

# The Rosette Gazette

Volume 23, Issue 01

Newsletter of the Rose City Astronomers

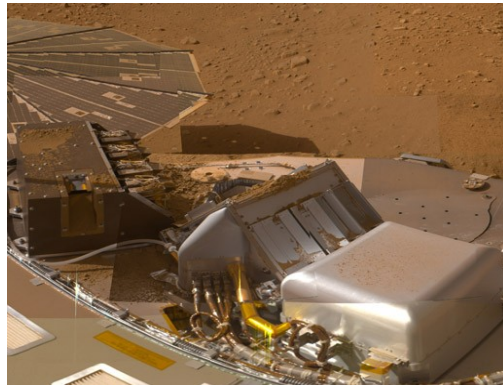
January, 2011



## RCA MONDAY JANUARY 17

### In This Issue:

- 1...General Meeting
- 2...Club Officers
- .....Magazines
- .....RCA Library
- 3...Local Happenings
- .....Special Interest Groups
- 4...Observers Corner
- 7...New Calendar
- 8....Minor Catalogs  
Project: Stock
- 12...Lunar Eclipse
- .....SkyTools Classes
- 13...RCA Board Minutes
- 14...Calendars



### Mark Claire

NASA/NAI Postdoctoral Fellow, University of Washington

In December 2008, NASA's Phoenix Lander touched down near the edge of the Martian northern polar ice cap. Nestled amongst multiple experiments to measure atmospheric composition and image the surface was a robotic arm which was used to scoop up chunks of the Martian soil and deliver them to a series of chemical analyzers. The discovery of perchlorate ( $\text{ClO}_4$ ) as the dominant salt in the Martian soil ranks among the most surprising planetary science discovery of the previous decade.

In this presentation, Mark Claire will talk about why salts are interesting to planetary scientists and astrobiologists, and will discuss ongoing attempts to understand the Phoenix results. In the context of understanding Mars, we will focus our discussion on one of the most Mars-like places on Earth - Chile's Atacama desert. Our interdisciplinary conversation will include modeling of the atmospheric chemistry above the Atacama, ground truth obtained during a 3 week field excursion in May 2010, and will be interspersed with thoughts on politics, fertilizer, and pollution.

### All are Welcome! Monday January 17

**Social Gathering: 7 pm General Meeting Begins: 7:30 pm Location: OMSI Auditorium**

**New Member Meeting: 6:30 pm in the Planetarium**



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

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

First Quarter Moon  
Jan 12

Full Moon  
Jan 19

Last Quarter Moon  
Jan 26

New Moon  
Feb 2



## CLUB OFFICERS

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Matt Brewster	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitfund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Scott Kindt	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>

# Local Happenings

## President's Message

Dear RCA Members,

I would like to wish you all a very happy new year on behalf of the entire RCA Board. I am looking forward to an exciting year and lots of clear skies! I am excited to be a part of the Rose City Astronomers – we have a large club (one of the largest in the nation) and we bring together members with diverse interests and expertise. If you are new to the club, I would encourage you to explore the many different things we offer – our special interest groups on various topics, our new member meetings (which incidentally are open to all – new and ‘not so new’ members), our newsletter, our book library and telescope library, sales table, youth program and of course our monthly speakers and presentations.



There are a couple of things I would like to draw attention to. We unveiled the first ever RCA 2011 wall calendar for sale in December – this calendar contains awesome spectacular astronomical images taken by RCA members in addition to RCA star party dates, general meeting dates, SIG meeting dates, etc. I am proud of this calendar – it showcases the skills of our astro-imaging members. I am sure you will help us in supporting this endeavor! I would like to thank everyone who submitted images and to the committee that put this calendar together.

The other thing I wanted to bring your attention to is the SkyTools 3 class we will offer in March by Greg Crinklaw (the author of the software) and the precursor to it – a SkyTools Intro class in February that is being offered by our own member Mark Martin. I would like to thank Mark for driving this effort and we have received tremendous response to these classes.

In closing, I would like to thank all the RCA Board Members, SIG leaders and members who contribute towards our public outreach events. As always – if you are interested in volunteering in any capacity – please contact any of the RCA board members. All the great things we offer as club are only possible due to the selfless efforts of our volunteers!!

Thanks and Clear skies,

Sameer Ruiwale

## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, January 10th, 7pm  
Location: Beaverton Public Library  
Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: ai-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: sci-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, February 4th, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: downtown-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

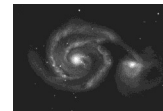
When: Monday, January 17th, 6:30pm  
Location: OMSI Planetarium  
Topic: TBD  
SIG Leader: Howard Knytych  
Email: newmembers@rosecityastronomers.org  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

### Telescope Workshop

When: Saturday, January 22nd, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: tw-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, January 19th, 7pm  
Topic: To Be Announced  
Presented by: To Be Announced  
Location: Linus Pauling Complex,  
3945 S.E. Hawthorne St., Portland.  
SIG Leader: Lamont Brock  
Email: cosmology-sig@rosecityastronomers.org  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)



## M33

I began my latest sketch of M33 in 2009 and think it's about halfway finished. I'm being deliberately slow and careful to catch all the subtle details I can, but our lousy weather has slowed down progress to a frustrating standstill this fall and winter. But that's not all bad as it gives me time to consider what I've seen so far and what to look forward to next. Writing this article helps too, and will hopefully explain why I'm spending so much time on this object.

M33 is the third largest spiral galaxy in the local group along with the Milky Way and M31, the great spiral in Andromeda. The best measurements indicate that M33 is around 3 million light years away from us, just a little further than M31, and that M33 and M31 are separated from each other by about 750,000 light years. It seems likely that they're gravitationally bound to each other, with M31 being over twice as massive. Inclined 54 degrees to our line of sight, M33 appears more face-on than M31 does, so even though M33 has a fairly low surface brightness we have the opportunity to see more spiral structure and HII region details than we do in the much brighter but more edge-on M31. The photo is from Wikipedia and is credited to Hunter Wilson, [http://en.wikipedia.org/wiki/Triangulum\\_Galaxy](http://en.wikipedia.org/wiki/Triangulum_Galaxy).



My first sketch of M33 is dated August 16, 1974 and shows an elongated smudge. Not much to look at but it's an accurate representation of what I saw using my homemade 8 inch f/4 Newtonian, which was then mounted on a German equatorial mount. I didn't record what eyepiece I used but it was probably an Edmund's Scientific 20mm Erfle which would have given a magnification of 41x. I also had a 12.5mm Edmunds Orthoscopic eyepiece back then which produced 66x so I may have used that too. I didn't start taking notes that included the magnification until 1982.

However, I did note that "the Milky Way appeared like a veil of diamond lace for most of the evening" indicating that my suburban location in the Denver suburb of Arvada was still pretty dark. The 5600 foot elevation didn't hurt either, so I had a pretty decent sky. As a local reference, I'd say my sky then is about the same as you get around Forest Grove now. Unfortunately many people coming into astronomy these

*(Continued on page 5)*

(Continued from page 4)

days aren't so lucky so seeing M33 is much more of a challenge. Reading through posts on Cloudy Nights.com about finding and seeing M33 indicate that's it's a frustrating object for many newbies.

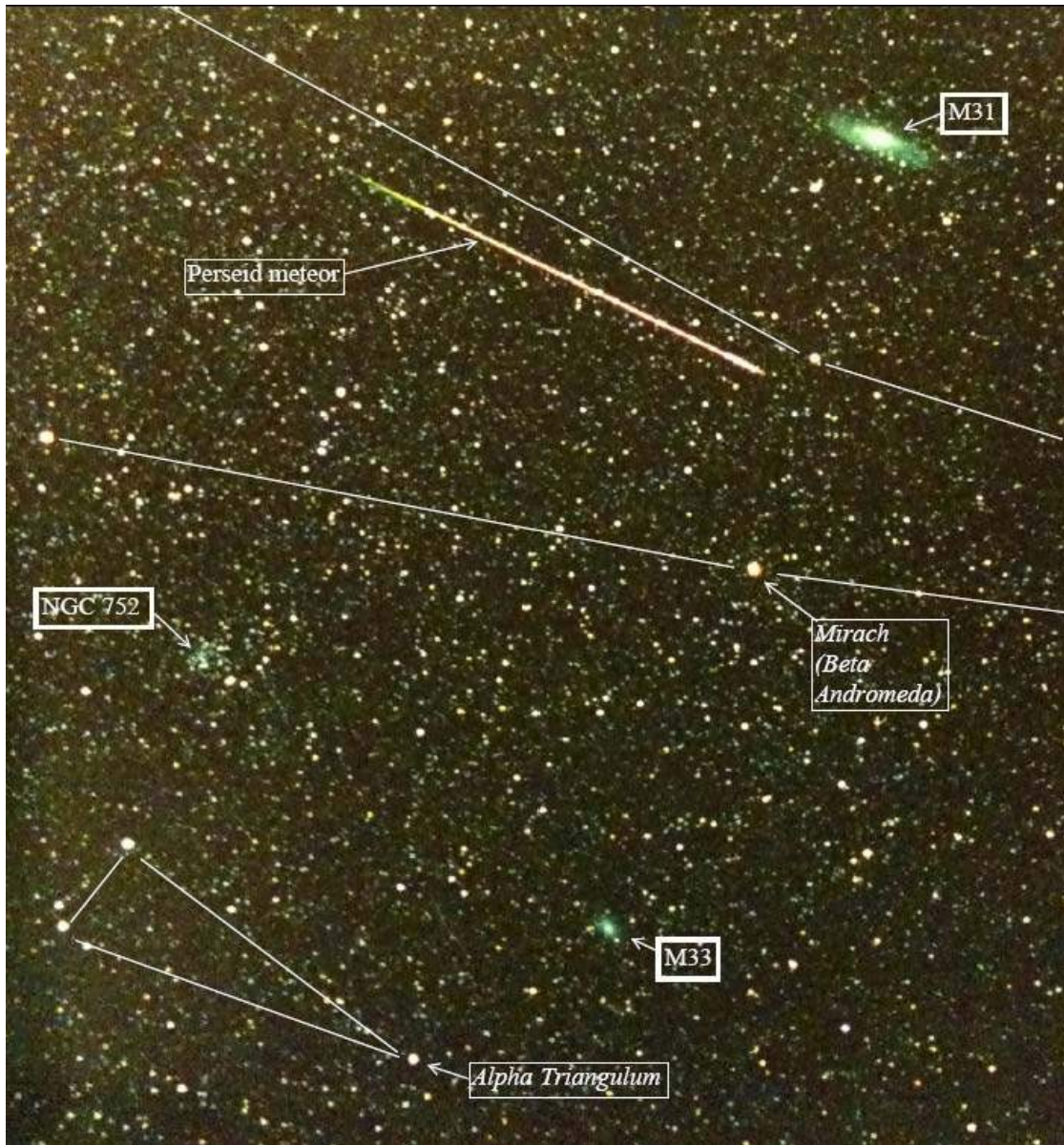


Image by the author.

Light pollution is unkind to M33 and a moderate amount can render it nearly invisible because it's a large, diffuse object. Because its light is spread out with low contrast, brightening the sky a little can make it disappear. However, with only your unaided vision, if you know exactly where to look from a true dark sky site, you might be able to detect the galaxy as a very faint diffuse glow, about one third the size of M31. More than likely you'll need to use averted vision to see it at all, even under the very best conditions. The fun in trying to see M33 without optical aid is that it's the farthest object that can be seen for all but a few hardcore naked eye observers.

(Continued on page 6)

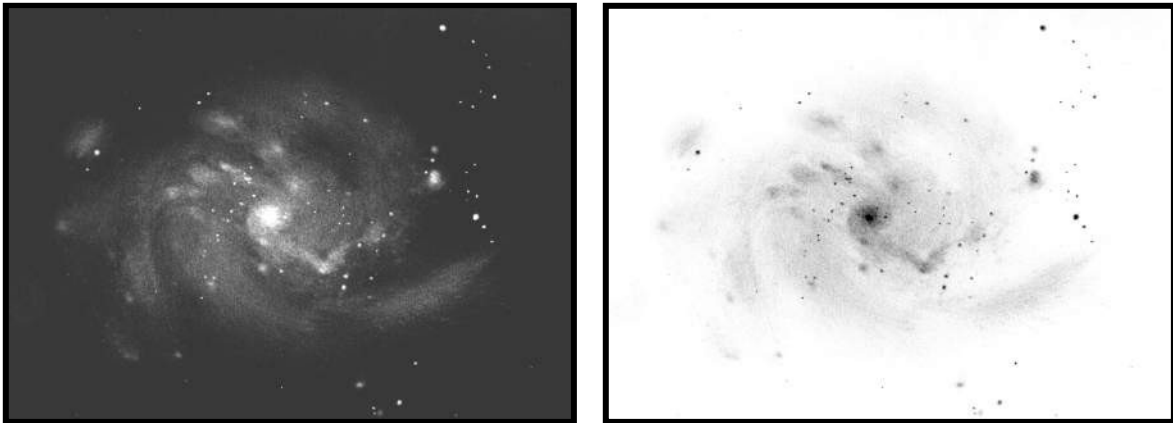
*(Continued from page 5)*

Finding M33's exact location is easy if you can see stars down to 5<sup>th</sup> magnitude. Locate the constellation Triangulum, which is outlined with the red lines in the lower left of the image above. Note its location relative to the tip star of Triangulum (alpha Triangulum) and Mirach (Beta Andromeda). Note the lines outlining part of the constellation of Andromeda in the top half of the photo. You can also locate M33 at the southern corner of a large triangle made by M31 (northern corner) and the open cluster NGC 752 (eastern corner).

Being able to pinpoint M33's location is one thing but actually seeing it by looking up is a different matter. You'll need Oregon Star Party quality skies for this feat.

Even so, in a light polluted sky knowing where M33 is located is important even if you're using digital setting circles or goto. Finding the right spot with your scope may not show much – or anything at all – at first glance because M33 may not be immediately visible in the eyepiece. Knowing you're in the right spot makes it easier to concentrate your vision, both direct and averted, to pull it out of the sky glow. A trick is to look for NGC 604, the biggest and brightest HII region in M33 because it has a much higher surface brightness than M33 proper, and so it will stand out more in a light polluted sky. You can even use a OIII filter to boost 604's contrast a little. More on M33's HII regions a little later.

