st page of my notes from September 29-30, 2008. The first entry is of Hoag's Object, a ring galaxy in Serpens. The notes at the bottom of the left page are a description of a

My next target was Gyulbudaghian's Nebula in Cepheus. Recent observing reports posted on the amastro email list indicated it had completely faded from view so I gave it my best shot. I also came up empty – not a trace of nebulosity.

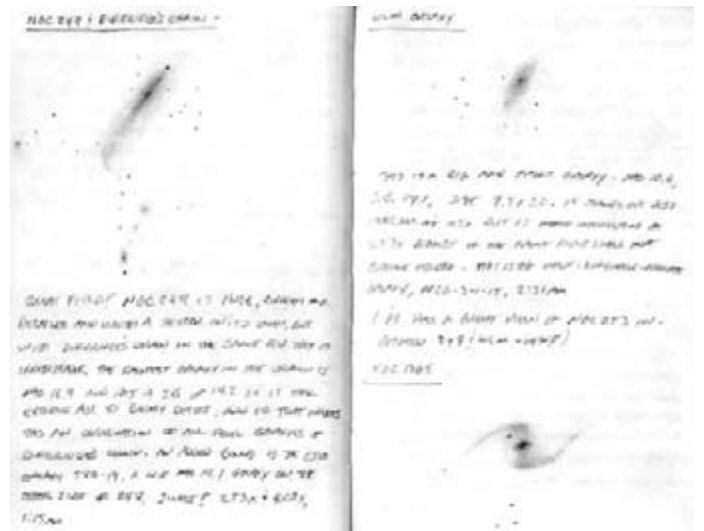
The illuminating star PV Cep was easily seen however and I was a little surprised how invigorating it was to end up with a negative observation of the nebula. I've observed it in years past so seeing a variable nebula disappear was cool, but just as important was the fact that I realized if I couldn't see it from Steens Mountain with this fantastic sky the only reason was that it was just too faint for my scope. The atmosphere was not a factor.



NGC 6781 and Gyulbudaghian's Nebula observations, 2nd and 3rd pages of my 9/29-30/2008 notes.

My friend Leo Cavagnaro from Argentina has been encouraging me to observe Burbridge's Chain, a closely spaced group of four galaxies in a line very near NGC 247. Leo likes to observe the very dimmest objects but since he was the first to suggest I try Hoag's Object a year ago I was up for another of his challenges. By now, about 12:30am, 247 was perfectly placed near the meridian.

NGC 247 is often overlooked because NGC 253 is just to its south and is a true showcase object. But 247 has an interesting structure I hadn't noticed before and sure enough I immediately saw two small and faint galaxies just off 247's northeast tip. Fishing around with averted vision I quickly saw a third and then with some deep breathing, relaxation and my best averted vision technique I was finally able to fish out the fourth galaxy. Success, and what a grand sight they made with 247! This is my favorite sketch of the night.



My favorite page of notes from the Steens Mountain trip – NGC 247 with Burbridge's Chain, the WLM galaxy and the wonderful barred spiral galaxy NGC 1365.

While in the area I soaked up NGC 253 for awhile. So nice.

Leo had also suggested I check out the WLM galaxy, MCG-3-1-15. Much easier than Burbridge's Chain, it's a large faint galaxy with a handful of field stars with a faint stellar core.

NGC 1365 is one of the first things I want to see if I ever find myself under a dark southern sky with a big scope. So far the only place I can even attempt a decent observation of this -36 declination barred spiral galaxy is Steens Mountain so I've made it a point to have a look every time I'm here.

I think the special character of the sky's darkness and transparency really hit me when I immediately saw a view of 1365 that I imagined I'd only get from the southern hemisphere. Usually 1365 shows itself as a ghost, a barely seen apparition that can only be appreciated with averted vision. But tonight it was there as a real, direct vision showpiece with detail throughout.

(Continued on page 7)

The Observers Corner (Continued from page 6)

I called Chuck over for a look and we quickly agreed it was by far the best view we've had of 1365. It's certainly my best sketch of it.

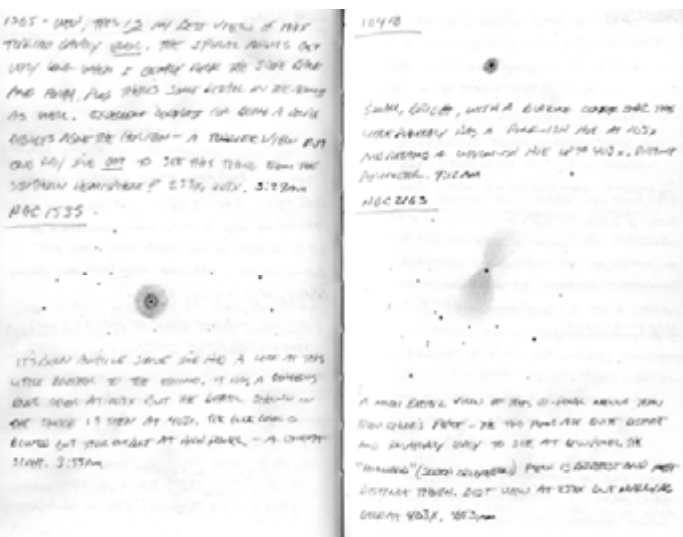
Shortly after this observation Chuck, Bill and I were standing around chatting – Bill was taking short naps throughout the night and missed 1365 – when out of the corner of my eye saw what I first thought to be a cloud hanging below the Great Square of Pegasus. But at Steens clouds are very black at night so this was of course, the Gegenschein, the area opposite the Sun along the ecliptic. Then the quality of the sky hit me again – the Gegenschein just caught my casual glance, when does that happen?

The Zodiacal Band was also prominent and easy to trace back to the top of the Zodiacal Light just coming over the eastern horizon. I've seen all three well before but not quite like this – direct vision was all I needed. Wow, it must be really dark...

"The zodiacal light, zodiacal band, and Gegenschein are prominent features of the night sky at true-dark sites. They are not tests of visual acuity, but of sky brightness." Brian Skiff (1.)

Orion was gaining altitude and I had a great view towards Eridanus. NGC 1535 is a fabulous planetary nebula that looks like the little brother of the Eskimo Nebula in Gemini. Again my best view ever at 408x. Then south of Orion in Lepus, the Spriograph Nebula, IC 418, was similarly well seen.

A faint treat in northern Orion was NGC 2163, a bi-polar nebula that Leo also brought to my attention last winter. Both outflows are visible making it a terrific if somewhat subtle sight. 2163 is probably unknown to many observers because it's barely detectable through normal skies, as my prior observations had shown. On this night though, I had a terrific view.



NGC 1535, IC 418 and NGC 2163. The sky was fantastic at this point.

Around this time Chuck had the Horsehead Nebula in his scope. Everyone hopes to see this often elusive object this well - it was much more than a dark notch as the very black Horsehead shape was instantly apparent with his h-beta filter. It should be noted that the nebula was seen pretty darn well without any filters at all too. Sweet!

Chuck's 41mm Panoptic was able to get all of M42 in the foy, including the entire outer loop of the Great Nebula. Much of the area was awash in unsaturated hues of red and bright electric turquoise, with some brick-brownish tones along the two main wings. Studded with blazing blue stars and garnished with embellishments of faint nebulous swirls, M42 was mesmerizing.

After going back to my scope I asked Chuck what readings he'd been getting with his Sky Quality Meter (SQM). When he casually said they had just averaged 21.95 with an individual measurement a hair above 22, we had a short conversation on how remarkable that was and that the sky certainly was living up to those measurements. We must have been in that peculiar state of fatigue that makes the amazing seem merely interesting.

A quick note about Chuck's SQM readings. He takes a series of five measurements for an averaged reading several times a night along with temperature and relative humidity, all of which characterizes the night sky rather well. He had taken three earlier sets of measurements and they came in at 21.87 (11:02pm), 21.86 (12:30am) and 21.90 (3:30am). The 21.95 set was taken at 4:15am.

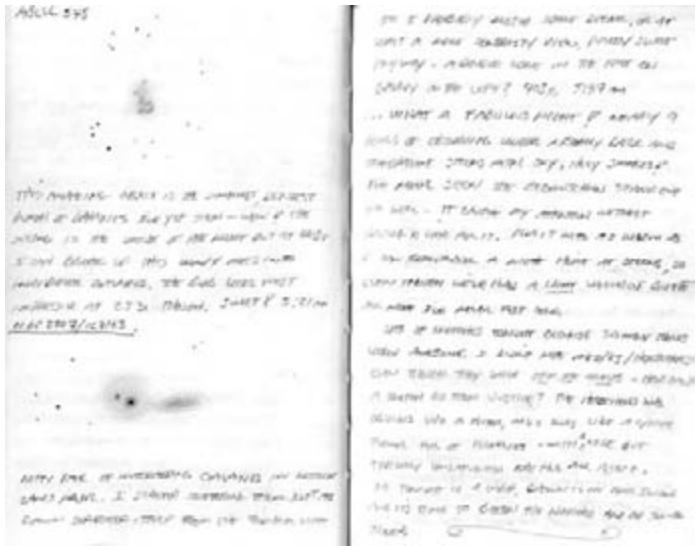
By now the winter Milky Way was running almost vertically past Orion to its east, through the zenith and down to the northwest horizon. The Zodiacal Light was now a broad cone of light at the end of the Zodiacal Band, much brighter than the winter Milky Way, and crossing it at an angle of perhaps 30 degrees. Canis Minor was a lonely outpost in the small, dark wedge of sky in between the two rivers of light that continued upward making a gigantic X. I've seen this many times before, but on this morning the show was just beginning.

Back at my scope I finished up with two objects, galaxy cluster Abell 548 and the interacting galaxies NGC 2207 / IC 2163, both fantastic views. By 5am, after Chuck and Bill had hit the sack I was presented with a transcendent sky.

The Zodiacal Light was blazingly bright now and seemed to have depth and perspective, dominating the sky. It was obviously the brightest part of the plane of our solar system, with the Zodiacal Band arcing across the sky to Gegenschein, now close to the western horizon.

Suddenly, all the great things I'd seen through a telescope earlier faded into the background.

(Continued on page 8)



The final two pages of my notes from 9/29-30/2008 with

As it had risen, the well defined winter Milky Way seemed far in the distance and had rotated upward so the dark wedge of sky between it and Zodiacal Light was now huge, perhaps 40 degrees high, looming like the entrance to a vast edifice. The Milky Way continued up through the zenith and down to the northwest horizon where Cygnus was setting. Crossed swords of light glittering with familiar constellations now seemed like the first look upon a new and mysterious sky, a peek into something past the ordinary.

Arrayed before me was the plane of our solar system crossing the plane of our galaxy in a luminous X that crossed the entire sky.

Turning my gaze to the left brought me to Polaris, marking the inclination of our blue planet to both.

Three fundamental angles that define our position in the universe, superimposed on each other; dramatic, obvious and magnificent, and I felt I'd been given a special look into the vast organization of a greater reality. The hair on my neck stood up and honestly, I couldn't help myself - my mouth hung agape.

I was exhilarated, and the fatigue and sleepiness I had been feeling a few minutes earlier had vanished. No way I was go-

ing to bed now so I pulled up a chair and watched dawn slowly extinguish this glimpse of glory.

When I did hit the sack, sleep came reluctantly. Evidently, epiphanies only gradually loosen their grip..

The second night started mostly cloudy, then became windy so little observing was done. The third night was exceptionally dark and clear again but it was also apparent that it wasn't quite at the same level as the first night - Chuck's SQM readings averaged 21.83 as the Zodiacal Light became prominent. Even though I had the same view of the giant X of the Zodiacal Light and the winter Milky Way it was astonishing at how much less magnificent it all looked.

No doubt there's an interplay between darkness and sky transparency and these two nights had a different combination of these factors. Even though we had no way to objectively measure transparency the fact that the SQM darkness readings were so close implies that transparency is just as important as darkness. Chuck's relative humidity measurements show it was indeed lower on the first night (38% to 58%) so at least we know there was less water vapor in the atmosphere.

The visual difference between nearly perfect darkness and transparency versus merely great conditions is surprisingly dramatic even when SQM readings are rather close. I count myself fortunate to have seen it, but mostly I'm grateful that I was able to understand the basic celestial mechanics of what I saw that first morning.

Most of us intellectually understand the relationship of the Earth's tilt to the ecliptic and that our solar system is part of the Milky Way galaxy, but I was able to experience it directly that morning and I'm a richer person for it.

But my subjective experience is something that measurements of darkness and humidity can't fully convey, and attempts to describe it with words can only fall short as well, even though I've just used over twenty seven hundred of them in the attempt. Perhaps one more of each captures it best:

21.95 rocks!

1. Brian Skiff comments from http://www.astropix.com/HTML/L_STORY/SKYBRITE.HTM

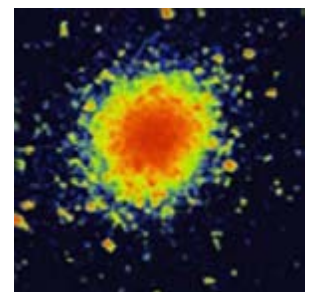


Seth Jelen
Binocular Messier Award #817

Carolyn Nissen
Binocular Messier Award #821

Awards

Margaret Campbell
McCrea
Globular Cluster Award #120



Large Hadron Collider (Continued from page 2)

particles. We have modeled black holes and their accretion of mass and SA particles just inside the event horizon. To make possible experiments inside the event horizon of black holes, the LHC will be able to conduct experiments within a billion-billionth of a second. Collisions within the LHC will be up to 14 terra-volts and could possibly create a small black hole.

Some of the first accelerators were built in the early thirties and were known as Van de Greet accelerators. Studying the interaction of the fundamental particles using these types of instruments has led to the discovery of the four forces: the strong nuclear force, the electromagnetic force, the weak nuclear force, and the Higgs interaction. These fields define the nature of matter/energy, space-time, and wavicle interactions.

These forces and their related particles form the relationships between space-time and gravity interactions. The distances of these interactions range from 10^{-17} meters at particle length scales to the long-range dark-energy interactions. Some of the new instruments still under construction will yield more infor-

mation in the future. These instruments are known as ATLAS, ALICE, CMS, and LHCb. As these instruments are brought on line, they will greatly assist in the collection of information on super-symmetry, the tau neutrino, and extra dimensions. Some of these particles do not interact with the three fermionic families of matter. This large family of particles, the fermions, is named after the famous Italian physicist Enrico Fermi.

Over the years, I have been fortunate enough to do research on theoretical physics with particle research physicists and astronomers and the knight professors Jack S, Saul Paul Sirag, Honaker, Berry, Leo Cavagnaro, Howard, Chuck, RG, Perkins, and the Argentine physicists. Whimsically, we called one of the particles of the non-local interaction of the field the Shaman Neutrino. We conducted a variety of experiments on this particle. We also wrote a song about it titled *Shaman Neutrino*. I hear it is on the charts in the UK. It is exciting to see the final pieces of the Grand Unified Theory (GUT) coming into play. As these field boundaries and interactions are defined, perhaps it may be us that fine tunes the future universe from here to the stars.

The Roll-Off Roof Design vs. Dome Style Observatories

By Tim R Crawford

As we all quickly learn the best telescope set up is the one that get's used and the one that will get used the most is the one permanently located close to home or capable of being remotely operated at the operators discretion.



Once a decision is made to commit to a permanent observatory the first major decision will be whether or not to construct a roll off roof design or a dome style.

My first observatory, built North of Anchorage, AK, was a self designed and constructed roll-off roof style while my second and current observatory, located in Arch Cape, OR, was put together from a commercial "kit" and placed on a self constructed deck.

Based upon my own personal experi-



ences and conversations with others I have come to the conclusion that neither style is to be preferred in it-self but that based upon the observers geographical location and preferences there is a one best design to meet that individual persons situation. In other words, there are pros and cons for each style.

I will discuss some of these pros and cons as well as offering a few hints on the construction of each style.

The first issue you will need to address is whether or not your local zoning or home owners association will permit the installation of either design on your property; the answer can very well determine your choice without consideration of any of the other issues.

Assuming you have the option of constructing either design the first major consideration is whether or not you live in an area with significant dewing throughout the year. If you live in an area where dewing occurs with some frequency throughout the year then the roll-off roof design, when open, essentially exposes your equipment, accessories and papers to the same dewing that you note on the grass, cars and other exterior surfaces. My roll-off in Alaska, because of the low air moisture air content most of the year, only had this problem for about three weeks in the fall and some of those nights it was like it was raining inside because of how damp everything became; but it was a short period and not that hard to live with.

My Dome on the NW Coast of Oregon is exposed to frequent dewing, however, with the exception of some non-objectionable dewing on the inside of the dome some nights, the interior remains dry and is therefore a wiser choice, IMO, for dewing environments.

One of the more significant advantages of the roll-off roof design is that it allows you to have full sky views and enables a

(Continued on page 10)

Observatories *(Continued from page 9)*

much greater connectivity to the sky than do the domes. However, if you have neighbors with yard lights this can be a major disadvantage which is ameliorated with the dome design; in addition to aiding shielding of neighbor's yard lights, unless directly in front of the slit, the dome design, somewhat partially dependent upon the shutter design, can be a great aid in shielding out direct moon light.

While on the subject of yard lights and even porch and window lights I have had great success with inviting neighbors over to view eye candy whereupon I take the opportunity to point out, if necessary, that their outside porch, window or yard lights are troublesome and they universally have always worked with me on a solution. JUST ASK! I had a most unusual problem with my roll off roof observatory in Alaska in that I was on the high ground of one side of the lake and on the other low side (~1/2 mile away) a neighbor had mounted a large yard light on a tall pole such that the light was directly in my eyes when looking west; once I explained the problem to him and showed him a catalog of yard light shields he allowed me to order one and install it... problem solved. JUST ASK!

The roll-off roof design has the obvious advantage of a more rapid cooling of the interior than do the domes. While on the subject of cooling, regardless of the design you choose, I would highly recommend that the floor be wood raised decking so that cooling is more readily enabled; cement holds heat and releases it slowly. Regardless of the design chosen or floor choice you want to insure that your pier is isolated from the floor otherwise vibrations will be a considerable nuisance as you move around.

Normally, the dome design offers better wind protection than does the roll-off roof design, however, the wall height of the roll off will have considerable influence on how much or little your scope will be affected by the wind. If you will check the roll-off photo on page 9 you will note that my scope projected above the wall height and was affected in stronger winds. While it is rare for

winds to be troublesome with my dome, they can be if directly flowing through the slit and then more so for the CCD cables than the scope itself. While some manufactured domes give you the option of controlling the wall height, many do not and that is one of the potential advantages of the roll off design in that, if you self construct, you can control your wall height.

When it comes to construction there is much less work involved in the erection of a manufactured dome than there is in either assembly of a manufactured roll-off kit or a self constructed one.

I think that generally speaking the self constructed roll-off design will prove to be the least expensive option; although there is the alternative of purchasing a low cost dome and then building your own walls and support structure for the dome. This last option should be cost competitive with the roll off design. I have not taken into consideration, regarding costs, where the manufactured roll-off kit design would fall.