However, if you're fortunate enough to observe M33 from a true dark sky then you can manually point your scope right at it and begin to soak up the details available at different magnifications.



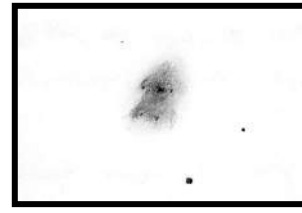
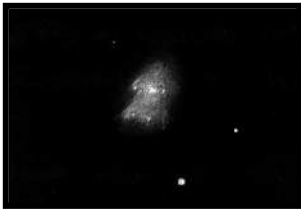
**Unfinished M33 sketch by the author. Note the clumpy spiral structure, small nucleus and the very bright HII region NGC 604 at the right center of the images. 28 inch f/4 using magnifications of 105x to 253x, over four observing sessions totaling about 3 hours.**

The first thing you may notice through your scope is how large and dim most of M33 appears. Photos give the impression that M33 is a fairly high contrast object but the visual truth is that it's rather diaphanous. M33 shows just how wispy many galaxies are and that they're mostly empty space between the stars, gas and dust that make them up.

Nonetheless, if you're using an 8 inch or larger scope from a relatively dark site you'll probably see the main spiral arms, and very likely will see suggestions of their lumpiness. The lumps are due to stellar associations (star clouds) and HII regions, places where stars are being formed. They have their own NGC, IC or "A" (stellar association) designations. As I've already mentioned, the biggest and brightest is NGC 604.

*(Text continued on page 7)*

(Continued from page 6)



The sketch on the left is an inverted version of the sketch of the right, showing what NGC 604 looked like through a 28 inch f/4 alt-az Newtonian at the 2005 Oregon Star Party. The center image is a photo taken by the Hubble Space Telescope showing, as usual, how much more there is to see. High power is needed to see more than just a relatively bright but small nebula, but fortunately 604's high surface brightness takes magnification well, so pile on as much as sky conditions allow. A 16 inch or larger scope using magnifications over 600x under ideal conditions may even show some of the stars that have already formed within NGC 604. I used a little over 800x on the sketches above.

The coolest thing about 604 is that it's a nebula in another galaxy 3 million light years away – and it can be seen in common amateur size scopes. 604 is about 1500 light across, about 40 times the size of the Orion Nebula and 6300 times more luminous. Imagine – NGC 604 is about as wide as the distance between us and the Orion Nebula!

For a chart with all of M33's HII regions and star clouds labeled, check out a page put up by the renowned observer, Steve Gottlieb at:

<http://www.astronomy-mall.com/Adventures.In.Deep.Space/M33.HII-Star.Clouds.html>

I've best appreciated M33's visual appearance from the Oregon Star Party and Steens Mountain, and hope to continue my sketch in 2011. It's really my hope to never really finish it because that would mean there's nothing left to see. Given that the more one observes the more is seen, my real hope is to observe M33 a lot more in the coming years, and I hope many of you do too.

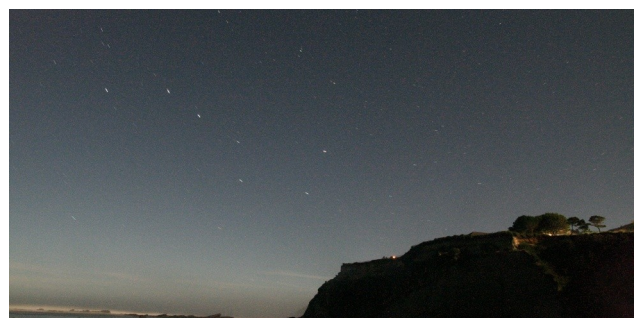
## New RCA Club Calendar

When is the Trout Lake Star Party in 2011? If I get a telescope for my birthday will it be near the full moon? These questions and more could be answered with a new 2011 RCA calendar.

We are pleased to announce the arrival of our new Rose City Astronomers wall calendar.

The calendar features photography from many of our club members. It also features the dates for scheduled star parties for the Rose City Astronomy club and selected regional star parties.

The calendars are now available at the Sales Table.



MAY 2011						
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				

## Minor Catalogs Project: The Stock 24 (or 22)

By Margaret Campbell-McCrea



Jürgen Stock,  
unattributed  
photograph<sup>1</sup>

I first became aware of Stock clusters when I was doing my Urban Skies observing program in the back yard of my house in SE Portland, where the quality of the sky was noticeably worse than it is where I live now, 75 blocks away, in NE Portland. I found Stock 1 and Stock 2 not far from each other, and concluded that Stock seemed to specialize in very large, very loose, very indistinct clusters. Since then I have seen a few other Stock clusters, and determined that not all of them are so extra large. Stock 2 has become my own personal asterism, the T-Rex asterism. Follow a nice long string of stars from the Double Cluster (NGC 869 - - the “higher” one on the “right”). That forms the neck of the T-Rex and when you get to Stock 2, you will see a large dinosaur’s head with its mouth open. It’s a binocular object and it tends to work best in Northern skies in August, when the thing is “right side up.” Having created an asterism out of the gentleman's cluster, I was naturally interested in finding out who he was.

Jürgen Stock (1923 – 2004) was a German by birth, but he spent more than half of his life in Latin America. Living in Mexico from the ages of two to six, Spanish was his first language. However, his education was in Germany. He was drafted into the German Army and was sent to the Russian front, where he endured terrible conditions that formed his anti-military feelings for the rest of his life. Stock’s first overseas job was in the U.S., with Warner and Swasey Observatory in Cleveland. He later became a U.S. citizen. He is best known among astronomers for his work for a consortium of U.S. astronomical institutions in selecting the location in Chile for the Cerro Tololo Interamerican Observatory. In fact, he oversaw the building of the observatory itself, including the road up the mountain to get to it, and was its first director in the early 1960s. By 1965 he was a professor at a university in Chile, but in 1970, the Allende government suspended the paychecks of foreign nationals working at Chilean universities. The Stock family moved briefly to Mexico, then moved to Venezuela. Stock founded the Centro de Investigaciones de Astronomía (CIDA), an observatory in the Andes near Merida, and again was its first director, a position he held for thirty-three years until he died at the age of 80. He married a Chilean

<sup>1</sup>From the obituary published in *Revista Mexicana de Astronomía y Astrofísica*: 40, 243-244 (2004), link posted at end of this article.

(Continued on page 9)



woman, Silvia, and had five children. His daughter M. Jeanette Stock became an astronomer and professor herself.

No discussion of Stock's life fails to mention the "Stock Reports." During the three years that he was investigating locations in Chile for what would become the Cerro Tololo project, he sent a series of letters back to his boss, Donald Shane of Lick Observatory. These proved to be so interesting and well-written - - covering everyday life, local culture and astronomical conditions - - that Shane had them reproduced for circulation among astronomers. The letters were eagerly anticipated and were passed around for reading and rereading among Stock's colleagues. The obituary written by M. Jeanette Stock mentioned that the letters were being edited and would be published. I haven't come across that publication, but would welcome reading it if it is ever published.

It was through the persuasiveness of those letters that the ESO (European Southern Observatory) decided to build its telescope at La Silla Paranal in Chile rather than in South Africa, and the Carnegie Institute to build its southern observatory on Las Campanas. For more than a century, European astronomers had considered building observatories in Chile, and in fact, the Lick Observatory in 1903 established a southern outpost, the Mills Observatory, that it used for 25 years to photograph over 10,000 southern sky objects.<sup>2</sup> But it was Stock who took the dreams of "building the big ones" and made them a reality. All of these southern institutions are still going strong, and the Chilean scopes are proving to be especially important in modern astronomical work.

As for the Stock list of open clusters, that is somewhat of an elusive object. It is based on his contribution to first publication of the *Catalog of Star Clusters and Associations*, which is itself a bit of an elusive object, having gone through a few revisions and iterations. The catalog was first published in Prague by Juri Alter., J. Ruprecht, and V. Vanysek and was republished in 1970 (and perhaps again since then?). I have not been able to track down a current, or even old, copy of this catalog via the Internet, so I cannot discuss how these 24 open clusters got into the catalog. I do have some speculations, however. I believe that Stock 1 and Stock 2 were written up in a 1956 article in the *Astrophysical Journal*<sup>3</sup>, and I know that Stock was back in Europe in 1956, where he very well could have met the publishers of this catalog. He was also in South Africa for a time in 1956 – 57, where he could have observed his four southern sky objects, Stock 13 through 16. Most of the objects reside closely together in or near Cassiopeia, and would make a nice little observing project in itself. At any rate, there are 24 Stock open clusters, though two of them, Stock 9 and Stock 22, have NGC numbers only and seem to have been dropped from the list. The list is attached to this article, including the two which have since changed their status.

<sup>2</sup> From "Brief History of Cerro Tololo Interamerican Observatory" by Dr. Victor Bruno, 1993. Found on CTIO's website at <http://www.ctio.noao.edu/>. Accessed 09/06/09. That telescope is still in use at the National Catholic University of Chile.

<sup>3</sup> "Magnitudes and Colors for Stars in Two New Galactic Clusters", Stock, J. 1956. *Ap.J.* 123: 258-265

(Continued on page 10)

It was rather a surprise to me to learn that Stock was still alive and directing an observatory when I first got started on my observing habit. When I started this project, I assumed that these names that are scratched all over the face of my star atlases are old names, like Riccioli or Alphonsus on the moon. It turns out that most of these names are from people who are just a generation or so away from ourselves. Jürgen Stock is of the same generation as my father. And in future contributions to this project, we will find that some of the names belong to people you might very well meet on the observing field! So that means we're still on the process of finding and naming these things, and your name may end up in a star atlas too.

If you have ideas or information for this series, I'd be glad to hear from you. M. Campbell, [campbellm101@gmail.com](mailto:campbellm101@gmail.com)

Juri Alter., J. Ruprecht, and V. Vanysek. *Catalog of Star Clusters and Associations*. 1958, 1970, Prague.

Bruzual, Gustavo and Stock, M. Jeanette. "Obituary. - - Jürgen Stock." *Revista Mexicana de Astronomia y Astrofisica*: 40, 243-244 (2004).  
<http://redalyc.uaemex.mx/pdf/571/57140210.pdf>

Lorenzen, D. "Jürgen Stoch and His Impact on Modern Astronomy in South America." *Revista Mexicana de Astronomia y Astrofisica*: 25, 71-72 (2006).  
<http://redalyc.uaemex.mx/pdf/571/57102528.pdf>

MacConnell, D.J. "Homage to Jürgen Stock." *Revista Mexicana de Astronomia y Astrofisica*, 25: 73-76 (2006).  
<http://redalyc.uaemex.mx/pdf/571/57102529.pdf>

Stock, Jürgen. "Magnitudes and Colors for Stars in Two New Galactic Clusters", *Ap.J.* 123: 258-265 (1956).  
Centro de Investigaciones de Astronomia (CIDA), [http://www.cida.gob.ve/cida\\_home/](http://www.cida.gob.ve/cida_home/)

Cerro Tololo Interamerican Observatory, <http://www.ctio.noao.edu/>

European Southern Observatory, <http://www.eso.org/public/>

La Silla Paranal Observatory, <http://www.eso.org/sci/facilities/lasilla/>

Las Campanas Observatory, <http://www.lco.cl/>

The Very Large Telescope at La Silla Paranal, <http://www.eso.org/public/teles-instr/vlt.html>

## The Stock 24

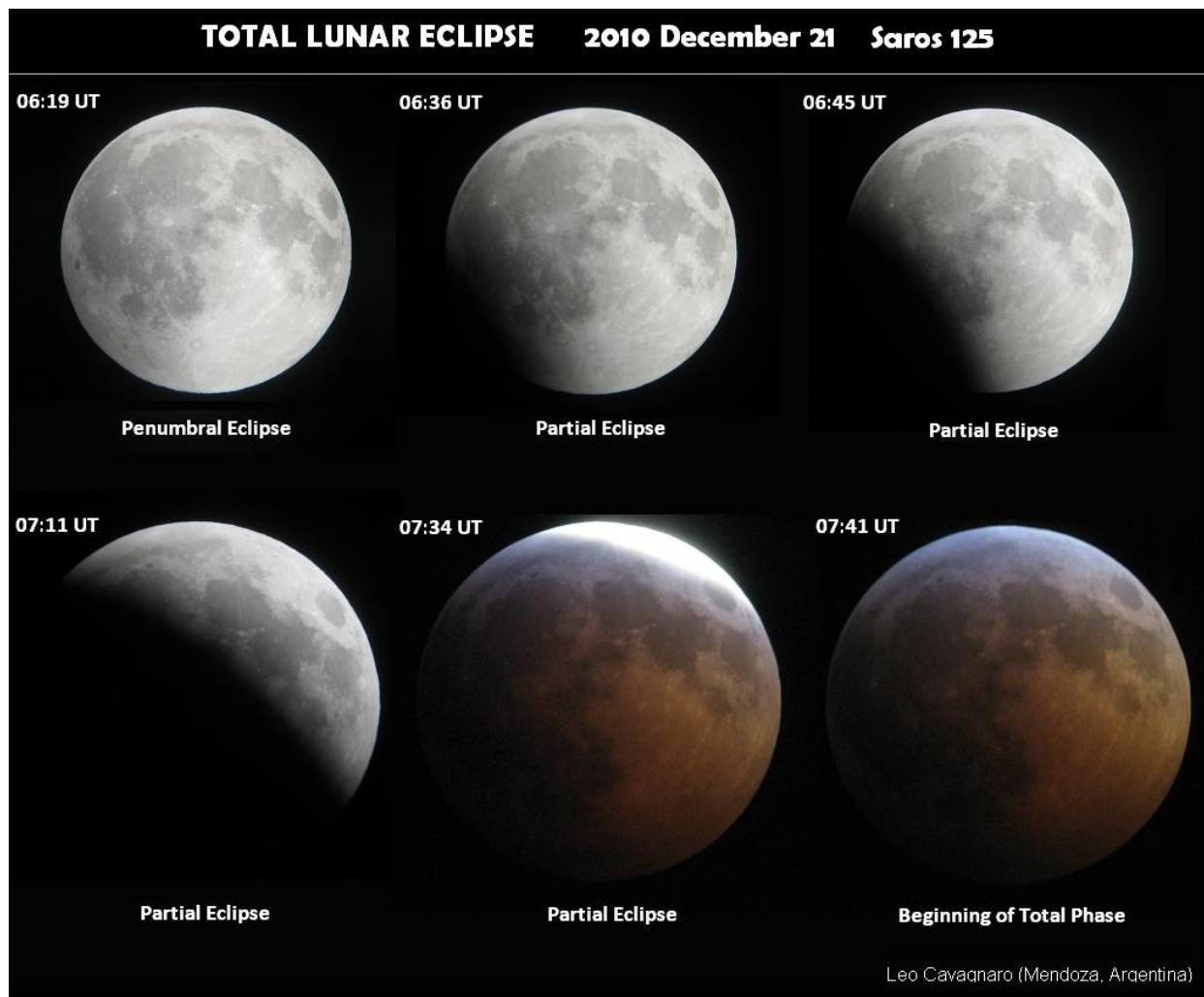
Number	RA	Dec	Mag	Dia	Const.
1	19 35 48	+25 13 00	5.3	80.0	Vul
2	02 14 43	+59 29 06	4.4	45.0	Cas
3	01 12 18	+62 20 00		5.0	Cas
4	01 52 48	+57 04 00		25.2	Per
5	02 04 30	+64 26 00	7.0	27.6	Cas
6	02 23 42	+63 52 00	10.0	14.0	Cas
7	02 29 26	+60 39 00	7.1	5.0	Cas
8	05 28 07	+34 25 24		14.0	Aur
9 =NGC 1931 (a nebula)	05 31 04	+34 08	10.1	1.0	Aur
10	05 39 00	+37 56 00		38.4	Aur
11	23 32 54	+55 29 00		10.0	Cas
12	23 36 20	+52 32 36		44.4	Cas
13	11 13 05	-58 53 00	7.0	5.0	Car
14	11 43 48	-62 31 00	6.3	6.0	Cen
15	12 10 30	-59 29 00		12.0	Crux
16	13 19 29	-62 38 00	9.1	3.0	Cen
17	23 43 47	+62 09 37		1.0	Cas
18	00 01 37	+64 37 30		6.0	Cas
19	00 04 41	+56 05 00		4.0	Cas
20	00 25 15	+62 37 00		19.2	Cas
21	00 30 25	+57 55 25		16.8	Cas
22 = NGC 433	01 15 03	+60 08		2.5	Cas
23 (Pazmino's Cluster)	03 16 11	+60 06 56		21.6	Cam
24	00 39 42	+61 57 00	8.8	5.0	Cas