To summarize the advantages of domes: Protection from dewing; Shielding of neighbor's lights; shielding of direct moon light; better wind protection and simpler construction, if manufactured.

To summarize the advantages of the roll-off roof design: Rapid cooling; full view of the sky with its greater "connectivity" to the sky; control of wall height and normally less expensive. Obviously, if you have a roll-off roof on your own property there is little need for automation, which is another advantage of that particular design.

As I have no experience with remote automation, from what I read and know of the two designs, the dome design would appear to lend itself more readily to remote automation; however, there are several firms/individuals who would appear to have solved the remote automation challenges of the roll-off design.

An excellent online source of Amateur Astronomical Observatories designs; note that the vendors are an incomplete listing: <http://obs.nineplanets.org/obs/obslist.html>

If you want some reference books I highly recommend the following which can be obtained at Amazon using the AAVSO link: <http://www.aavso.org/aavso/support/amazon.shtml>

1. Small Astronomical Observatories, Patrick Moore
2. More Small Astronomical Observatories, Patrick Moore
3. Setting-Up a Small Observatory: From Concept to Construction, D Arditti & P Moore
4. Building a Roll-Off Roof Observatory: A Complete Guide For Design and Construction, John Hicks.



Pier height is one of the first issues to be resolved once you have chosen a design. Pier heights are always going to be a compromise in that depending upon the pier height chosen you are either going to be bending over when nearing the zenith or climbing a ladder when progressing towards the horizon; it's hard to find a compromise that best suits all positions of the sky. While I can provide you with the height of the pier that I chose for my 12" SCT you would be advised to experiment with your own scope on a tripod or a friends to see what height seems best to suit you.

With both of my observatories the same pier was used which measures ~43" above the floor of the observatory with an overall length of 63 inches. With this J bolt mounted pier ~ 1200 pounds of cement were poured into the ground.

(Continued on page 12)



BOARD MEETING MINUTES

October 6, 2008

OMSI Classroom 1

Margaret Campbell-McCrea

Attending: Dale Fenske, Greg Rohde, Ken Hose, Jean London, Jan Keiski, Sameer Ruiwale, Matt Brewster, Margaret Campbell, Larry Godsey, Tom Nathe, David Nemo.

The meeting was called to order at 7:10 p.m.

Officer Reports:

- Secretary: A quorum was met with eleven voting members attending.
- Treasurer: The Club has \$20,473.90 in current assets and the Site Fund has \$18,939.82. There was brief discussion of the cost of printing and mailing the newsletter, which is about \$2/month each, and the need to encourage our members to switch to getting it online.
- Programming: Matt reported that our last speaker cost \$700 in air fare and hotel, but commented that the cost was worth it, because he was such a popular speaker. Ken Hose reported that several people joined the club after hearing him speak. Matt is trying to get Bryan Laubscher to talk about the space elevator project for the next meeting. For November he is working on getting a speaker about the Stardust mission, December is our holiday potluck and January is our information fair.
- Observing: We had informal reports about both the Maupin and Camp Hancock star parties (both went well and were well-attended).
- Community affairs: No report.
- Media Director: No report.
- Membership: There were ten new members in September and 18 renewals. We have 254 family memberships total, and took in \$640 in dues.
- New Members: No report.
- Sales: \$509 was collected in September. It was noted that the RASC calendars are very popular and suggested that we get 20 – 25 of them.
- Library: Jan will be having a book sale in November to help clear out inventory. Books will be 25¢ each.
- Telescope Library: There was a donation in August from the OSP door prize winner of a telescope accessory kit, including the case, eyepieces, and color filters. Greg is planning to put excess inventory up for sale, and will create one webpage per item for our website. We have at least a dozen items to sell.
- IDA: No report.
- Magazine Subscriptions: Nominal. \$172 in magazine renewals.
- Webmaster: No report.
- Site Committee: Nominal.

- Youth Director: Jean London brought the Board up to date on her plans for youth programs, and there was quite a bit of discussion about the topic. The basic idea is to piggyback on, or supplement, RCA events and star parties with special programs for kids, which would be part of our event publicity. There was also discussion of having kids' events perhaps an hour or two before RCA events, and sponsoring field trip for kids. She wants to have a well-organized and well-publicized first event that will encourage kids and families to get involved or re-involved, partly so we know how many kids there are. She's also still interested in getting information on the number and age range of kids in RCA. The Board agreed that a survey is easy to do and likely to generate a high ratio of responses.
- SIGs: The imaging SIG is going great, and the Science SIG has hit a plateau. On Nov. 5th it plans to record meteor impacts on the moon. The annual Star Count in November would be a good project for the Science SIG. There was some discussion of whether the Cosmology SIG was still viable. If it is, an announcement is needed. Sameer is on the schedule as speaker for this month.
- ALCOR: Nominal.
- OMSI: Jim Todd went to Stub Stewart Park to see if OMSI wants to have star parties out there and reports that he likes it and is considering it. This decision is up to him. He will notify us in January when we decide on the new observing schedule. He also asked us to confirm our Board meeting dates in 2009, in case one of them falls on a holiday. Only one, September, will have to be moved one week to September 14th. It was also recommended that we move the holiday potluck for 2009 to December 14th.

Old Business:

- Press Release re. Chris Lee: Dareth has plans to use a revision of the August newsletter article with couple of photos for the press release.
- Article for Reflector: Margaret will get it submitted by Oct. 15.
- Nominating Committee: We've got our slate. Sameer will get the slate into the newsletter within the next few days. As for non-elected positions, Jim Reilly has asked for someone to take over the New Members position.
- Forum Update: The transition seems to be going well. There was a bit of a glitch regarding broadcast email messages, so Dave sent out an email with instructions for how they will be done for the time being. The purge will happen in the next few days. Traffic numbers are high, lots of new people are contributing. Jim Todd now has the rights to moderate star party information and he can send out broadcast messages.
- Starlight Parade: Margaret called Andy Phelps to ask him if he wants to chair the project and has not heard back.
- Harriet Tubman School Project: Margaret spoke with the person who asked us about this. They want someone to come to the 8th grade science class to speak, but also someone to come to an assembly to discuss astronomy as a hobby. She invited students from the school to come to RCA meetings.

(Continued on page 12)

Board Meeting Minutes (Continued from page 11)

- Mult. Co. Library display request: The library has decided not to apply for this display.

New Business:

- SEM/Science SIG: Greg Jones is a salesman for electron microscopes. He wants to bring equipment for kids to use on some kind of weekend end and asked for RCA support. The Board asked for more information of what he wants, and emphasized that all we can offer is volunteer time.
- Mirror Grinding Machine: Jim Reilly has Jim Girard's mirror-grinding machine and asked if the club wants it for the telescope-making SIG. Because the grinder will only make a 10-inch mirror, the sense of the Board was that unless it could make 12-14 inch mirror, it isn't for the club.
- Taking Paypal for Memberships: Larry Godsey reported that RCA can set up a new Paypal account for membership, then link it to an existing RCA bank account. The cost is about \$1.00 per \$24 transaction. There is no paper trail, so we would have to set up the logistics of making sure that both the treasurer and membership person know about it. Tom Nathe moved and Dave Nemo seconded that we set up a Paypal (or other online) account to accept membership, but not sales items, with a \$1 charge per transaction for people who want to use it. The motion passed unanimously.

- Astronomy Day/Astronomy Year, 2009. Sameer reiterated that he wants a really good event with all the publicity, a whole day event in a public place this coming May, and that we should start to think about it now. There was discussion that OMSI is still a good venue because there are a lot of people with their kids, and a lot of support and low cost, but there is also an advantage to have an event in a more public place. If we plan enough in advance, we can do both. There were suggestions to make the publicity for our ordinary events a tie-in with international astronomy year and to get Oregon Field Guide involved.
- The meeting adjourned at 9:00p.m. The next Board meeting is on 11/03. Respectfully submitted, Margaret Campbell-McCrea.

Action Items:

1. Matt Brewster will confirm October's speaker and send the publicity information to Dareth for the website and Larry Deal for the newsletter.
2. Dareth will create press release.
3. Margaret will write article for Reflector.
4. Sameer will put the nominated slate of officers into the newsletter in the next few days.
5. Someone (Ken Hose?) should make up a survey of our membership regarding the number of kids are in our member families.
6. Larry Godsey will establish Paypal for membership payments.

Observatories (Continued from page 10)



While not an issue with a roll off roof design it is important to understand that the when you mount an SCT in a dome that the pier is not going to be the center of rotation for the polar mounted telescope. The center of rotation will actually be your Declination axis. Therefore you want to offset your pier to the South so that the Dec axis actually is located in the center of your observatory. That center point is going to depend upon your pier diameter, your latitude and the size of your instrument. The only fool-proof way that I know of to insure you measure the center correctly is to install your pier, mount your telescope, polar align it, and then drop a plumb bob down from the center of your Dec axis to find

the center; then construct your floor after the center of the dome has been determined in this manner.



With a roll-off roof design it is advised to have structure parallel with the North South line with your roof rolling off to the North in as much as you will infrequently be viewing in that direction so the raised roof represents a lesser obstruction than if a different orientation were chosen. In my case I used V groove wheels with an inverted angle iron track for the roof to roll on; three wheels on each side with the wall height at 72 inches and the overall size of 10' x 12'. The roof was built rather stoutly in anticipation of a heavy snow load.

The next photo shows one of the corners

and how I used a turnbuckle to secure the roof when not in use. The dark piece in front of the wheel was a simple rubber boot that I used at each corner over the track slit to keep out blowing dust.



The siding for the roof overlaps the lower section and I had to make a small door on the south end of the roof to clear the scope when opening while allowing a "seal" when closed.