Data for the table compiled from the following sources:

Open Clusters and Galactic Structure,  
<http://www.astro.iag.usp.br/~wilton/>

*Catalog of Open Clusters - - Equitorial J2000 Coordinates (DAML02)*,  
<http://www.astro.iag.usp.br/~wilton/clusters.txt>

WEBDA database, operated at the Institute for Astronomy of the University of Vienna,  
<http://www.univie.ac.at/webda/webda.html>



On December 21st we could see a wonderful eclipse of the Moon from Argentina. The sky was totally clear and it was very nice in spite of the hour (very late in the night). At the beginning of the eclipse the temperature was 71°F.

This eclipse of the Saros Series 125, the “Summer Solstice Eclipse” for observers here in the southern hemisphere began at 02:29 local time (05:29UT) with the Moon at 31 degrees of altitude.

The Eclipse Sequence:

Beginning of partial phase: 03:33 local time (06:33 UT). Moon at 25 degrees of altitude.

Beginning of total phase: 04:41 local time (07:41 UT). Moon at 17 degrees of altitude.

Greatest eclipse: 05:17 local time (08:17 UT). Moon at 11 degrees of altitude.

The Moon set before the end of the eclipse here.

Leo Cavagnaro

## SkyTools Classes Update

Happy 2011, Everyone!

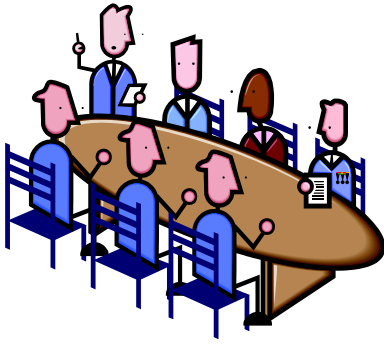
Last month, we reached our capacity of 50 people signed up for Greg Crinklaw's SkyTools Power Tips Class. But with the very generous help and support of OMSI Planetarium Director Jim Todd, we have been able to add another 10 seats to the class. If you are interested but haven't yet signed up, I strongly suggest that you sign up as soon as possible. Greg's class will be held on Saturday, March 19 in the OMSI Auditorium from 9 a.m. to 4 p.m. The cost is \$20 if you pay by check or \$21 if

you pay online using PayPal. You can pay by check via mail or in-person at the January or February general meeting.

If you'd like to learn the fundamentals of SkyTools, there is still room in my Introductory SkyTools Class. My class will be held on Saturday, February 19 in the OMSI Auditorium from 9 a.m. to 4 p.m. The cost for my class is \$5. To sign up for either class or to read more details, visit <http://rosecityastronomers.org/skytools/>

Thanks and I hope that your new year is off to a great start!

Mark Martin



# Minutes of the Rose City Astronomers Board November 1<sup>st</sup> 2010

Held at OMSI Classroom 1

## Board Members Present

Sameer Ruiwale (President)  
Ken Hose (VP Membership)  
Larry Godsey (Treasurer, Webmaster, Magazine Sales)  
Duncan Kitchin (Secretary)  
Larry Froberg (Sales Director)  
Jan Keiski (Library Director, OMSI & Sister Club Liaison)  
Greg Rohde (Telescope Library)  
David Nemo (Observing Site Director)  
Scott Kindt (Newsletter Editor, SIG Director)

## Call to Order

The meeting was called to order at 7:14pm by Sameer Ruiwale and, there being 9 board members present, the quorum requirement of 10 was not met. As such, the meeting was not empowered to vote on any issues or arrive at any binding decisions.

## Approval of Agenda

Since a quorum was not present, the agenda was not voted on.

## Approval of Minutes

Corrections to the agenda were proposed by Jan Keiski and Larry Godsey. Motion not voted on due to lack of quorum.

## Directors' Reports

- Secretary's Report – Duncan Kitchin: Quorum (10) not met, with 9 voting members present. As such, no motions can be voted on at this meeting.
- Treasurer's Report – Larry Godsey: Larry passed out two sheets showing data in a new format. Balance sheet on one, profit and loss on another sheet. Also shown is profit and loss detail showing every payment and receipt, and profit and loss for the year.
- VP Programming – Matt Brewster: Not present.
- VP Observing – Matt Vartanian: Not present.
- VP Community Affairs – Dawn Willard: Not present.

- Media Director – Diana Fredlund: Not present.
- VP Membership – Ken Hose: Last month had 8 new members join, 11 renewals. Total at 279 member families. Last two months were actually below previous year. Was 304 at this time last year, 276 the year before. Usually there is about 20-25% turnover each year, so that number is about the proportion of new members versus renewals. Brought in a total of \$431 in dues in the last month. PayPal was over half of the total.
- New Member Advisor – Howard Knytych: Not present. There is a program this month about Winter astronomy.
- Sales – Larry Froberg: Outstanding sales month. Sold 15 programmable name tags. Had previously sold 3 of the existing 4. Total of \$475 in sales last month. Largest this membership year. Larry has one volunteer.
- Book Library – Jan Keiski: November book sale is coming up. Dave Horne has volunteered as a new staff member for the library.
- Telescope Library – Greg Rohde: Greg got in contact with the gentleman who donated the two telescopes last month. He found the tripod for the 8" telescope. Greg has also contacted the president of the Eugene Astronomical Society, and is making arrangements with them to pick it up. That club is a 501(c)(3) club. Larry: the requirement for donations does not necessarily require 501(c)(3) status, but requires that the recipient has a purpose equivalent to our own exempt purpose. Larry and Greg will put together paperwork to document that the donation was made appropriately. First of the Meade PSTs (16c) which was exhibiting a corrosion problem has been sent in for repair. The other one (16a) may need to be sent in for repairs for the same issue when it comes back.
- IDA – Dawn Nilson: Not present.
- Magazine Subscriptions – Larry Godsey: Nominal.
- Webmaster – Larry Godsey: Website is being kept up to date as information is received. Larry noted that he is always happy to post presentations from general meeting speakers if they are available.
- Site Committee – David Nemo: No updates this month.
- Youth Director - Jean London: Not present.
- Newsletter Editor – Scott Kindt: This month's edition is

*(Continued on page 14)*

(Continued from page 13)

nearing completion – large issue with 18 pages at this point. Awaiting some committed contributions in order to complete and publish.

- SIGs – Scott Kindt: Nominal.
  - Alcor – Dale Fenske: Not present.
  - OMSI –Jan Keiski: From Jim Todd: confirming that we are going to be helping out with a Lunar eclipse party after our party on December 21<sup>st</sup>. Starts at 9pm, goes on to about 1am. Totality at 8:16UT (16 minutes after midnight local time) on the plaza outside OMSI. Subject to weather. Jim has confirmed dates for the meetings for next year – list of dates provided by Jan.
- Sister Club update – Jan Keiski : Notes from Leo. GAMA very grateful for potential donation of telescope. Leo is working on part 1 of an article for the gazette. May alternatively have an article on Southern Skies. Leo also sent photographs of a potential observatory site that GAMA is investigating.

## Old Business

- Update from 2010 Election Committee – David Nemo. No updates – we have a slate which was announced at the general meeting, no other nominations have come forward.
- Review Final 2011 Star Party Schedule – Matt Vartanian. No updates.
- Review Kahneeta Star Party contract for 2011 event – Matt Brewster. No updates.
- Update on RCA calendar – Larry Froberg. Schedule still tentative? Should now be confirmed. Everything has been sent to the printers, awaiting hearing back. Larry Froberg is going to talk to the printers tomorrow. Will also ask for a proof. Need to close on all of the text by the November general meeting.
- Vote on purchase of Orion Astroview Mount with single axis drive for Telescope Library – All. No vote due to lack of quorum.
- TABLED: Update on proposal for “Think out loud” radio show – Diana Fredlund / Dawn Nilson
- TABLED: Create Mirror Making Machine usage instructions – David Nemo / Greg Rohde

## New Business

### New Business

- Dec '10 Holiday potluck planning – Matt Brewster. Larry Godsey will send Matt the table of suggestions for this year. Jim Todd has agreed to set up the tables in the same arrangement as last year.
- SkyTools-3 Class sponsorship – Sameer. Has been a thread on the forum about setting up a SkyTools class. Mark Martin got in touch with Greg Crinklaw who is the developer of the software. Have discussed a couple of options to set up a class. Greg has expressed interest in traveling to Oregon to do a class. Would not require any payment besides travel expenses. Sameer suggests inviting him as a speaker; given his prior experiences, there are many interesting subjects that he may be prepared to speak about. Larry Froberg suggests that if we do, we should also put together another bulk order for the software. Sameer will investigate further and report back to the board on developments. Targeting February at this stage, but subject to change.
- Sameer got a request from Skamania lodge about setting up some telescopes there for an event. Sameer will get some more details and post on the forum.
- Larry Godsey will send Matt a list (developed last year) for who brings what to the potluck

### Guest attendee:

- Update on costs / procedures for shipping a telescope to GAMA in Argentina - Margaret Campbell-McCrea. Margaret was unable to attend today.
- Having portions of RCA website in Spanish – Margaret Campbell-McCrea. Tabled since Margaret was not able to attend this month.

## Adjournment


There being no further business, the meeting was adjourned at 8:35pm.

I would like to extend a special Thank You to all who have provided articles to the Rose City Astronomers Rosette Gazette throughout the 2010 year. What continually amazes me is the quality and depth of knowledge and information in the articles provided for the newsletter. Without your contributions the newsletter would not be the award winner that it is.



John Siple  
Howard Banich  
Leo Cavagnaro  
Tom Koonce  
Don Bryden  
Margaret Campbell-McCrea  
David Nemo  
Steve Stanton  
And all the others that provide the little bits of information that make up the whole of the newsletter.

# JANUARY 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 
2	3	4 New Moon	5	6	7 <a href="#">Downtowners Luncheon</a> Kell's Noon	8
9	10 7pm Board Meeting OMSI Classroom 1 <a href="#">Astro Imaging SIG</a> Beaverton Library	11	12 First Quarter Moon	13	14	15
16	17 6:30 New Members 7:30pm General Meeting OMSI Auditorium	18	19 Cosmology SIG Linus Pauling Cntr 7pm Full Moon	20	21	22 10am - 3pm <a href="#">Telescope Workshop</a>
23	24	25	26 Third Quarter Moon	27	28	29
30	31					

## February 2011

February 4	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
February 7	Monday	Board Meeting	OMSI Parker Room	7pm
February 14	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
February 19	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm
<b>February 21</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:30pm</b>
February 23	Wednesday	<a href="#">Cosmology SIG</a>	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 the RCA web site for the latest information.

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356

# The Rosette Gazette

Volume 23, Issue 02

Newsletter of the Rose City Astronomers

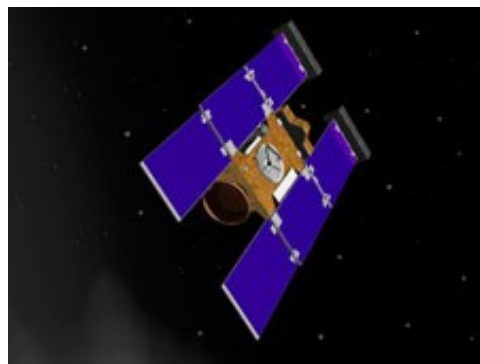
February, 2011



## Exploring Comets with Spacecraft

By Don Brownlee

Comets formed at the edge of the solar system by the accumulation of rocky, icy and organic materials. They are fascinating objects to observe with telescopes and they are important scientifically because they are preserved building blocks of the planets that were stored beyond the orbit of Neptune for billions of years. The Stardust Spacecraft collected samples from comet Wild 2 and returned them to Earth where they have now been studied for five years. The most remarkable finding from the mission was that the rocky components in comets, most of the mass of comets, was made at extremely high temperatures. High temperature products at the outer reaches of the Solar System? Hmmmm. Dr. Brownlee offers puzzle pieces how rocky materials combine with ices and organic materials to form comets.