I hope that some of this has been informative for you and if you have further questions (remember, there is no such thing as a dumb one) please feel free to contact me at

StarBoyCTX@yahoo.com

RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years.

The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

RCA LIBRARY

The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through checkout at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-oms.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566



Science Special Interest Group (SCI-SIG)

Next meeting is November 15 at 3pm. Following the Telescope Workshop at Technical Marine Services.

This group is for people who would like to advance their skills in astronomy beyond casual observing. Various projects that some group members are involved in include; variable and double star observing, occultations, photometry and astrometry. A science background is not required, however a curious mind does help.

Location of TMS -

<http://www.rosecityastronomers.org/sigs/science.htm>

Tom Nathe <sigs@rosecityastronomers.org>

RCA SIG coordinator

Telescope Workshop

When: Saturday, November 15, 10:00 AM - 3:00 PM

Place: Technical Marine Service, Inc.

6040 N. Cutter Circle on Swan Island

For more information contact:

Director: John DeLacy johncdelacy@comcast.net

Assistant: Don Peckham don@dbpeckham.com

ASTROPHYSICS / COSMOLOGY SIG

Date/Time: Wednesday, November 19, 7 PM.

Topic: "Complexity and the Universe "

Presented by: Jack Semura

Place: Linus Pauling Complex,

3945 S.E. Hawthorne St., Portland.

Contact: Bob McGown (503-244-0078)

or Dareth Murray, (503-957-4499).

<http://www.rosecityastronomers.org/sigs/cosmology.htm>

RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rosecityastronomers.org>).

The location is announced on the RCA general forum discussion list. at <http://www.rosecityastronomers.org/forum> under special interest groups.

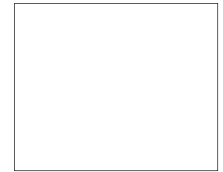
Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlk.com



Photo by Jan Keiski

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3356



NOVEMBER 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

November 2008

Nov 3	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Nov 7	Fri	Downtowner's Luncheon	TBD	Noon
Nov 15	Sat	Telescope Workshop	Swan Island	10am-3pm
Nov 15	Sat	Science SIG	Swan Island	3pm
Nov 17	Mon	General Meeting	OMSI Auditorium	7pm
Nov 19	Weds	Astrophysics/Cosmology SIG	Linus Pauling Complex	7pm

December 2008

Dec 1	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Dec 5	Fri	Downtowner's Luncheon	TBD	Noon
Dec 8	Mon	Astro Imaging SIG	Beaverton Public Library	6:30pm
Dec 13	Sat	Telescope Workshop	Swan Island	10am-3pm
Dec 15	Mon	Holiday Potluck	OMSI Auditorium	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-omsi.org>).

RCA CLUB INFORMATION

Web Site: <http://www.rosecityastronomers.org>

The

Rosette Gazette

Volume 20, Issue 12

Newsletter of the Rose City Astronomers

December, 2008



RCA DECEMBER 15 HOLIDAY POTLUCK!

In keeping with annual tradition, the December meeting of the Rose City Astronomers will be a holiday buffet and social gathering for all family members to be held in the OMSI Auditorium and Planetarium lobby.

Each member is asked to bring a dish to serve 10-12 people.

If your last name begins with . . .

A to K, please bring a main dish

L to Q, please bring an appetizer or side dish

R to Z, please bring a dessert

Plates, silverware, and beverages/ice will be supplied by the club. Just bring your dish along with a serving utensil and enjoy the holiday spirit of the RCA membership.

The Holiday Social is a great event to pick up some excellent holiday deals! Save time to shop at the RCA Sales Table for your favorite astronomy gifts. In addition, the Swap Meet will be back by popular demand and there will be ample empty tables around the lobby for everyone who is interested in displaying items for the Swap Meet.

There will also be tables provided for interesting celestial displays. If you have taken any astronomy pictures this year and want to share them, this is your ideal opportunity. Members also bring their latest inventions and "astro stuff." If you have a fun gadget, item, or tool, please bring it in and show it off to the rest of the membership!

Note that December 15 is the THIRD Monday of the month which is the evening of our normal general meeting. We hope to see everyone there!

All are Welcome! Monday December 15

Social Gathering: 6:30 pm.

Location: OMSI Auditorium

In This Issue:

- 1 .. General Meeting
- 2 .. Club Officers
 - Magazines
 - RCA Library
- 3 .. Classic Telescopes
- 5 .. The Observer's Corner
- 7 .. Fornax Glob. Clusters
- 9 .. Oct. Board Minutes
11. Telescope Workshop
 - Astro Imaging SIG
 - Observing Site Fund
 - Downtowners
12. Calendar



RCA is a member of the
Astronomical League.
<http://www.astroleague.org>

©Copyright 2008 The Rose City Astronomers All Rights Reserved.

Hubble Deep Field above courtesy R. Williams (STScI), the Hubble Deep Field Team and NASA.

Moon photos below courtesy David Haworth

First Quarter Moon
December 5

Full Moon
December 12

Last Quarter Moon
December 19

New Moon
December 27



CLUB OFFICERS

Office	Name	Email	Telephone
President	Sameer Ruiwale	president@rosecityastronomers.org	503-681-0100
Past President	Carol Huston	pastprez@rosecityastronomers.org	503-629-8809
VP Membership	Ken Hose	membership@rosecityastronomers.org	503-591-5585
VP Observing/Star Parties	Doug Huston	observing@rosecityastronomers.org	503-629-8809
VP Community Affairs	Patton Echols	community@rosecityastronomers.org	503-936-4270
VP Communications	Matt Brewster	communications@rosecityastronomers.org	503-740-2329
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org	503-675-5217
Secretary	Margaret Campbell-McCrea	secretary@rosecityastronomers.org	503-232-7636
Sales Director	Margaret Campbell-McCrea	sales@rosecityastronomers.org	503-232-7636
Newsletter Editor	Larry Deal	editor@rosecityastronomers.org	503-708-4180
Media Director	Patton Echols	media@rosecityastronomers.org	503-936-4270
New Member Advisor	Jim Reilly	newmembers@rosecityastronomers.org	503-493-2386
Webmaster	Dareth Murray	webmaster@rosecityastronomers.org	503-957-4499
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org	503-256-1840
Library Director	Jan Keiski	library@rosecityastronomers.org	503-539-4566
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org	503-629-5475
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org	503-224-6366
IDA Liaison	Bob McGown	ida@rosecityastronomers.org	503-244-0078
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org	503-539-4566
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org	503-675-5217
SIG Director	Tom Nathe	sigs@rosecityastronomers.org	971-645-4930
Youth Programs Director	Jean London	youth@rosecityastronomers.org	503-642-4831

RCA MAGAZINE SUBSCRIPTIONS



One of the benefits of RCA Membership is a reduced rate subscription to Sky & Telescope and Astronomy magazines. The RCA member rate for Sky & Telescope Magazine is \$32.95 for one year or \$65.95 for two years. The RCA member rate for Astronomy magazine is \$34 for one year or \$60 for two years. For more information go to the RCA web site index and click on any of the links for magazines. Larry Godsey, Treasurer, 503-675-5217, will be taking renewals and new subscriptions at the Magazine Table before General Meetings. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

RCA LIBRARY



The Rose City Astronomers maintains a comprehensive club library of astronomy related articles, books, CDs and videos. These items can be borrowed by members through checkout at the general meetings for a period of one month with renewals available by phone or e-mail to the club library director, Jan Keiski.

The RCA library is constantly growing through many donations and the purchase of new materials. A listing of library materials (PDF format) can be found at the library web page: <http://www.rca-omsi.org/library.htm>

Jan Keiski (jikeiski@comcast.net) 503-539-4566

Classic Telescopes

A deep-sky tour through Aries and Triangulum with a 94mm Brandon refractor.

By John W. Siple

Autumn's parade of constellations includes Aries (the Ram) and Triangulum (the Triangle), two rather distinctive but small star groupings that have played important roles in the belief systems and star lore of many different cultures. The three-pointed asterism of Triangulum lies just beneath Andromeda, while the stars of Aries can easily be located halfway between the Great Square of Pegasus and the Pleiades in Taurus.

In Greek mythology, Aries was the ram that was the source of the fabulous Golden Fleece. Immortalized in the night sky, Aries held sway to the position of the vernal equinox 2000 years ago. Precession of the equinoxes over the centuries has gradually shifted the First Point of Aries into Pisces. Aries has been reverently referred to as the "Prince of the Zodiac" and the "Prince of the Celestial Signs."

Aries' close neighbor, Triangulum, is in the form of an isosceles triangle lying on its side. Triangulum was once called Deltolton because of its close resemblance to the Greek letter delta (Δ). Both constellations have numerous worthwhile double and multiple star systems along with some challenging galaxies. Triangulum's claim-to-fame is Messier 33, the Pinwheel Galaxy.

A leisurely deep-sky tour of Aries and Triangulum was taken using a 94mm (3.7-inch) F/7 Brandon apochromatic refractor telescope. This portable instrument was developed and then sold by VERNONscope & Co. of Candor, N.Y. during the years 1989-1991; only 500 complete units were ever distributed worldwide. (For those unfamiliar with VERNONscope, it is located in the fingerlakes region of upstate New York between Binghamton and Ithaca and is owned and operated by Don Yeier. His company has been manufacturing fine telescopes and related accessories since 1958.)

The 94mm telescope is named in honor of 20th century optical designer Chester Brandon. The heart of the tube assembly is a cemented Christen triplet objective lens, housed in a precisely machined cell. All of the remaining components come from the Tokyo based optical firm of Nihon Seiko Kenkyuso, Ltd., the same company that supplied Unitron with its telescopes.