After flying almost 5 billion miles, past a comet, an asteroid and past the Earth a total of three times, the Stardust spacecraft will fly past comet Tempel 1 this Feb. 14, hopefully just before it finally runs out of gas (hydrazine!). The fascinating goal of this close high speed flyby is to image the impact crater made by the high speed impact of an 800 pound part of the Deep Impact spacecraft in 2005.

### In This Issue:

- 1...General Meeting
- 2...Club Officers
- .....Magazines
- .....RCA Library
- 3...Local Happenings
- .....Special Interest Groups
- 5...Southern Skies
- 7...Observing Supernovas
- 9...Notices
- 10...RCA Board Minutes
- 12...Calendars



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

### All are Welcome! Monday February 21

Social Gathering: 7 pm General Meeting Begins: 7:30 pm Location: OMSI Auditorium

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

First Quarter Moon  
Feb 10

Full Moon  
Feb 18

Last Quarter Moon  
Feb 24

New Moon  
Mar 4





## CLUB OFFICERS

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Matt Brewster	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR, Historian	Dale Fenske	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitfund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Scott Kindt	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.

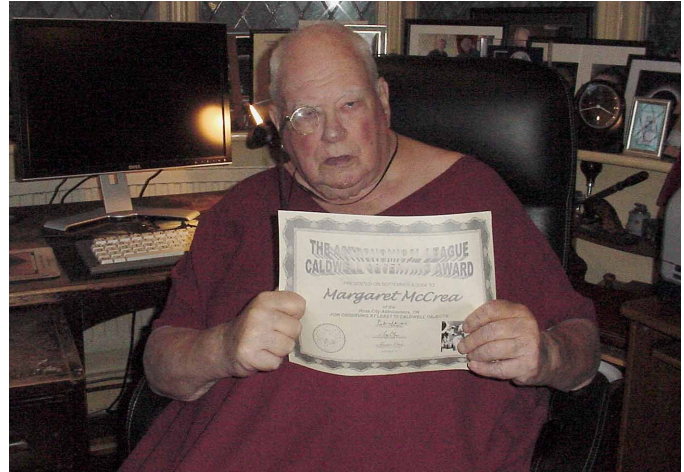
<http://www.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>



# Local Happenings

# *Congratulations!*

Margaret McCrae found more than 70 objects in the Caldwell list of objects and has received the Caldwell Club certificate and pin #147. Enclosed is a photo of Sir Patrick (Caldwell) Moore with her certificate ready to mail.



## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, March 10th, 7pm  
Location: Beaverton Public Library  
Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: ai-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: sci-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, March 4th, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: downtown-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

When: Monday, March 21st, 6:30pm  
Location: OMSI Planetarium  
Topic: Messier Marathon  
SIG Leader: Howard Knytych  
Email: newmembers@rosecityastronomers.org  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

### Telescope Workshop

When: Saturday, March 26th, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: tw-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, February 23rd, 7pm  
Topic: To Be Announced  
Presented by: To Be Announced  
Location: Linus Pauling Complex,  
3945 S.E. Hawthorne St., Portland.  
SIG Leader: Lamont Brock  
Email: cosmology-sig@rosecityastronomers.org  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)

## Kah-Nee-Ta Messier Marathon Star Party April 1-3, 2011

You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get back into the groove. We look forward to seeing you there!

Known for its clear, dark skies this time of year, the Kah-Nee-Ta Resort offers a family retreat atmosphere with many amenities and activities. Come and observe your favorite objects under Central Oregon's clear dark skies, spend a wonderful weekend with other astronomers swapping observing stories and exchanging information, or even just spend a relaxing weekend with your family, all in comfortable accommodations that offer various other activities. RCA Special Hotel Rate is \$78 per room per night, advance reservations highly recommended!

You must CALL to make your own reservations and be sure to mention that you want the RCA rate. 1-800-554-4786

RCA is NOT responsible for your reservations or your deposit with the resort. No Refunds within 72 hours of your first reserved night.

More information can be found on the RCA website:  
<http://www.rosecityastronomers.org/sp/kahneeta.htm>

## Maupin Messier Marathon Star Party April 1-3, 2011

The Rose City Astronomers have been granted permission to use private property approximately 8 miles West of the town of Maupin for members-only scheduled Star Parties.

The Maupin Observing Site is located on a private airstrip about 8 miles east of Maupin, Oregon. Warning: this airstrip is used in the morning, but at the far end of the airfield. Most people don't even wake up.

There is no registration for the event itself, just show up and enjoy the weekend. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get some serious observing.

It can always be cold at night no matter what the season, so bring warm clothing.

RVs, trailers and tents will be allowed on the observing site (see observing site map for instructions). The town of Maupin offers lodging, restaurants and recreation if you don't want to rough it. We will have a portable outhouse on site.

More information can be found on the RCA website:  
<http://www.rosecityastronomers.org/sp/maupin.htm>



## OMSI - Vernal Equinox Celebration Star Party

March 12, 2011

Held at **Rooster Rock & Stub Stewart State Parks.**

Viewing highlights includes the planets Jupiter, Mercury, and Saturn, first quarter Moon, deep sky objects including the Orion Nebula, Beehive star cluster and more!

See <http://omsi.edu/starparties> for more information or cancellations.

## Star Parties Coming Soon!

OMSI - Saturn Spectacular April 9th

Camp Hancock April 29-May 1

OMSI - National Astronomy Day May 7

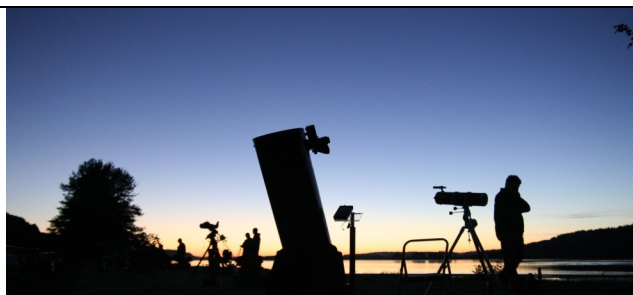
Maupin Dark Sky Star Party Weekend May 27-29

## New RCA Club Calendar

When is the Trout Lake Star Party in 2011? If I get a telescope for my birthday will it be near the full moon? These questions and more could be answered with a new 2011 RCA calendar.

The calendar features photography from many of our club members. It also features the dates for scheduled star parties for the Rose City Astronomy club and selected regional star parties.

There are only 20 calendars left at this time. The calendars will be available at the Sales Table during the next general meeting in February.



MAY 2011

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				

# Southern Skies

By Leo Cavagnaro

## Southern Messier Marathon Star Party

The Messier Marathon is by far one of the favorite events for G.A.M.A. Every year we go to Uspallata Valley about 70 miles to the northwest of Mendoza City. Uspallata is a small village so UNTIL NOW we are not having serious problems with light pollution if we move a few miles away. In the village you will find restaurants, two hotels, one hostel and several good places to observe from.



Some G.A.M.A. members in the observing site during the 9th edition of the Modified Messier Marathon for Southern Observers. Left to right, Laura and her nephew, Graziano and his new 12-inch Newtonian telescope and Leo Cavagnaro.



Laura Horta & Violeta Alonso, two G.A.M.A. members waiting for darkness. The telescope is a 16-inch dobsonian donated to G.A.M.A. by Joe Rottmann from Vancouver, Washington.

On the other hand, Saturday night, the official night of the Marathon, was mostly cloudy. However, the sky was clear since 3am so we could enjoy the stars from that hour until sunrise, including the Whirlpool galaxy (M51) which is visible at only a few degrees above north horizon.



A view of the foothills to the east from the observing site.



Setting up the telescopes



Group photo. Some of the observers at the site situated about 10 minutes to the north of the Uspallata village. G.A.M.A. members and friends talking and waiting for the observation.



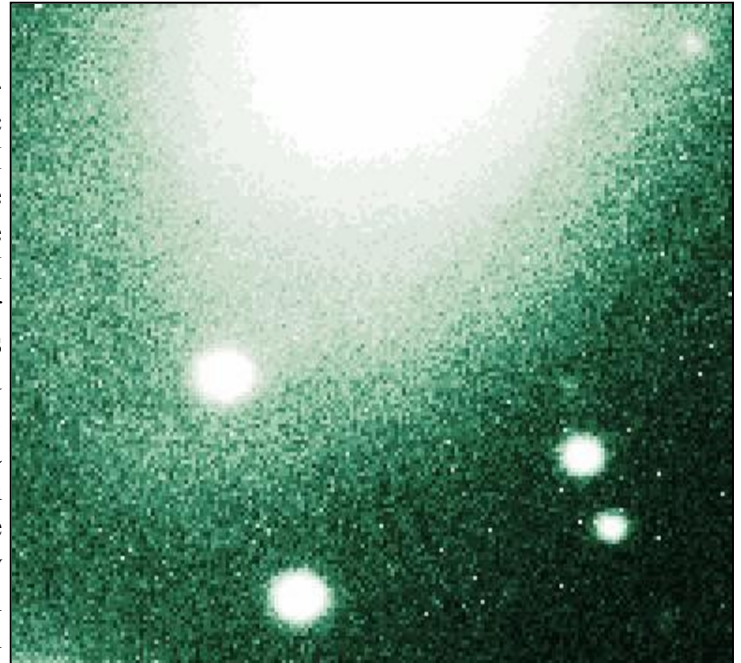
A green laser pointing at the rising Southern Cross.

## Observing Supernovas and Novas

*By Bob McGown*

To the lay person, supernovas are something like a supernatural event that never happens. If we waited for a particular star at the end of its life to supernova and explode, we might have to wait millions of years. There are numerous red giant stars like Antares or Betelgeuse that could supernova anytime, lying within a 1000 light years. Even the star Sirius could nova with its white dwarf companion and extinguish half the life on Earth from a neutrino blast. In geological supernovas may have played a part in extinction events on Earth? If Betelgeuse explodes at 640 light years away it will not harm life on Earth just because it is just too far away. If the light from a supernova explosion reaches the Earth during 2012 or any time in the next year it will have no significance to the Mayan calendar. There are at least 50 supernovas in the galactic neighborhood each year.

Amateur astronomers with moderate sized telescopes love to observe supernovas in the galactic neighborhood. The most distinct supernova that I observed was a beautiful image of M100 where the supernova was as large and bright as the core of the Messier galaxy itself. Chuck Dethloff and I observed this in the coast range of Oregon. Other supernovas that I observed in Messier galaxies were 1994i in M51, the Whirlpool Galaxy and 1993j supernova in the Sunflower Galaxy, M81. Steve Jaynes, Dareth Murray, and I observed a second supernova in M51 at the Messier Marathon in the spring near Ka-nee-ta. I was able to image the supernova 1993j at Pine Mountain Observatory the day of the discovery. Usually supernovas in the galactic neighborhood that are discovered each year start out with a, then b then c with the individual year to identify them. After the number system hits z then the number system changes to aa, ab, ac. To confirm a supernova compare the supernova to a DSS image to see if a star has exploded in that galaxy.



Supernova 1993j SN is in the lower right: Image courtesy Dr. Greg Bothun



William Shakespeare

On July 15<sup>th</sup>, 1572 the astronomer Tycho Brahe observed a supernova that was as bright as Venus and was visible in the daytime. Shakespeare was 8 years old and later he mentioned the blazing star of the north (Cassiopeia) in the play Hamlet. The supernova was fresh in the minds of astronomers of Europe, so when Shakespeare mentioned it in his play, but it was still a mystery that the supernova did not obey the model of Aristotle's crystalline spheres. It was not until the mid 20<sup>th</sup> century that astronomers and physicists understood the mechanism of supernovas, when a star explodes.

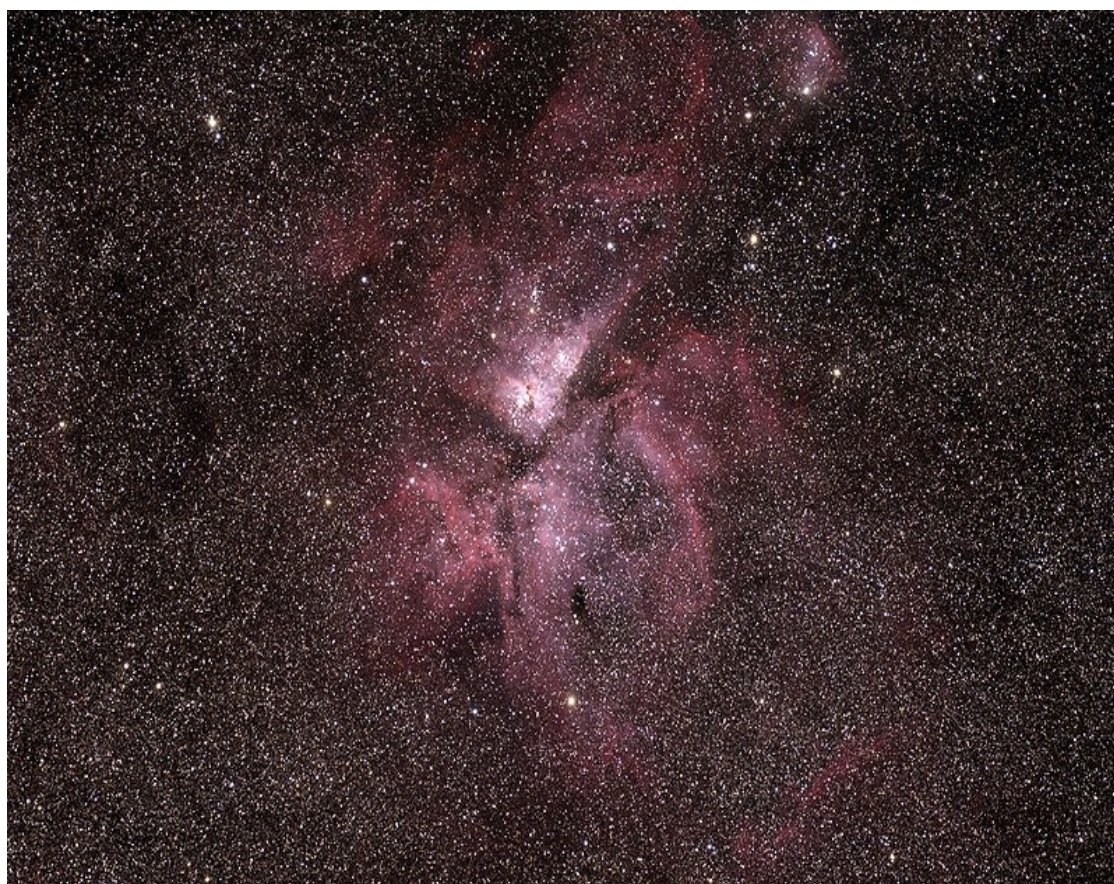
Two other important supernovas in recorded in history were the supernova of 1009 in the constellation Lepus and 1054 in Taurus. These were recorded by Chinese astronomers and European astronomers respectfully. These were observed as four times as bright as Venus and one quarter as bright as the full Moon. The supernova remnant of the Chinese supernova of 1054 is the Crab Nebula which is Messier Object number one of the Messier Catalogue. It is said the Anasai Indians of Arizona recorded the 1054 supernova event in their pottery and their pictographs.

Usually supernovas are bright for about two weeks and taper off gradually. In 1905, the star Eta Carina Novae flared up and made the insignificant star, the second brightest star in the night sky. This stellar remnant known as the Eta Carina nebula is one of the most beautiful nebulas in the sky accessible to amateur astronomers. However it is in the southern hemisphere, so if you ever get the chance to observe a nebula, as striking as the Orion nebula, be sure to check it out.



Crab Nebula

HST Image



Eta Carina Nebula  
Image by Chesnok,  
with permission  
[http://  
upload.wikimedia.org/  
wikipedia/  
commons/2/2b/  
NGC\\_3372.jpg](http://upload.wikimedia.org/wikipedia/commons/2/2b/NGC_3372.jpg)

# Society for Astronomical Sciences



**For Immediate Release:** Wednesday, January 19, 2011 **Release No.** SAS 11-01

---

## **INVITATION AND CALL FOR PAPERS: 30TH ANNUAL "SYMPOSIUM ON TELESCOPE SCIENCE"**

### **Invitation:**

Amateur and professional astronomers, astronomy educators, and students are invited to attend the 2011 "Symposium on Telescope Science", on May 24 -25-26, 2011 at Big Bear, CA. This Symposium will mark the 30th anniversary of the Society for Astronomical Sciences. The agenda will feature half-day Workshops, and two full days of technical papers. The keynote lecture will be given by Dr. Petrus Jenniskens on "The impact and recovery of asteroid 2008 TC3".

A Workshop on "Developing and Using Your Remote Observatory", presented by Tom Krajci and Tom Smith, has been confirmed. A Workshop on a second topic is also planned. The Symposium is the premier opportunity for non-professional researchers to present their projects and results, receive advice from other backyard scientists and professional astronomers, and disseminate knowledge about methods, results, and opportunities for program collaboration in small-telescope astronomical research. This annual gathering provides a unique venue for networking among the small-telescope research community, both amateur and professional.

For additional information, including Registration and Accommodations, refer to the SAS website ([www.SocAstroSci.org](http://www.SocAstroSci.org)). We look forward to seeing you there!

### **Call for Papers**

Submissions of both Papers and Posters are now being accepted for the SAS 2011 Symposium on Telescope Science. Topics of interest include small-telescope science results, instrumentation and methods; pro-am collaboration; science education; and special uses of astronomical data. Examples of previous-years papers and presentations are available on the SAS website ([www.SocAstroSci.org](http://www.SocAstroSci.org)). Proceedings from previous years can be downloaded from the PUBLICATIONS tab. Videos of Paper presentations given at the 2010 Symposium are also available for download.

Abstracts of proposed papers should be sent to the Program Committee at [program@SocAstroSci.org](mailto:program@SocAstroSci.org). Deadlines are:

Abstract submission: March 12, 2011

Final Papers due: April 16, 2011

Abstracts may be submitted in plain text format or MS Word. The formatting requirements for Final Papers -- including an MS Word template -- are available on the SAS website.

**About the SAS:** The Society for Astronomical Sciences facilitates collaborative astronomical research between amateur, student, and professional astronomers. SAS workshops provide amateur and student astronomers with solid grounding in observational procedures and data reduction methods. The annual "Symposium on Telescope Science" is the premier forum for presentation of the results of small-telescope research and professional-amateur astronomical collaborations. For more information, see: <http://www.SocastroSci.org>

The Society for Astronomical Sciences is a non-profit corporation exempt under I.R.S. Code Section 501(c)(3).

Press contact: LeRoy Snyder, e-mail: [lsnyder@socastrosci.com](mailto:lsnyder@socastrosci.com)

---

## **SkyTools Classes Update**

Happy 2011, Everyone!

Last month, we reached our capacity of 50 people signed up for Greg Crinklaw's SkyTools Power Tips Class. But with the very generous help and support of OMSI Planetarium Director Jim Todd, we have been able to add another 10 seats to the class. If you are interested but haven't yet signed up, I strongly suggest that you sign up as soon as possible. Greg's class will be held on Saturday, March 19 in the OMSI Auditorium from 9 a.m. to 4 p.m. The cost is \$20 if you pay by check or \$21 if

you pay online using PayPal. You can pay by check via mail or in-person at the January or February general meeting.

If you'd like to learn the fundamentals of SkyTools, there is still room in my Introductory SkyTools Class. My class will be held on Saturday, February 19 in the OMSI Auditorium from 9 a.m. to 4 p.m. The cost for my class is \$5. To sign up for either class or to read more details, visit <http://rosecityastronomers.org/skytools/>

Thanks and I hope that your new year is off to a great start!

Mark Martin





## Minutes of the Rose City Astronomers Board

December 6<sup>th</sup> 2010

Held at OMSI Classroom 1

### Board Members Present

Sameer Ruiwale (President)  
Ken Hose (VP Membership)  
Matt Brewster (VP Communications)  
Duncan Kitchin (Secretary)  
Larry Froberg (Sales Director)  
Diana Fredlund (Media Director)  
Howard Knytych (New Member Advisor)  
Jan Keiski (Library Director, OMSI Liaison)  
David Nemo (Observing Site Director)  
Scott Kindt (Newsletter Editor, SIG Director)

### Call to Order

The meeting was called to order at 7:07 by Sameer Ruiwale and, there being 10 board members present, the quorum requirement of 10 was declared to be met.

### Approval of Agenda

The agenda was approved by unanimous consent Moved: Duncan Second: Scott 10-0-0

### Approval of Minutes

Moved: Approve minutes from the October & November 2010 board meetings. Moved: Larry Froberg Second: Howard Knytych. Motion passes 10-0-0.

### Directors' Reports

- Secretary's Report – Duncan Kitchin: Quorum (10) met with 10 voting members present.
- Treasurer's Report – Larry Godsey: Not present, but financial reports have been posted to the website.
- VP Programming – Matt Brewster: This month's general meeting is the holiday potluck, starting at 6:30pm. Larry Froberg: will there be a general announcement period at the beginning of the meeting? Need opportunity to announce the calendars. Lunar eclipse party afterwards (totality is at 12:30). Jim Todd is organizing. Anybody who can stay and bring a telescope is encouraged to do so. There will be tables set up for the swap meet outside the auditorium. Matt Brewster is also looking into live entertainment. Sameer will send Duncan some pictures from the Starlight Parade, Duncan will combine with the calendar pictures to create a slide show for the meeting. Mark Claire from the University of Washington is scheduled for January. Don Brownlee (principal investigator for NASA stardust mission) is scheduled for February. Greg Crinklaw is

(author of SkyTools) is scheduled to present on comet hunting in March. Sameer – we need to work on putting together a list of last minute backup speakers in the area.

- VP Observing – Matt Vartanian: Not present – report from Matt Brewster. Kah-Nee-Ta contract is being prepared, will be available at the next board meeting to be approved prior to being signed.

- VP Community Affairs – Dawn Willard: Not present.

- Media Director – Diana Fredlund: Quiet right now, will get out news releases on speakers. Matt to send information to Diana.

- VP Membership – Ken Hose: Currently 289 families. 6 new members joined in November, plus 4 renewals. Total of \$206 in membership fees. Membership is down by about 26 from where it was a year ago, but slightly above where it was this time in 2008. Ken is planning on going through the data to generate statistics on the length of membership.

- New Member Advisor – Howard Knytych: New members meeting last month. About 16 or so attendees. Subject was winter observing tips. Next new members meeting is in January, on the subject of "Winter Highlights".

- Sales – Larry Froberg: Last month had \$170 in sales. December should be much better – everything is ready for the potluck. Have the same 3 calendars as last year, but in reduced numbers. Also have new orders for 13 copies of SkyTools, plus another possible 3 or 4. Need 25 to get the 50% discount, but even with current numbers we will get a 40% meeting. Hope to have order back by January meeting. Calendar as currently printed is \$695 for 100 copies. Larry is suggesting that we change the printing to "full bleed" meaning that the pictures would go all the way to the edge. This is more expensive – price goes up to \$815 for 100. Discussion: how many should we order? At \$12, we will need to sell 85 out of 125 to break even. After some discussion, moved that we order 125, unless there is a price break for a higher quantity, full bleed printing with stapling. Moved Duncan, Second Howard. Motion passes 10-0-0.

- Book Library – Jan Keiski: \$20 from the November book sale.

- Telescope Library – Greg Rohde: Not present.

- IDA – Dawn Nilson: Not present

- Magazine Subscriptions – Larry Godsey: Not Present.

- Webmaster – Larry Godsey: Not Present

*(Continued on page 11)*

(Continued from page 10)

- Site Committee – David Nemo: Defer until new business
- Youth Director - Jean London: Not present
- Newsletter Editor – Scott Kindt: Nominal
- SIGs – Scott Kindt: Nominal
- Alcor – Dale Fenske: Not present
- OMSI –Jan Keiski: Nominal.
- Sister Club update – Jan Keiski : GAMA is looking for a potential observing site.

## Old Business

- Review Kah -Nee-Ta Star Party contract for 2011 event – Matt Brewster. Already discussed.
  - December 2010 Holiday Potluck & Swap meet update – Matt Brewster. Already discussed.
  - Update on RCA calendar – Larry Froberg. Already discussed.
  - SkyTools Class Update – Sameer Ruiwale. On behalf of Mark Martin. Weekend of 19<sup>th</sup> March. Greg is coming in on the Friday 18<sup>th</sup> and is teaching two classes on Saturday – visual observing in the morning, imaging in the afternoon. Flat fee of \$20 for the whole day. Will be in the auditorium. Greg will also be the speaker on the following Monday. Mark Martin will be teaching an introductory class in February. Date is still to be determined. May be either 12<sup>th</sup> or 19<sup>th</sup> of February, subject to auditorium availability. There will be a \$5 fee for this class. Online registration has been set up by Larry Godsey. Have more than 35 signups for Greg’s class already.
  - Vote on purchase of Orion Astroview Mount with single axis drive for Telescope Library – All. Cost is approximately \$350. Moved : Duncan Second : Jan. Motion passes 10-0-0.
  - Completion of donation paperwork for two telescopes donated to the Eugene Astronomical Soc. – Larry Godsey / Greg Rohde.
  - Update on Skamania Lodge request for telescopes / volunteers - Sameer Ruiwale. Sameer will post an update on the forum.
- TABLED: Update on proposal for “Think out loud” radio show – Diana Fredlund / Dawn Nilson
- TABLED: Create Mirror Making Machine usage instructions – David Nemo / Greg Rohde
- Election committee update - David Nemo: Election was held at the November meeting, and the slate of candidates was approved unanimously. There were no additional nominations from the floor.

## New Business

- Haggart Observatory usage by RCA volunteers – proposal by Clackamas Community College – David Nemo / Sameer Ruiwale. We have been approached by Clackamas Community College with a proposal to open their observatory to RCA members as volunteers. They are having difficulty finding sufficient volunteers to run their community outreach program,

and are proposing a partnership with RCA to help. There are currently no classes which utilize the observatory, although there is a youth program. There used to be regular observing nights 2 or 3 times a month, but this activity has dwindled in recent years. Main instrument is a 24-inch f/4.8 Newtonian built by Steve Swayze. There are some challenges with the setup; the platform is raised above the ground by about two stories, and the number of people that can be on the platform is limited. The site is also subject to urban lighting conditions. David, Pat & Sameer will work on a proposal and bring back to a future board meeting.

### Guest attendee:

- Update on costs / procedures for shipping a telescope to GAMA in Argentina - Margaret Campbell-McCrea / Larry Godsey. Telescope was crated at TMS. The boxes are too small to send by ship, so would have to go by air. Cost is \$904 to send air freight by TMS, not including insurance or customs. Sometimes possible to send small shipments which are combined with others, but would have to wait for a suitable slot to become available. FedEx shipment is over \$2000. Each box weighs about 65lbs. We will continue to investigate options.
- Astronomers without borders – Margaret Campbell-McCrea. Promoting international observing events. Part of what they want to do is distribute used astronomical equipment to those that need it. Margaret is proposing that RCA becomes an affiliate. Margaret would be the liaison. Board members are requested to investigate their website, will ask for a motion at next month’s board meeting requesting that RCA become an affiliate.
- Translating portions of the website into Spanish – Margaret Campbell-McCrea. We have a number of Spanish speaking members. Margaret is proposing that we take a small number of portions of the website, parcel out to some of the Spanish speaking members for translation. A number of members have agreed to act as translators. Suggesting that we have Leo’s updates available in Spanish, and driving directions to star parties. Margaret will discuss with Larry Godsey offline, and we will continue to discuss at future board meetings.

## Adjournment






There being no further business, the meeting was adjourned at 8:55pm.



I’m looking for astronomy related photos. Star Parties, telescopes, astronomy related events especially. These may be used in future issues of the newsletter. Also any small 1-2 paragraph articles or bits of info such as might fit into this box would be welcome.

Please email submissions to [editor@rosecityastronomers.org](mailto:editor@rosecityastronomers.org)  
Thanks,  
Editor.