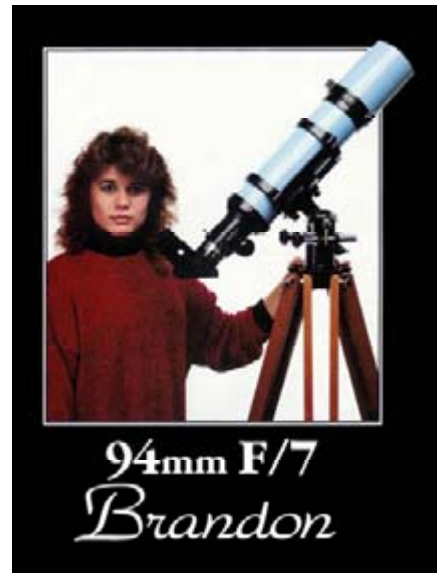
VERNONscope sold only 100 tube assemblies with polished white enamel and another 400 sky blue or "baby blue" versions—the first 50 telescopes off of the production line were erroneously marked with 92mm instead of the correct designation. Unfortunately, VERNONscope never placed serial numbers on any of their Brandon scopes.

At the bequest from a group of ornithologists from Cornell University, the 94mm Brandon refractor was eventually reshaped into a lighter, more streamlined model, which was amenable for traveling to favorite birding spots. Fifty of these slightly modified Brandons made it into the hands of birders. Each tube assembly still had the miraculous imaging ability of the Christen designed triplet objective lens and was perfectly suited for astronomical use.

Because of the resounding success of the 94mm apochromatic refractor, VERNONscope decided to introduce a slightly larger 130mm (5.1-inch) F/8 version. Virtually identical in construction to its smaller companion scope, the 130mm used a modified optical system with a Starfire triplet objective lens. Following the color scheme of the 94mm, about 80 sky blue and 20 white optical tube assemblies were cumulatively sold by that company.

Quality craftsmanship came at a price; the basic "bare-bones" 94mm Brandon Apochromat cost the amateur astronomer \$1,295 in the late 1980s. A variety of useful upscale accessory options included wrap-around cradle rings (a necessity), both alt-azimuth and equatorial mountings, and the company's standard selection of parfocal oculars and other related optical goods. On today's secondary market the 94mm Brandon has held its value remarkably well, often exceeding the owner's original cost.

First stop in our deep-sky tour is at the attractive double star Mesarthim (γ Arietis). In Middle Eastern astronomy, this 4th-magnitude star, along with α and β , forms an Arabic "tripod," three stones on which the desert traveler placed his kettle. Its double nature was accidentally discovered by Robert Hooke in 1664 while following the movement of a comet. For the user of the 94mm Brandon telescope, γ splits into two



perfectly-matched pearly twins. At a power of 63x with a Tele Vue 10.5mm Plössl ocular, the equal duo of magnitude 4.8 stars, separated by 7.8", resembles a watchful pair of cat's eyes gazing down upon observers from a lofty and star strewn perch.

The Ram's offering of double stars includes the wide, easy pairs of Lambda (λ) and 30 Arietis. Both star systems have comparable separations (37" and 39", respectively) but slightly different magnitude ranges (4.9, 7.7 and 6.6, 7.4). Observers see many different hues here; in the author's 94mm Brandon telescope the color contrast of λ overshadows that of 30 Arietis. Through the refractor at 25x, the primary of Lambda appears white with a trace of yellow and the secondary star is distinctly olive-green. The subtler hues of 30 Arietis are topaz-yellow and pale gray.

Star-hopping in central Aries brings us to 5.3-magnitude Pi (π), a fascinating triple star system that is a mild test of the Brandon telescope's resolving power. At 219x using a Radian 3mm eyepiece, all three stars lie approximately in a straight line with the blue-white primary star anchoring the northwest end. A dim 11th-magnitude companion sun is 25" distant from the primary, while the remaining member of the clan, a magnitude 8.0 yellow-white star, is found a tight 3.3" away.

Triangulum's lone double star of note is Iota (i), a lovely, close pair (4") of golden yellow and bluish-green stars that can be resolved in a small glass. Cleanly split in the Brandon scope at a magnification of 137x using a 4.8mm Nagler eyepiece, this striking, colorful duo can be likened to the more famous double star Alpha Herculis, but is not so bright.

(Continued on page 4)



The Pinwheel Galaxy, M33 (NGC 598), found in Triangulum. A prominent member of the Local Group of galaxies, the face-on type Sc spiral system lies at a distance of 2.7 million light-years.

Only $\frac{1}{2}^\circ$ west-southwest of π Arietis is the scanty star grouping of Dolidze-Džimšelejšvili 1 (Do-Dž 1). This triple star and open cluster combo is a remarkable stroke of cosmic serendipity in an area nearly devoid of other major deep-sky objects. The refractor at 44x shows the 12' diameter star cluster as six stars (9th to 11th-magnitude) embedded in a background haze of a half dozen more fainter suns.

The Triangulum or Pinwheel Galaxy, also known as M33 (NGC 598), can be seen with the naked eye on exceptionally dark nights, thus making it the most distant object visible without optical aid. A low surface brightness makes M33 a tricky object that can be passed over during a casual search. This noteworthy spiral galaxy, over $\frac{1}{2}$ degree in extent, is resplendent "with crosses, rifts and nebulous condensations in a sea of glory." In the 94mm Brandon telescope, a wide angle view at 12x with a Meade 56mm Super Plössl eyepiece shows M33 as a swirling, mottled mass of amorphous light with a broad core.

Among the infusion of M33's knots is NGC 604, a star cloud of glowing gas and dust located 12' NE of the galaxy's nucleus and 1.1' NW of a magnitude 10.9 star. At nearly 100 times the size of the Milky Way's Orion Nebula, this area of star-birth is one of the largest known H-II regions. NGC 604 ap-

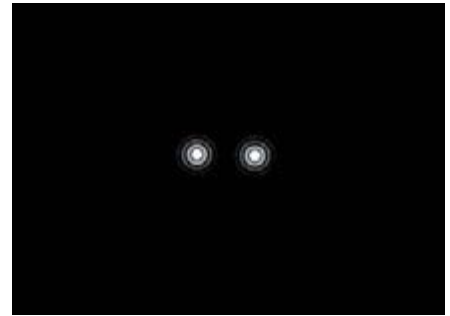
pears as a nearly imperceptible fuzzy dot at most magnifications in the Brandon scope. Careful scrutiny reveals a curious glow that gradually brightens toward the center.

Arp 78 (NGC 772 and NGC 770), beautifully displayed at right, is a galaxy pair located 1.5° east of the double star γ Arietis. NGC 772, shining at magnitude 10.3 and with dimensions 7.1' X 4.5', is a nebulous spot in the 94mm Brandon at 44x. Its much dimmer 13th-magnitude companion NGC 770 was not detected.

NGC 821, an 11th-magnitude elliptical galaxy found in southern Aries near the Cetus border, is an easy target for the Brandon telescope. It forms a close double with a 9th-magnitude star located just 1' to the NW. The galaxy, 3.5' X 2.2' in apparent size, is a compact rounded spindle with a prominent stellar nucleus at high power.

Recording the large and moderately faint galaxy NGC 925 in Triangulum pushes the Brandon refractor to its detection limit from suburban skies. The 12th-magnitude spiral is found in a glorious field of background stars, where the patchy glow measures 9.4' X 4.0' and is seemingly elongated N-S. The extended core has a tenuous outer halo that is studded with minute stars. (Other challenge objects in Aries and Triangulum are NGC's 672, 972, and 1156.)

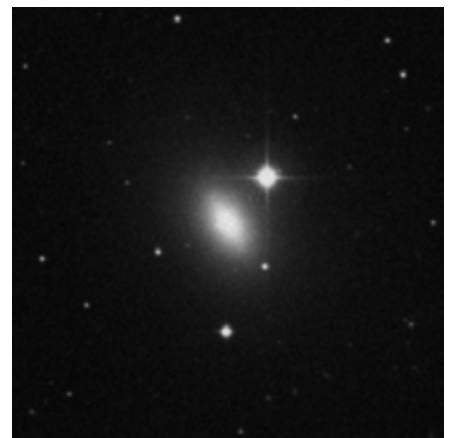
IMAGE CREDITS: Photograph of M33 courtesy of Rainer Zmaritsch and Alexander Gross @ <http://www.deepfield.at/>; Adam Block/NOAO/AURA/NSF (NGC 772); and the Digitized Sky Survey (NGC 821).



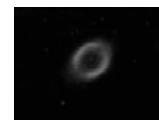
The attractive double star γ Arietis, an easy test for small telescopes.



NGC 772, Aries' biggest and brightest spiral galaxy. Visible at middle right is the companion system NGC 770.



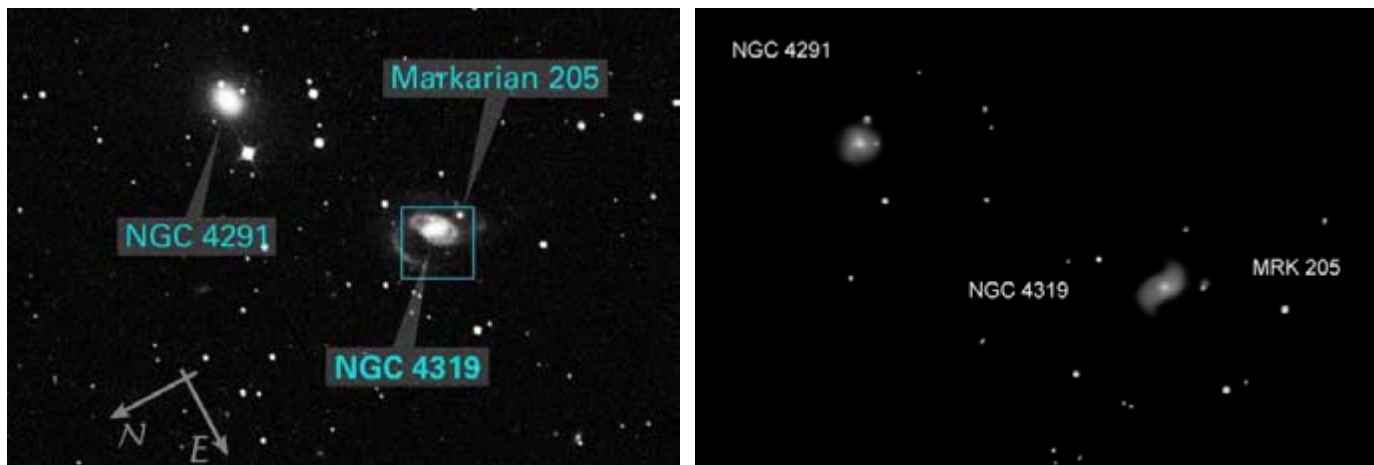
The elliptical galaxy NGC 821 in Aries, located only 1' SE of a 9th-magnitude star.



Markarian 205

One of the OSP observing lists this year was “Snow White and the Seven Dwarfs”, with Snow White referring to Markarian 205, a quasar near the galaxy NGC 4319. The Seven Dwarfs were a collection of nearby dwarf galaxies, but this article will focus on Markarian 205, which at the time I observed it was a fascinating and highly enjoyable object. It’s become even more compelling as I learned about its physical characteristics and observational history.

Located in Draco, Markarian 205 is probably the easiest quasar to find if not actually see in an amateur telescope. I’ve read that it’s been seen in 8 inch telescopes in dark, steady skies although I imagine that was an averted vision detection. Located due south and just off on the southern edge of galaxy NGC 4319 (magnitude 12.8), Markarian 205 at first appears as a faint bit of fuzz, but you may first see a star-like object on its edge facing 4319.



The left image is an annotated DSS image showing NGC 4319, NGC 4291 and Markarian 205 in relation to each other. On the right is my processed sketch from the Oregon Star Party showing the same field.

Research is unsure exactly what this star-like object is – it’s either a compact companion galaxy or a big star forming region of Markarian 205, which in turn is tightly wound spiral galaxy with a quasar at its core.

Through my scope NGC 4319 was actually the fainter of the group of three NGC galaxies it’s a part of – 4291, 4386 are both brighter. All three galaxies comfortably fit into the same low power field, with 4291 the most immediately interesting because of two stars involved in its halo.

At higher power 4319 showed its central bar with hints of two spiral arms coming off each end, with the northern arm the most prominent – at least in the peculiar way that faint objects can be considered prominent through a telescope.

When making my sketch I didn’t know where Markarian 205 was or what it might look like but suspected it was one of the stars near NGC 4319. Interestingly, while I was observing 4319 both Chuck Dethloff and Candace Pratt were also observing it with their scopes. As is often the case, trading views and perceptions added to what we all saw and made our observations all the more enjoyable.

Candace thought that the star-like object was Markarian 205 but then Chuck noticed the faint bit of galaxy right above it. Candace and I needed some additional observing to definitely see the little galaxy and I’m glad Chuck pointed it out because I may not have noticed it on my own. That turned out to be Markarian 205, and at its core is its quasar.

This was an memorable personal observation, but it turns out that NGC 4319 and Markarian 205 are infamous in astronomical research because of the very different redshifts of the two objects and the polarizing interpretations of this data that some astronomers have staked to their reputations.

Essentially, the redshift of Markarian 205 places it about 14 times further away from us than the redshift of NGC 4319. How-

(Continued on page 6)

ever, an apparent bridge of material that seems to connect the two was reported in 1970 by astronomer Daniel Weedman of McDonald Observatory, and it almost immediately sparked controversy about what redshifts really mean.



HST image of NGC 4219 and Markarian 205. The thin streamer that apparently connects them is faintly visible and runs right through the star-like companion galaxy on its lower edge.

Astronomer Halton Arp took a 4 hour long exposure with the 5 meter Hale telescope in 1971 that clearly showed a narrow filament connecting the two objects. He proposed that 4319 had ejected Markarian 205 from its nucleus and that the bridge was tidal debris from that ejection. If true, that meant the assumptions underlying the Hubble Constant and thus the rate, shape and age of the Universe may be incorrect. A very big deal indeed.

The conventional view was that Markarian 205 was far in the

background, as implied by its redshift, and the narrow filament is merely a chance alignment with NGC 4319. This is still the dominant belief today.

Arp had been promoting the unconventional view that redshifts don't solely imply the distance to galaxies ("discordant redshift") since the early 1960's, which had increasingly pushed him to the fringes of professional astronomy. By 1981 Arp had lost his observing privileges on the Hale 5 meter scope because he'd been marginalized by the issue.



HST close up of Markarian 205 showing its subtle spiral arms, the nearby compact galaxy (the star-like object) and the bright central quasar. Markarian 205 is not nearly this obvious through a scope and to me is more difficult to see than its companion.

Discordant redshift is largely ignored these days because of the lingering controversy, but Arp remains convinced in the reality of the NGC 4319 / Markarian 205 connection. Regardless of their true relationship they represent both a compelling visual observation and a fascinating look into the politics of big-time professional astronomy.



With commander Chris Ferguson and pilot Eric Boe at the controls, space shuttle Endeavour descended to a smooth landing at Edwards Air Force Base, Calif. The STS-126 crew members concluded their successful mission to the International Space Station when the shuttle touched down at 4:25 p.m. EST November 30, 2008.

Courtesy: NASA/Tony Landis

THE GLOBULAR CLUSTERS SYSTEM OF THE FORNAX DWARF GALAXY

By Leo Cavagnaro

The Observation of some Globular Clusters in this Dwarf Galaxy is a challenging observing project for any observer situated in the Southern Hemisphere

Amateur astronomers know very well some beautiful and famous examples of globular clusters, like the “great cluster” (M13) in the northern sky and the bright clusters Omega Centauri and 47 Tucanae, both situated in negative declinations. However, there exist some extragalactic globular clusters that are visible from a dark sky.

Several times I have read about the visibility of the Fornax Dwarf Spheroidal Galaxy and its globular cluster system. It is a challenging object for visual observers without a doubt, but other observers claim that this nearby galaxy is visible even through small telescopes when you observe it from a very dark and steady sky. The best an amateur astronomer can do is to set up the telescope and to apply the empiric method, thus achieving a conclusion about the visibility or not of this kind of faint deep-sky object. I wanted to have my own experience observing this galaxy and some of its globular clusters.

The main subject in this article is to ask the following: **Is the Fornax Dwarf Galaxy and its globular clusters visible through a telescope as small as 8-inch in diameter?**

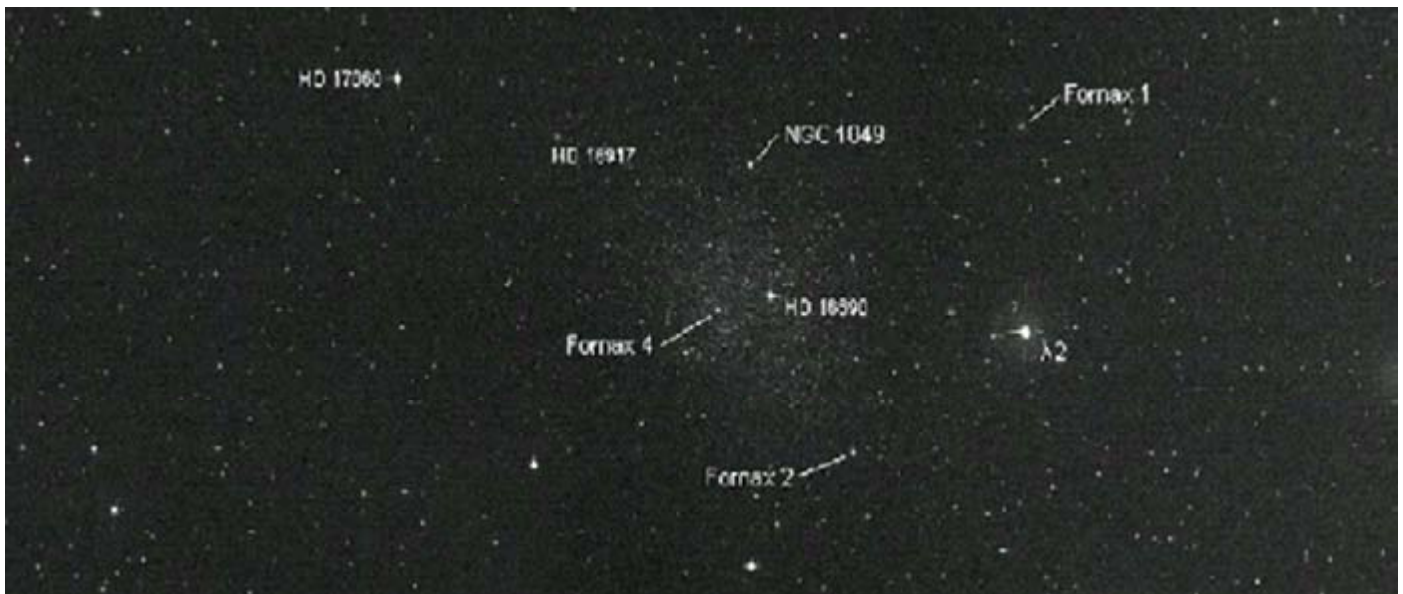
In advance, I can say that not all of that extragalactic globular clusters will be visible in an 8-inch telescope, but what about the brighter ones?