# FEBRUARY 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 	3	4 <a href="#">Downtowners Luncheon</a> Kell's Noon	5
6	7 7pm Board Meeting OMSI Classroom 1	8	9	10 	11 	12 10am - 3pm <a href="#">Telescope Workshop</a>
13	14 7pm <a href="#">Astro Imaging SIG</a> Beaverton Library	15	16	17	18 	19 9am SkyTools Introductory Class
20	21 7:30pm General Meeting OMSI Auditorium	22	23 7pm Cosmology SIG Linus Pauling Cntr	24 	25	26
27	28					

## March 2011

March 4	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
March 7	Monday	Board Meeting	OMSI Classroom 1	7pm
March 12	Saturday	<a href="#">OMSI Star Party</a>	<a href="#">Rooster Rock</a> and <a href="#">Stubb Stewart</a> State Parks	7:30pm
March 14	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
March 19	Saturday	SkyTools Power Tips Class	OMSI Auditorium	9am
<b>March 21</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:30pm</b>
March 23	Wednesday	<a href="#">Cosmology SIG</a>	Linus Pauling House	7pm
March 26	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356

# The Rosette Gazette

Volume 23, Issue 03

Newsletter of the Rose City Astronomers

March, 2011



## Comet Chasing

By Greg Crinklaw

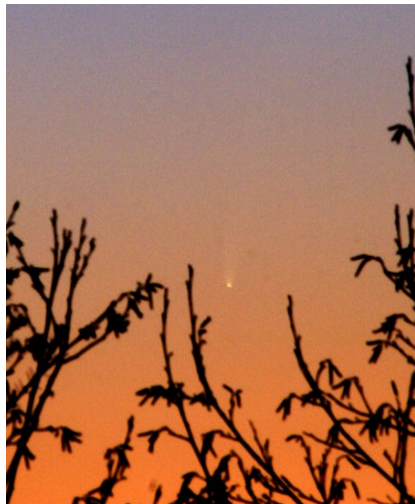
Comet chasing is the observation of telescopic comets as if they are moving deep sky objects. On any given night there are typically several comets visible in a six-inch telescope and with the right information comet chasing is easy and fun!

Comet chasing combines the art of deep sky observing with the excitement of hunting down moving, ever changing quarry. Greg's years of experience observing comets led to his article Comet Chasing, which appeared in the April 2005 Sky & Telescope magazine. In Greg's presentation, he will explain why many people are frustrated comet chasers and reveal his secrets to observing them successfully.



### In This Issue:

- 1....General Meeting
- 2....Club Officers
- .....Magazines
- .....RCA Library
- 3....Local Happenings
- .....Special Interest Groups
- 4....Star Parties
- 5....Richest Field Telescopes
- 9....Notices
- 10...Behind the Scenes at the Clear Sky Chart
- 11...RCA Board Minutes
- 13...Calendars



Greg is a life-long amateur astronomer who is also trained as a professional. He worked for NASA on the Mars Observer project developing the image processing software which was used on the Mars Global Surveyor. He now lives and observes in the mountaintop community of Cloudcroft, New Mexico where he is an astronomical software developer (he is the developer of the SkyTools observing software). He built his own 18-inch Dob and in addition to comets he is avidly interested in deep sky observing (planetary nebulae in particular). Since 1998 he has maintained a web site devoted to monthly observing: [observing.skyhound.com](http://observing.skyhound.com), which also includes a Comet Chasing page: [cometchasing.skyhound.com](http://cometchasing.skyhound.com).



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

## All are Welcome! Monday March 21

**New Members: 6:30 OMSI Planetarium Social Gathering: 7 pm**

**General Meeting Begins: 7:30 pm Location: OMSI Auditorium**

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

**First Quarter Moon**  
Mar 12

**Full Moon**  
Mar 19

**Last Quarter Moon**  
Mar 26

**New Moon**  
Apr 3



## CLUB OFFICERS

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Matt Brewster	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR	Ken Hose	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitfund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Scott Kindt	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.

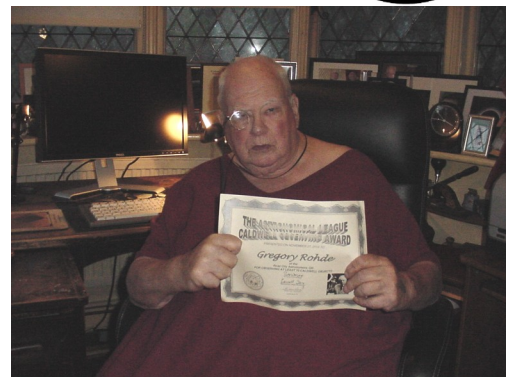
<http://www.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>

# Congratulations!

## Local Happenings



Greg Rohde found more than 70 objects in the Caldwell list of objects and has received the Caldwell Club certificate and pin #172. Enclosed is a photo of Sir Patrick (Caldwell) Moore with his certificate ready to mail.



Scott Kindt received the outreach certificate # 0364-0. The goal for the Outreach Observing Club is to offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects to the public. To receive the outreach award, a minimum of five outreach events (minimum 2 hours each outreach) are performed and documented.

## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, March 14th, 7pm  
Location: Beaverton Public Library  
Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: ai-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: sci-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, April 8th, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: downtown-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

When: Monday, March 21st, 6:30pm  
Location: OMSI Planetarium  
Topic: Messier Marathon  
SIG Leader: Howard Knytych  
Email: newmembers@rosecityastronomers.org  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

### Telescope Workshop

When: Saturday, March 26th, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: tw-sig@rosecityastronomers.org  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, March 23rd, 7pm  
Topic: Interstellar Dust & the Formation of Extrasolar Planets  
Presented by: To Be Announced  
Location: To Be Announced  
SIG Leader: Lamont Brock  
Email: cosmology-sig@rosecityastronomers.org  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)

**Kah-Nee-Ta Messier Marathon Star Party  
April 1-3, 2011**

You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get back into the groove. We look forward to seeing you there!

Known for its clear, dark skies this time of year, the Kah-Nee-Ta Resort offers a family retreat atmosphere with many amenities and activities. Come and observe your favorite objects under Central Oregon's clear dark skies, spend a wonderful weekend with other astronomers swapping observing stories and exchanging information, or even just spend a relaxing weekend with your family, all in comfortable accommodations that offer various other activities. RCA Special Hotel Rate is \$78 per room per night, advance reservations highly recommended!

You must CALL to make your own reservations and be sure to mention that you want the RCA rate. 1-800-554-4786

RCA is NOT responsible for your reservations or your deposit with the resort. No Refunds within 72 hours of your first reserved night.

More information can be found on the RCA website:

<http://www.rosecityastronomers.org/sp/kahneeta.htm>

**Maupin Messier Marathon Star Party  
April 1-3, 2011**

The Rose City Astronomers have been granted permission to use private property approximately 8 miles West of the town of Maupin for members-only scheduled Star Parties.

The Maupin Observing Site is located on a private airstrip about 8 miles east of Maupin, Oregon. Warning: this airstrip is used in the morning, but at the far end of the airfield. Most people don't even wake up.

There is no registration for the event itself, just show up and enjoy the weekend. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get some serious observing.

It can always be cold at night no matter what the season, so bring warm clothing.

RVs, trailers and tents will be allowed on the observing site (see observing site map for instructions). The town of Maupin offers lodging, restaurants and recreation if you don't want to rough it. We will have a portable outhouse on site.

More information can be found on the RCA website:

<http://www.rosecityastronomers.org/sp/maupin.htm>



**Camp Hancock  
April 29 - May 1**

OMSI's Camp Hancock with meals and cabins fits the bill for a great outing on a cool Spring weekend. Dark skies, warm cabins, real bathrooms, hot showers, good meals and great friends top off the list of things to like and all are provided with the \$45 per night registration fee (OK, maybe not the friends).

Camp Hancock is an OMSI sponsored field station for the promotion of science education. It is located about 150 miles from Portland and is 2 miles east of the John Day River in Eastern Oregon in the Clarno Fossil Beds. Camp Hancock is NOT a resort hotel; it is a rustic kid's camp with 16 bunkhouses that sleep up to 14 people each in A-frame buildings. The bunkhouses are one room with bunks, mattresses, limited electricity and heaters on a 60 minute timer. You will be sharing the bunkhouse with others in our group, but it's never crowded and we usually average less than 3 people per cabin. There is a limited area for Tents, RVs and trailers.

Registrations will be taken at both the March 21st and April 18th general meetings. Visit <http://www.rca-oms.org/sp/hancock.htm> for mail in registration forms, or to register and pay online. The Registration and Payment Deadline is Saturday, April 23rd.

**OMSI - Saturn Spectacular Star Party**

April 9, 2011

Held at Rooster Rock & Stub Stewart State Parks.

Viewing highlights includes the planets Saturn, first quarter Moon, deep sky objects including the Orion Nebula, Beehive star cluster and more!

See <http://oms.org/starparties> for more information or cancellations.

**Star Parties Coming Soon!**

Camp Hancock	April 29-May 1
OMSI - National Astronomy Day	May 7
Maupin Dark Sky Star Party Weekend	May 27-29
Stub Stewart Dark Sky Star Party	May 28

**New RCA Club Calendar**

The calendar features photography from many of our club members. It also features the dates for scheduled star parties for the Rose City Astronomy club and selected regional star parties.

There are only a few calendars left at this time. The calendars will be available at the Sales Table during the next general meeting in March.

# Richest Field Telescopes

By Mel Bartels

Gazing at the Milky Way through a telescope at low power takes our breath away. Clouds of stars, nebulae both bright and dark fill the field. Open clusters and the occasional globular cluster grace the field of view.

What telescope gives us the richest view, the most stars? The answer depends on both aperture and field of view. As aperture increased, the number of stars increases because fainter stars are brought into view. On the other hand, the field of view necessarily decreases as aperture grows. So it is a contest.

## A Little History

The concept of richest field telescopes was first mentioned almost a century ago, originally proposed by Mr. Walken in Knowledge (now Discovery) in 1916. He writes in part, "My chief part was in perceiving and publicly pointing out how every aperture could be made 'an' RFT, of that aperture, for a given observer and that there was one of all these which, in connection with the curve of star density against magnitude of stars, was uniquely 'the' RFT for the observer, in respect of maximum countable number of star per apparent square degree." He concludes, using star counts published in Knowledge, 1914, that a 2.5 inch aperture has the greatest star count, though he goes on to say that the view through a 6 inch is "little inferior" and that the views through larger apertures "is decidedly more attractive and "richer."" He calculated a star count of 423 given a 50 degree eyepiece. Incidentally, he concludes that a magnification that yields the maximum possible exit pupil is best: too low of magnification wastes light and too high of magnification narrows the field of view dropping the star count.

It's plausible that the table of star counts or density in 1914 set the stage to conceive of richest field telescopes. If so, then this is an example of information driven revolution. So perhaps we can set the origination date to 1915.

Clyde Tombaugh built a 5 inch RFT in 1935. Clyde describes the views as "truly marvelous", mentioning how "dark nebulae in Sagittarius stand[s] out beautifully, as it does on a moderate exposure photograph." While Clyde extols the virtues of observing in Sagittarius, he says that the most beautiful and richest star fields are in the Cygnus region.

H.R. Suiter notes in 1996 that the best RFT aperture has varied from 1.5 inches to 12 inches depending on revised star density values. Because of this to and fro with aperture, he concludes that a rich-field telescope is best defined as one that can be used with an eyepiece yielding the maximum exit pupil that your eye can open to. He recommends personal experimentation since the aberrations of the eye are so substantial that star counts may not increase beyond 5 to 5.5 mm exit pupil. He makes a most interesting comment that earlier observers would be awe struck by today's short focal ratio refractors and high quality high angle eyepieces, but that modern observers would envy earlier observers' dark skies even more!

In a 1980 Sky and Telescope article, Glenn Shaw takes up the question of the best RFT aperture, using the latest star density values. He concludes that an aperture of 9 inches is best though he employs a scope of 5 inches aperture. He adds an interesting graph where only stars brighter than 5th magnitude in the eyepiece are counted. This favors apertures closer to 24 inches. Since Glenn's numbers are the latest that I'm aware of, I use these, adjusted for the widest angle eyepieces available.

Aperture	True field	Star count
eye - 7mm	100 deg	3600
50mm	14 deg	6900
4 inch	6 deg	7600
8 inch	3.4 deg	7800
16 inch	1.8 deg	7600
32 inch	0.9 deg	6200


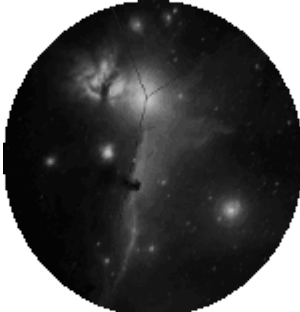


*(Continued on page 6)*



## F/3 Telescopes and the 21mm TeleVue Ethos Eyepiece

I went into f/3.0 optics because French amateurs raved about the views through their f/3.0 telescope and because such incredibly short focal ratios promised “no-ladder” observing for large apertures. Only after observing with my 13 inch f/3.0 did I realize that the most significant advantage of this terribly short focal ratio is an increase in field of view compared to current richest field telescopes. More than that, I can trade up in aperture for the same field of view obtainable in current richest field telescopes. This is an unexpected state of affairs.

Early selected observations at richest fields of view

	<p><b>M31:</b> spectacular aggregate view: entire galaxy along with companions fit into the field of view; striking multiple dust lanes; details in galaxy arms at the extensions and in the companions</p>		<p><b>Horsehead, Flame nebulae:</b> in one view the Horsehead is faintly visible (no filter) with good detail in the Flame nebula; NGC 2023 and IC 435 are bright; all this despite a very bright Zeta Orionis</p>
	<p><b>Pleiades:</b> all of the extremely bright stars fit into a single view; extensive nebulosity everywhere, particularly detailed next to Alcyone with extensive sweeping from Merope to edge of view, along with some of the general nebulosity that surrounds the Pleiades</p>		<p><b>M42 region:</b> entire loop of M42 seen with lots of detail with some color; the green nebulosity embedding the Trapezium is quite striking, field of view extends from the open cluster NGC 1981 through NGC 1973/5/7 up past NGC 1980.</p>

Observing through the F3 is one of my greatest observing experiences. As I thought about this, it occurred to me that I was getting the field of view of my favorite richest field telescope, an 8 inch f/6 outfitted with a war surplus 38mm Erfle with 68 degree apparent field of view. And I was getting this near two degree field of view, not with an 8 inch, but with a 13 inch aperture! Essentially I get small scope wide field of views but with large aperture brightness and resolution. That’s what leaves me astonished at the eyepiece.

### Why F3 is the Ultimate Richest Field Focal Ratio

The lowest power eyepiece in the TeleVue Ethos set is the 21mm. The focal ratio that gives the widest field of view using this eyepiece is about f/3 (assuming an eye that opens to 6mm exit pupil and a coma corrector that increases the focal ratio by 15%). It's unlikely that monster 100 degree eyepieces will ever be commonly available in significantly longer focal lengths. Imagine such an eyepiece: it would be a foot long and weigh 20 pounds not to mention costing thousands of dollars. As the following table and images illustrate, there is a major difference in viewable field area between widest fields of view at various focal ratios.