The Observing site and night conditions

On Saturday, November 22, I went to Canota, a nearby observing site north to Mendoza with the intent to carry out and complete this observing project. The idea of observing globular clusters that belong to this galaxy of the Local Group using an 8-inch telescope was very exciting.

In this part of the year (late November) and from this part of the planet, the Fornax Galaxy transits the local meridian around midnight, reaching an excellent altitude (88 degrees) to observe it in the best conditions, also considering good astronomical seeing.

(Continued on page 9)



The Fornax Dwarf and the distribution of its globular clusters. The key stars HD 16690 and Lambda2 Fornacis are also indicated in the DSS image.

Fornax Globular Clusters *(Continued from page 7)*

I began at 10pm local time (UT-3 hours), when the small constellation Fornax was 65 degrees high in the sky. The first step was to identify the naked eye star Lambda2 Fornacis. It is a faint star (magnitude 5.8). This is a key star because you can use it as a guide or starting point to find the galaxy and some of the faint and small extragalactic globular clusters.

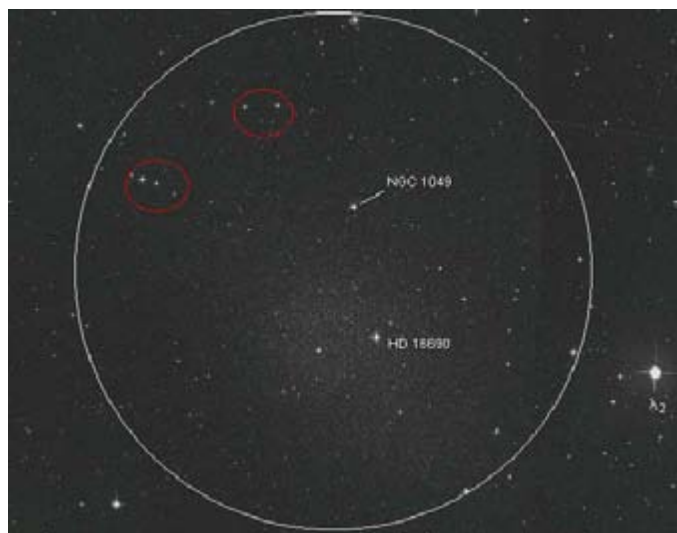
As for the limiting magnitude, at that moment it was around 6.3

The Fornax Dwarf Spheroidal Galaxy

This galaxy was discovered by H. Shapley. It was first detected as a diffuse system. Fornax is the most massive known object of this type orbiting the galaxy. It belongs to the Milky Way's subsystem in the Local Group (see the interesting paper "A wide-Field Survey of the Fornax Dwarf Spheroidal Galaxy" by Matthew Coleman et. al., Australian National University at www.arxiv.org).

This galaxy lies at about 36 arc minutes east of the star Lambda2 Fornacis. After aiming the telescope to that region, and observing carefully using low magnification (42x), you can see a very faint glow surrounding the star HD 16690. It is the dwarf galaxy, and you will need averted vision to see it. It is necessary to keep observing for several minutes so your eye will see the galaxy a little better.

NGC 1049, the Brightest Globular of the Galaxy



There are six (6) globular clusters known in this galaxy so far.

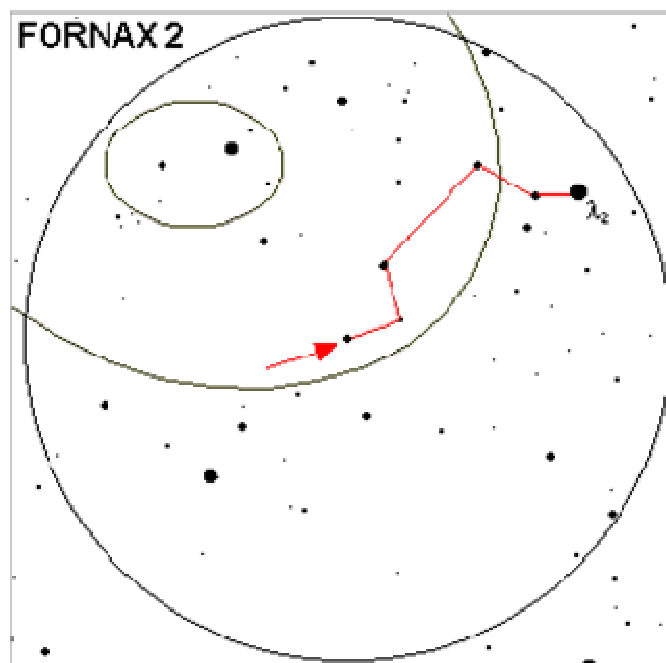
There exists an interesting paper on these globular clusters, "The Fornax Dwarf Galaxy. The Globular Clusters" by Paul Hodge (The Astronomical Journal, Volume 66, number 2 March, 1961)

NGC 1049 (Hodge 3), discovered by John Herschel from Cape of Good Hope about one century before the discovery of its mother Galaxy, lies about 14 arc minutes from the star HD

16690. I thought that for sure these distant globular clusters surely look almost stellar in an 8-inch telescope, so it would be important to use some stars and asterisms to find the accurate place where NGC 1049, in this case, is situated (see the eyepiece field above), thus avoiding a misidentification.

The use of low magnification (for example 42x) was good to find the right place, but nothing obvious was visible. More magnification was necessary. At higher magnification (106x) the object is not stellar in appearance. It looks like a very small and round nebosity.

Fornax 2 and Fornax 4 Clusters



There are some stars with visual magnitudes between 9 and 10.5 we can use to arrive at the zone where the globular cluster Fornax 2 (Hodge 2) lies. On the 1-degree eyepiece field to the left, I have indicated the stars I used to reach Fornax 2 (indicated with a red arrow).

Using 133x I could see, in the threshold of visibility, and using averted vision, a very small and round nebosity. This cluster is a very difficult object for an 8-inch reflector, so for sure bigger mirrors are necessary to get a more detailed image of this object. I had similar views using higher magnification, 196x and 266x. During the observation with higher magnification, this globular had an altitude of about 87 degrees, just a few degrees from the zenith.

Fornax 4 (Hodge 4) is situated at about 7 arc minutes from the star HD 16690. Surprisingly, I could see, using low magnification (53x), a faint star in the position where this cluster lies. The second edition of the Deep Sky Field Guide to Uranometria 2000.0, by Murray Cragin and Emil Bonnanno, William Bell, Inc., 2001 gives a magnitude of 13.6 and 0.9 arc

(Continued on page 10)



BOARD MEETING MINUTES

November 3, 2008

OMSI Classroom 1

Margaret Campbell-McCrea

Attending: Voting Members: Ken Hose, David Nemo, Jan Keiski, Sameer Ruiwale, Margaret Campbell-McCrea, Matt Brewster, Dale Fenske, Larry Godsey, Greg Rohde, Tom Nathe. Non-Voting: Dawn Willard, Peter Abraham

The meeting was called to order at 7:10 p.m. The first order of business was to introduce Dawn Willard who attended to prepare for the assumption of her duties as Community Affairs officer in January. Welcome, Dawn!

Officer Reports:

- Secretary: Quorum met, ten voting members attending.
- Treasurer: Larry Godsey reported that we have \$20,236.60 in the RCA general account, and \$18,977.34 in the Site Fund, for a total of \$39,213.94.
- Programming: Matt Brewster reported that Ty Robinson from the UW Astronomy Dept. with discuss using the NASA EPOXI spacecraft for analyzing planetary atmosphere as part of the search for extraterrestrial life.
- Observing: No report.
- Community Affairs: No report.
- Media Director: No report.
- Membership: Ken Hose reported 13 renewals and 9 new members, for a total of 276 member families, which is a little ahead of last year. RCA has had its first PayPal renewal.
- New Member Advisor: No report.
- Sales: Margaret Campbell reported an intake of \$576.05 at the October meeting.
- Book Library: Jan Keiski will be sending a message looking for help for the November 25¢ book sale.
- Scope Library: Greg Rohde reported that he purchased case for the 10" Dob. There have been two new donations, an 8" and a 10", both hand built. He plans to sell some of the inventory at the December meeting. He will advertise through the forum with pictures.
- IDA: No report.
- Magazine Subscriptions: Nominal.
- Webmaster: No report.
- Site Committee: David Nemo reported that he sent the thank-you check to our host in Maupin, with some pictures of our star parties. Ken suggested looking for property in the Goldendale area, which is a 2.5 hours drive form Portland and sky darkness is good. Dave has looked in that area already, but he's willing to keep our options open.
- Youth Director: Margaret reported that she had spoken to the 8th grade science class at Harriet Tubman Leadership Academy

for Girls, and that they are looking for someone to run an after-school astronomy club at the school. She suggested talking to Jean London about it, since the school is partnered with OMSI.

- SIGs: Tom Nathe reported that the Imaging SIG is looking for a place to set up shop for its November meeting. The Science SIG going well. There will be no lunar impact study this weekend because of the weather. About 18 – 20 people have been coming to the meetings. The Cosmology SIG hasn't been meeting. We will ask Larry Deal to cut it from the newsletter until we know more.

- Alcor: Nominal.

- OMSI: Nominal.

Old Business

- Press release: It's done and will be submitted to the Oregonian and Columbian.
- Article for the Reflector about the sister club with GAMA: Done.
- Plan for the youth program is in progress.
- Youth Program: Jan offered children's books to Jean London, but she decided not to take any.
- No information on the film project.
- The Elections Committee has worked up a slate of officers to be presented at the November meeting for elections. They are:
 - Sameer Ruiwale, President
 - Larry Godsey, Treasurer
 - Matt Brewster, VP Programming
 - Dawn Willard, VP Community Affairs
 - Ken Hose, VP Membership
 - Matt Vartanian, VP Observing
 - Margaret Campbell, Secretary
- Forum Update: Dave Nemo reported that the membership list has been cleaned up and the forum is working well.
- Broadcast messages: There are 207 members on the Forum, which reaches 270 people. Larry explained how the Board and SIGs can send messages to the whole club. Because of issues with the Forum server, we have to use Michael's list rather than the Forum. Michael's list is a temporary solution.
- Starlight Parade: Margaret spoke to Andy Phelps and he's willing to call together a committee for the project. The next step is for that committee to submit a plan and a budget.

New Business

- Laptop purchase for club: Sameer outlined his reasons for getting one for the club: the one we have been using for the secretary is his personal laptop and it is dying; it would be good for the sales table, he has a barcode reader and has a free downloadable software program for the sales table; to furnish our speaker; for use by SIGs or library; for \$400-\$450 we could

(Continued on page 10)

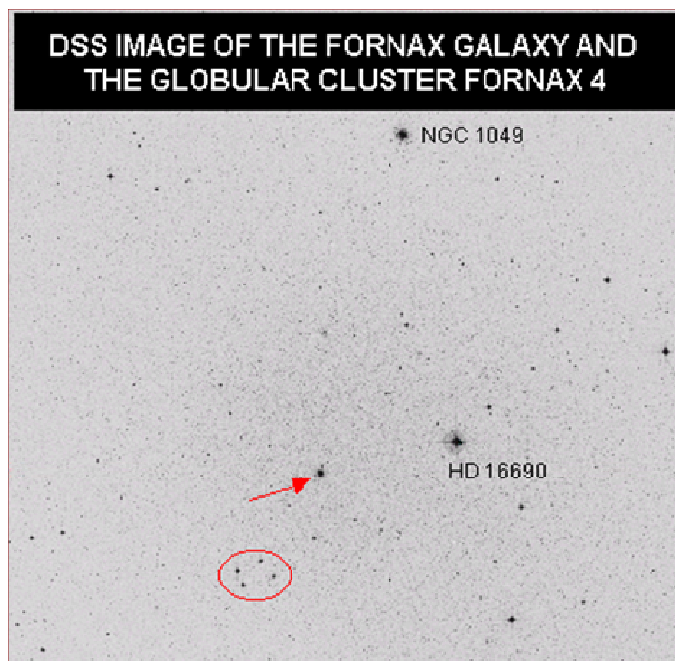
Fornax Globular Clusters *(Continued from page 8)*

minutes in apparent size for this globular cluster. The Clark's method for optimum detection magnification indicates that Fornax 4 should be visible under a dark sky through an 8-inch telescope, with an optimum magnification of 81x taking into account a dark sky with a limiting magnitude of 6.4. I think the faint star I saw is Fornax 4 (indicated by the red arrow in the picture) because of its relative position to the star HD 16690 and a group of four faint stars indicated with a red circle in the picture to the right. Moreover, there are not stars brighter than magnitude 14.5 surrounding that cluster.

At 78x and 133x I had a better view of this globular.

Fornax 1. A Globular Cluster for Bigger Telescopes

This faint cluster, situated north of the star Lambda2 Fornacis (see map in second page) was not visible through my telescope. According to the second edition of the Deep Sky Field Guide to Uranometria 2000.0, by Murray Cragin and Emil Bonnanno, William Bell, Inc., 2001, this object shows a magnitude of 15.6, very faint for a small telescope.



Board Meeting Minutes *(Continued from page 9)*

have a decent laptop that would last us quite a few years; could be kept in planetarium storage; good for a backup for information such as library inventory which are currently on personal laptops. Dale made motion; Jan seconded it. Motion carried with one abstention.

- December potluck: The question of giving awards at the December banquet came up. Our awards committee no longer meets. We decided to try to reach Christine Lee for recognition next month. The Site Committee will set up outside in the hallway to sell last minute raffle tickets. The Swap Meet will also be out in the hallway. The sales table will be on the inside. We want to thank Mike Rasmussen and Dan Gray at the Dec. meeting for their contributions to the club. We may also ask some members to provide music.
- Benefits for volunteer time: The question arose about giving club membership to people who volunteer time, but we decided that since it is a volunteer club, we cannot do that. But we can do this for people who incur real expenses as part of their volunteer work for the club and don't ask to be reimbursed. We will make these on a case-by-case basis.
- Broadcast messages: These are for announcements only, not for personal messages. Sameer handed out a draft of broadcast guidelines.
- Members Only section of our website. It's in test mode now. Videos, list of SIG leaders, membership lists, things we don't want the public to see. It can be a place for members to check to see if they have paid their dues. One ID and password works for everyone. Dareth and Larry working on it together. The Board will be able to check it during the month.

To-Do List

1. Jan will send out a message looking for volunteers at the book sale.
2. Jan will also notify the webmaster of the sale for our website.
3. Greg Rohde will advertise the scope sale on the Forum and RCA website.
4. Margaret will talk to Jean London about the Harriet Tubman school. Also talk to Andy Phelps about Starlight Parade and will supply the webmaster with a new price list for our website.
5. Larry Deal: please drop announcements of the Cosmology SIG until we know more about its status.
6. Sameer will contact Bob McGown about Cosmology SIG.
7. Sameer will contact Patton Echols re. talking with Dawn about Community Affairs director.
8. Sameer will get the videos of our two speakers onto our website.
9. Tom will contact Chris Lee about being at the Dec. meeting for an award and will also get in touch with Matt Brewster
10. Matt Brewster will talk to Carol and/or Dareth about the awards committee.
11. Matt will find some musical entertainment for the December meeting.
12. Larry Godsey will send out a test message to the Board regarding the Members Only section.

Astro-Imaging Special Interest Group

The "AI-SIG" is about advancing the skills of beginner, intermediate and advanced astro-imagers. We rely on the skills of our members to bring each other along as we image the beautiful night sky and its many wonders. Whether you use a CCD, DSLR, point-and-shoot or film camera, members of this group can help you achieve better images with less effort and frustrations. Please join us as we learn together to produce "stellar" images!

Next Meeting

Monday, December 8, 2008 - 6:30pm
Beaverton Public Library - Conference Room
12375 SW 5th St - Beaverton

Agenda:

- Considerations for Successful Urban Imaging – Can't seem to pack it up and get your equipment out to a dark sky site? AI-SIG members will discuss equipment, technique and other considerations for overcoming the more prevalent challenges associated with urban imaging of the night sky.
- RCA Astro-Imaging Guidelines – The group will review and comment on the DRAFT guidelines. Final formatting issues will be managed.
- "Astrophoto Help Session" – RCA members interested in receiving critique and assistance with their astro-images are encouraged to bring their image files either on a USB flash or CD/DVD-ROM, or their laptop computer. LCD projector and standard serial connector will be provided on-site.

Telescope Workshop

When: Saturday, December 13, 10:00 AM - 3:00 PM
Place: Technical Marine Service, Inc.
6040 N. Cutter Circle on Swan Island
For more information contact:
Director: John DeLacy johncdelacy@comcast.net
Assistant: Don Peckham don@dbpeckham.com

Observing Site Committee

To lead and coordinate efforts of the Rose City Astronomers (RCA) in securing and managing a variety of observing sites for private use by members, and for community outreach and special events organized by the RCA.

Please Check

<http://nemoworld.com/RCA/sitehome.htm>
for more information.

Or Contact: David Nemo <david@nemoworld.com>

Site Fund Goal \$110,000



November 2008

RCA 'Downtowner's' Lunch

Join us on the first Friday of each month for lunch at a great downtown restaurant (Holidays and such may push us to the second Friday of some months, check the calendar at <http://www.rosecityastronomers.org>).

The location is announced on the RCA general forum discussion list. at <http://www.rosecityastronomers.org/forum> under special interest groups.

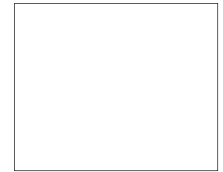
Always great conversation and food.

For more information contact: Margaret Campbell at mmcrea@nwlinc.com



Photo by Jan Keiski

Oregon Museum of Science and Industry
 Rose City Astronomers
 1945 SE Water Avenue
 Portland, Oregon 97214-3356



DECEMBER 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

December 2008

Dec 1	Mon	RCA Board Meeting	OMSI Classroom 1	7pm
Dec 5	Fri	Downtownner's Luncheon	TBD	Noon
Dec 8	Mon	Astro Imaging SIG	Beaverton Public Library	6:30pm
Dec 13	Sat	Telescope Workshop	Swan Island	10am-3pm
Dec 15	Mon	Holiday Potluck	OMSI Auditorium	7pm

January 2009

Jan 2	Fri	Downtownner's Luncheon	TBD	Noon
Jan 5	Mon	RCA Board Meeting	OMSI Parker Room	7pm
Jan 12	Mon	Astro Imaging SIG	Beaverton Public Library	6:30pm
Jan 17	Sat	Telescope Workshop	Swan Island	10am-3pm
Jan 17	Sat	Science SIG	Swan Island	3pm
Jan 19	Mon	General Meeting	OMSI Auditorium	7pm

The RCA General Meeting falls on the third Monday of each month. We usually meet in the Auditorium at OMSI, next to the Murdock Planetarium. Occasionally the meeting is held in Murdock Planetarium. Check here each month for details, or look us up at the RCA web site (<http://www.rca-oms.org>).

RCA CLUB INFORMATION
 Web Site: <http://www.rosecityastronomers.org>