*(Continued on page 7)*

## Richest Field Telescope Field of View versus Focal Ratio

aperture = 13 inches, exit pupil = 6mm  
 focal ratios optimized for several popular eyepieces

Telescope Focal Ratio	Eyepiece	Coma corrector X	Eyepiece Focal Length mm	Apparent FOV deg	Telescope Focal Length inches	Eyepiece Field Stop mm	Actual FOV from Field Stop deg	Actual FOV from Field Stop with Coma Corrector X deg	FOV area deg <sup>2</sup>	Magnification
2.5	Ethos	1.15	17	100	32	29.6	2.1	1.8	2.5	55
3.0	Ethos	1.15	21	100	40	36.2	2.1	1.8	2.5	55
3.8	Nagler	1.15	26	82.0	49	35.0	1.6	1.4	1.5	55
5.2	Nagler	1	31	82.0	67	42.0	1.4	1.4	1.6	55
6.3	Orion Q70	1	38	70.0	82	44.0	1.2	1.2	1.1	55

Notes on derivation:

Most columns are published values from the manufacturer.

The "Coma corrector X" is the magnification factor built into the coma corrector.

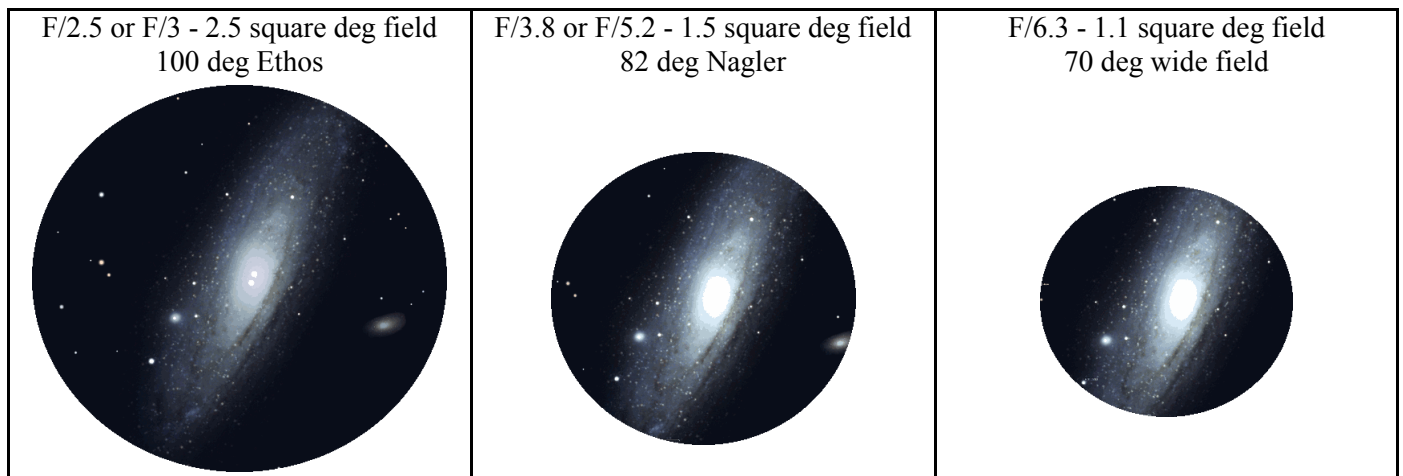
The exit pupil is the eyepiece's focal length divided by the focal ratio, further divided by the coma corrector magnification factor.

The "Actual FOV from Field Stop deg" is given by the formula: field stop in inches / focal length in inches \* 57.3

There are three keys that work in concert:

1. Shorter eyepieces allow faster scopes to maintain 6mm exit pupil.
2. Wider apparent fields of eyepieces allow shorter eyepieces to achieve the same field stop as longer focal length eyepieces.
3. Since the field stops are essentially the same, the faster focal ratio results in a shorter telescope focal length which results in a larger field.

Here are the widest fields possible (each at 6mm exit pupil) for the above focal ratios through 13 inches aperture observing M31 (image from Stellarium)



(Continued on page 8)

Another interesting way to look at it is to calculate the maximum aperture possible for different focal ratios given a field of view. The focal ratios are optimized for widest angle eyepieces.

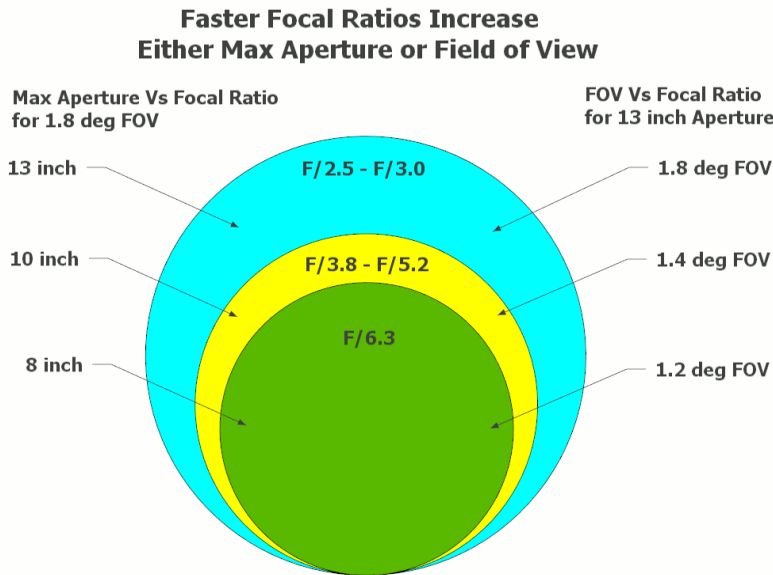
field of view = 1.8 deg, exit pupil = 6mm

Telescope Focal Ratio	Eyepiece	Eyepiece Focal Length mm	Apparent FOV deg	Eyepiece Field Stop mm	Coma corrector X	Max Mirror Diameter
2.5	Ethos	17	100.0	29.6	1.15	13.1
3.0	Ethos	21	100.0	36.2	1.15	13.0
3.8	Nagler	26	82.0	35.0	1.15	10.1
5.2	Nagler	31	82.0	42.0	1	10.2
6.3	Orion Q70	38	70.0	44.0	1	8.7

Going down to f/3.0 or f/2.5 means jumping up in aperture from 10 inches to 13 inches. In other words, what we could see previously with 8 inch scopes and wide angle Erfle eyepieces in the 1960's to 1990's and with 10 inch scopes equipped with Naglers in the 1990's and 2000's is now seen with 13 inches aperture. This increase in aperture increases the limiting magnitude by a whole number.

Formula is: mirror diameter = eyepiece field stop \* exit pupil \* 57.3 / (field of view \* eyepiece focal length \* 25.4)  
 from: field of view = eyepiece field stop / telescope focal length; focal length = focal ratio \* mirror diameter; eyepiece focal length / exit pupil = focal ratio

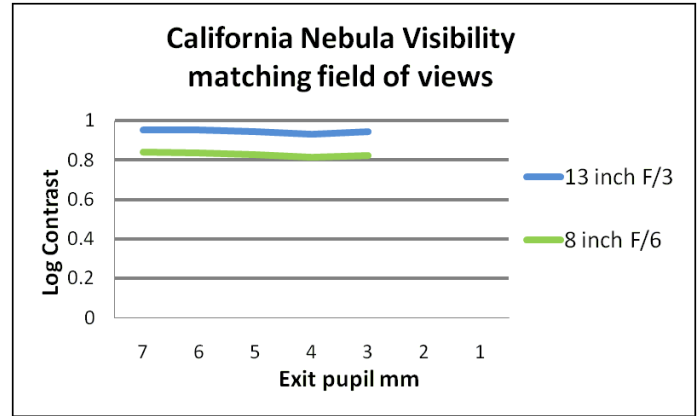
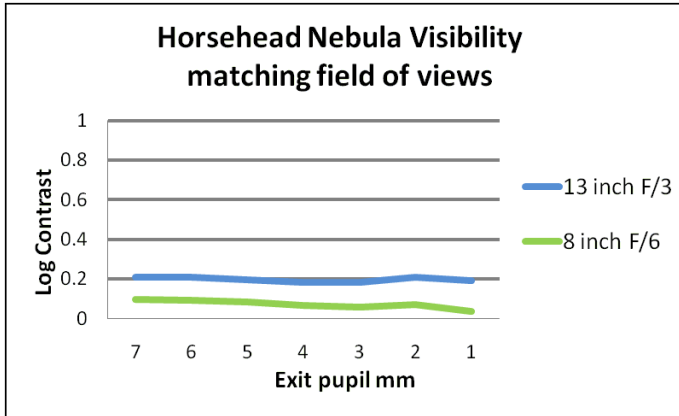
### A New Relationship: Maximum Aperture or Field of View Based on Varying Focal Ratio While Holding Exit Pupil Constant



(Continued on page 9)

## Impact of Increased Aperture on Visibility

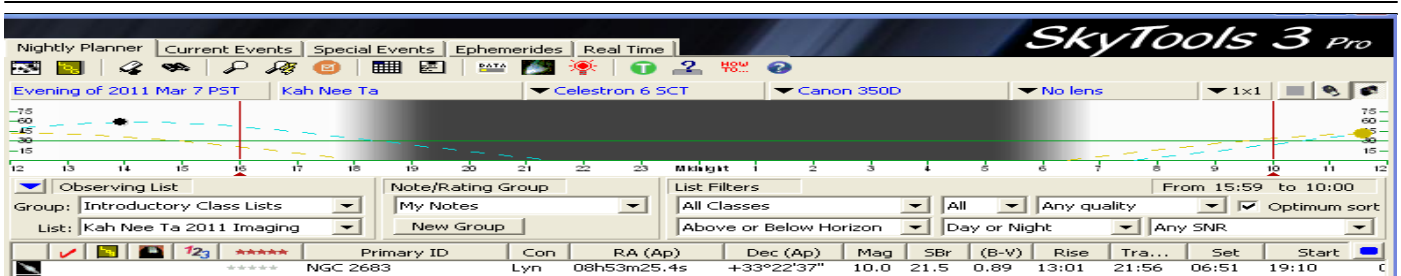
Recalculating Blackwell's visual detection data as presented in Clark's Visual Astronomy shows that the increased aperture for the same field of view results in significantly brighter views. The first chart is for the difficult small Horsehead Nebula and the second chart is for the somewhat difficult very large California Nebula. They are arranged so that matching exit pupils yield the same field of view (which means that magnification is greater for the larger aperture). The larger aperture for the same field of view that F/3 with the 21mm Ethos yields results in a consistent 0.15 log contrast gain. That's an increase in apparent brightness roughly equivalent to the ratio of the apertures.



## Conclusion

So there you have it: a century of Richest Field Telescopes, a new advance, and best of all, new excitement at the eyepiece.

Mel Bartels



## SkyTools Classes Update

On Saturday, March 19th, Greg Crinklaw, the author of SkyTools (<http://skyhound.com/skytools.html>) and acclaimed Skyhound, will teach his SkyTools Power Tips class. Greg's class will be held in the OMSI Auditorium from 9 a.m. until 4 p.m. He will be discussing visual observing in the morning and imaging in the afternoon. The cost is \$20 per person (plus a \$1 service charge if you pay online via PayPal). The class is currently full but spots may become available and we are taking names for the waiting list.

For further details or to add your name to the waiting list, please visit:

<http://rosecityastronomers.org/skytools/>

Very great thanks to Larry Godsey and Jim Todd for their enormous assistance in making both of the SkyTools classes possible! Thanks also to all of the people who attended my introductory class and to my family, who helped and allowed me to carve out the necessary preparation time. I had a lot of fun sharing the basics and hopefully everyone is now feeling ready to ask Greg some very challenging questions. :-)

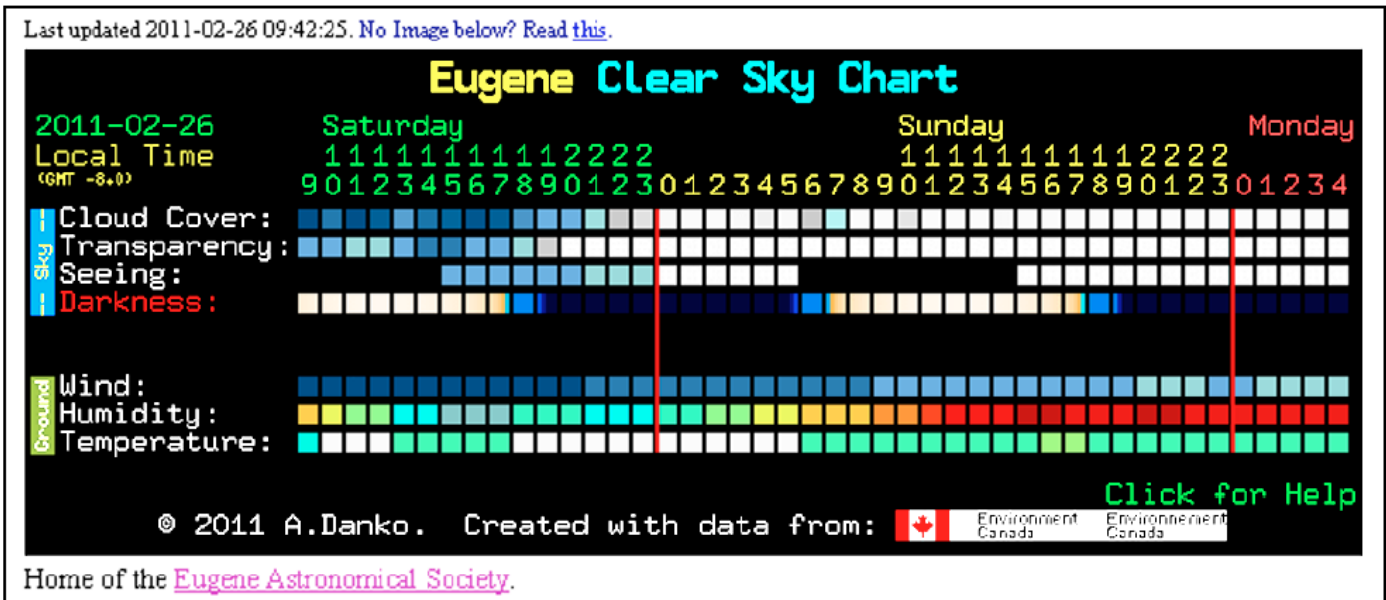
Mark Martin

# Behind the Scenes at the Clear Sky Chart

By Jerry Olton

Reprinted from IO, the Eugene Astronomical Society Newsletter, with permission.

Most of us have used the Clear Sky Chart to help guess whether the weather is likely to cooperate with an observing session or not. We've grown used to its rows of colored squares, each one representing one hour's prediction for cloud cover, transparency, seeing, darkness, wind, humidity, and temperature. We love to joke about how infallible it is (not), and even though it's no more perfect than the meteorological models it's based on, we've come to depend on it as a primary source for data when we need to decide if a particular night is worth going out with a scope or not.



So how does it work?

The Clear Sky Chart presents the forecast for local conditions in hourly segments. Each column on the chart represents one hour in the day, with a red line drawn at midnight. Each row represents one parameter of interest. The color of the block in each row tells you that parameter's conditions for that hour.

The charts are automatically generated using a program developed by a self-described "software weenie" and amateur astronomer named Atilla Danko from Canada. For data his software uses charts created by the Canadian Meteorological Center. The CMC generates these charts twice a day specifically for astronomers. The problem is, it creates 763 forecast maps. As Danko says, "It can be a chore to find the one you want." So Danko wrote scripts that extract the data we're interested in for each location that subscribes to his service. What these scripts do is look at the pixel on the master map that corresponds to the location we're interested in (in our case, latitude 44.0520 and longitude -123.08600, the College Hill Reservoir), and blow that pixel up into a square big enough for us to see its color clearly.

That's it! That wonderful blue block that tells us the sky is going to be clear is just one pixel on a CMC map writ large. Same with the other parameters on the chart. Clicking on any of the squares brings up the CMC master map it came from, so you can see the cloud patterns or humidity patterns or whatever for a wide area around us.

How often is the chart updated? Twice a day, typically between 8:00 and 10:00 (both a.m. and p.m.) Pacific time. There are currently 4127 locations subscribing to Danko's service, so it takes about two hours to generate charts for them all. They're only done twice a day because that's how often the CMC updates their charts, although on occasion they will do more frequent updates, and when that happens the Clear Sky Chart software updates its charts more often as well.

So who gets updated first? Subscribers are ranked according to how often they use the page and whether or

*(Continued on page 11)*

not they pay a \$20 sponsorship fee. A generous EAS member sponsors the Eagle's Rest site in EAS's name, so it is ranked at 237, while Eugene itself is currently unsponsored and is ranked 482. The difference in update time is typically a whopping 11 minutes, so sponsorship isn't necessarily vital, but it's good to support such a useful service anyway.

How does the sampling order affect accuracy? Nary a whit. The CMC charts are released at once, so Clear Sky Chart #4127 is generated from data that was calculated at the same time as the data that went into chart #1. The only advantage to being high on the list is for the evening forecast, when a chart might be generated at 8:00 rather than 10:00 — in time to provide up-to-date data to help you decide go or no-go for a trip to Eagle's Rest in the summertime.

Accuracy in weather prediction is still somewhat of an oxymoron, but the Canadian Meteorological Center and the Clear Sky Charts based on its maps do remarkably well. We've often had ground fog in Eugene when the CSC says Eagle's Rest should be clear, and lo, when we drive up to the Rest we find it clear. Sometimes we get faked out and find it cloudy up there, too, but the Chart is right more often than it's wrong. And it beats the local newspaper forecast all to thunder. (So to speak.)

Where can you find the Clear Sky Chart? Here are the links:

Eugene: <http://cleardarksky.com/c/EugeneORkey.html?1>

Eagle's Rest: <http://cleardarksky.com/c/ElgsRstORkey.html?1>

(From the editor) Here are a few local links for the Portland Area:

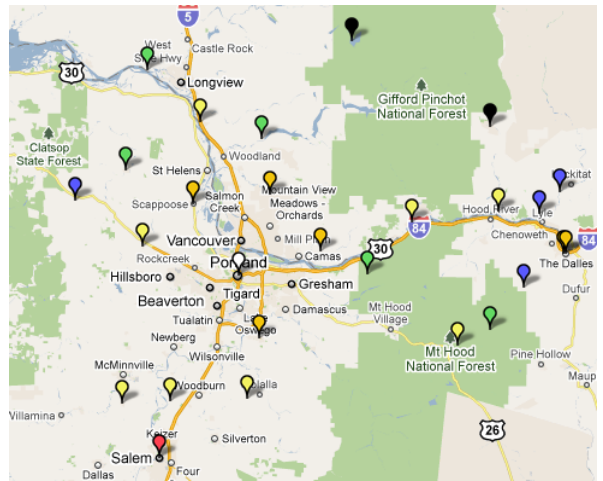
Portland: <http://cleardarksky.com/c/PortORkey.html>

Battle Ground/Vancouver:

<http://cleardarksky.com/c/BtlGrndWAkey.html?1>

Maupin: <http://cleardarksky.com/c/WpntArORkey.html?1>

Click the map to select other local Clear Sky Clocks within a 60 mile radius of Portland.



For information about Jerry: <http://www.sff.net/people/j.oltion/>



## Minutes of the Rose City Astronomers Board January 10<sup>th</sup> 2010

Held at OMSI Classroom 1

### Board Members Present

Sameer Ruiwale (President)  
 Ken Hose (VP Membership)  
 Dawn Willard (VP Community Affairs)  
 Larry Godsey (Treasurer, Webmaster, Magazine Sales)  
 Howard Knytych (New Member Advisor)  
 Jan Keiski (Library Director, OMSI & GAMA Liaison)  
 Scott Kindt (Newsletter Editor, SIG Director)  
 Larry Froberg (Sales Director)  
 Diana Fredlund (Media Director)

### Call to Order

The meeting was called to order at 7:07 by Sameer Ruiwale and, there being 9 board members present, the quorum requirement of 10 was not met.

### Approval of Agenda

There was no motion to approve the agenda.

### Approval of Minutes

There was no motion to approve the previous month's minutes.

*(Continued on page 12)*

(Continued from page 11)

## Directors' Reports

- Secretary's Report – On leave.
- Treasurer's Report – Larry Godsey. We are half-way through the year and we are way under budget so far.
- VP Programming – Matt Brewster. Absent. The January talk will be about Mars, the February talk will be by Dr. Brownlee about the Stardust Mission. The March talk will be given by Greg Crinklaw on comet hunting.
- VP Observing – Matt Vartanian. Haven't seen the Kah-Nee-Ta contract yet.
- VP Community Affairs – Dawn Willard. Nominal.
- Media Director – Diana Fredlund. We need to work out the timing for "Think Out Loud" Target date is early May.
- VP Membership – Ken Hose. We had 5 new members and 1 renewals resulting in a total of 295 member-families. The total dues received in December were \$98. Ken Hose presented a detailed membership report. The main message was that about one-half of the club members have been with RCA less than 4 years so the club is comprised of fairly new members. Each year, about 25% of the membership fails to renew and drop2 out.
- New Member Advisor – Howard Knytych. The program this month will be about winter highlights.
- Sales – Larry Froberg. Calendar sales were good—we need to sell about 33 more to break even. Total sales were \$1,083 with \$690 from the calendar. We have 20 confirmed Sky Tools orders. We need 5 more for the 50% discount.
- Book Library – Jan Keiski. Nominal
- Telescope Library – Greg Rohde. Absent
- IDA – Dawn Nilson. Absent.
- Magazine Subscriptions – Larry Godsey. Nominal.
- Webmaster – Larry Godsey. There were 117 folks removed from the forum this month due to non-renewal of dues. Some 80% of those removed were new members. The total forum users was 317 after the removal.
- Site Committee – David Nemo. Absent
- Youth Director: Jean London. Absent
- SIGs – Scott Kindt. We still need a volunteer for the SIG Director position.
- Alcor – Dale Fenske. Absent.
- OMSI –Jan Keiski. Nominal
- Sister Club update – Jan Keiski. GAMA is having their Southern Messier Marathon February 4<sup>th</sup> - 6th.

## Old Business

- No contract with Kah-Nee-Ta yet.
- Sky Tools Power Tips class is fully subscribed with 50 signed up and a wait list has been started.
- We could not vote on purchase of the Orion Astroview Mount since we did not have a quorum.
- The donation paperwork for the donation of 2 telescopes to the Eugene club has been completed.
- There has been nothing resolved yet about RCA participation in the Skamania Lodge star party. AR: Dawn to finalize details or reject participation.
- No update on telescope shipping costs in regard to shipping telescope donation to GAMA. AR: Margaret There was a discussion of adding a Spanish language section to our website. Following some discussion, it was decided to postpone moving ahead with this pending more detailed proposals.

## New Business

- Chase Bank is charging fees for checking balances less than \$5K. Larry is going to change the site fund checking account into a savings account to eliminate the fees.
- There was a discussion of 2011 goals. One proposal was to partner with Haggart observatory for outreach. We agreed that outreach rather than serious astronomy was the only viable option for the observatory. Taking over the outreach would require a few dedicated RCA members and would take lots of work. We need further discussion. The other goal was to continue the Starlight Parade and to do another calendar for 2012. Scott Kindt suggested that we identify a few club experts in key areas so that we would know whom to direct question to, especially from newcomers.

## Adjournment

There being no further business, the meeting was adjourned.



I'm looking for astronomy related photos. Star Parties, telescopes, astronomy related events especially. These may be used in future issues of the newsletter. Also any small 1-2 paragraph articles or bits of info such as might fit into this box would be welcome.

Please email submissions to [editor@rosecityastronomers.org](mailto:editor@rosecityastronomers.org)  
Thanks,  
Editor.

# MARCH 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4 <a href="#">Downtowners Luncheon</a> Kell's Noon	5
6	7 7pm Board Meeting OMSI Classroom 1	8	9	10	11	12 <a href="#">OMSI Star-party</a> <a href="#">Rooster Rock</a> and <a href="#">Stubb Stewart</a>
13 Time Change 	14 7pm <a href="#">Astro Imaging SIG</a> Beaverton Library	15	16	17	18	19 9am SkyTools Power Tips Class
20 Spring Equinox	21 7:30pm General Meeting OMSI Auditorium	22	23 7pm Cosmology SIG	24	25	26 10am - 3pm <a href="#">Telescope Workshop</a>
27	28					

## April 2011

April 1-3	Fri - Sun	Messier Marathon	<a href="#">Kah-Nee-Ta</a> and <a href="#">Maupin</a>	
April 4	Monday	Board Meeting	OMSI Classroom 1	7pm
April 8	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
April 9	Saturday	<a href="#">OMSI Star Party</a>	<a href="#">Rooster Rock</a> and <a href="#">Stubb Stewart</a> State Parks	7:30pm
April 11	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
April 16	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm
<b>April 18</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:30pm</b>
April 20	Wednesday	<a href="#">Cosmology SIG</a>	Location To Be Announced	7pm
April 29-May 1	Fri - Sun	<a href="#">Camp Hancock Star Party</a>	Camp Hancock	

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356



# The Rosette Gazette

Volume 23, Issue 04

Newsletter of the Rose City Astronomers

April, 2011



## Robotics applied to telescopes, past & present.

By Peter Abrahams

### In This Issue:

- 1....General Meeting
- 2....Club Officers
- .....Magazines
- .....RCA Library
- 3....Local Happenings
- .....Special Interest Groups
- 4....Star Parties
- 5....An Enigmatic Structure in our Local Universe - Part 2
- 12...Notices
- 13...RCA Board Minutes
- 15...Calendars

The past of this subject is far more colorful than the present. From the 1800s are David & Mabel Todd's 'automatic device for photographing the solar corona,' and the hoax of E.E. Barnard's 'automatic comet-finder.' In the 20th century, automatic guiding and mechanical computers, were important themes in the development of telescopes. Recent years brought the introduction of 'artificial intelligence' and the serious implications of engineering intelligent behavior.

Automatic (robotic) telescopes are not simply remotely operated, but involve some level of machine intelligence, enabling a telescope to act without the direct initiative of an operator. Examples include a telescope that senses weather, initiates, slews to a pre-programmed list of stars for photometry, then shuts down after the night; or a space-based gamma ray telescope that triggers a land-based optical telescope to slew to a gamma ray burst and observe the spectrum of the object. This development of the capabilities of the telescope is profound in a manner surpassing the ubiquitous automation of modern life: large modern telescopes gather data at a stupendous rate, and rely on artificial intelligence to deal with the deluge.

-----  
Peter Abrahams enjoys studying the history of the telescope so much that, to obtain more computer time, he resigned from the RCA board after 8 years as an officer. He is more typically an armchair astronomer than an eyepiece astronomer, recently selling his 16 inch dob to gain storage space, and now reduced to a 6 inch Mak and a few old (Old) refractors. But a larger & portable dob is in his future. Meanwhile, there are dozens of interesting subjects in the history of binoculars and telescopes to occupy his time. In particular, the history of amateur astronomy in the Portland area includes some fantastic telescopes that need more attention. Papers and bibliographies can be found on his web site: <http://home.europa.com/~telscope/binotele.htm>



Sloan Digital Sky Survey Telescope  
Courtesy <http://www.sdss.org/>



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

## All are Welcome! Monday April 18

**Social Gathering: 7 pm General Meeting Begins: 7:30 pm Location: OMSI Auditorium**

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

First Quarter Moon  
Apr 10

Full Moon  
Apr 17

Last Quarter Moon  
Apr 24

New Moon  
May 02



*CLUB OFFICERS*

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Mark Martin	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR	Ken Hose	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitefund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Vacant	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>

# Local Happenings



Would you like to be a part of the team that provides direction for the Rose City Astronomers club? If so, we currently have the Special Interest Group Director position that needs to be filled. This person is responsible for ensuring the smooth

Please email [president@rosecityastronomers.org](mailto:president@rosecityastronomers.org) if you are interested.

Thanks,  
Editor.

We will be holding our annual information fair during May's general meeting time. Come find out more about the various programs the club has to offer.



A swap meet will also be held at the same time. You have plenty of time to dig out the junk...I mean treasures to pass along to your customers.

## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, April 11th, 7pm  
Location: Beaverton Public Library  
Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: [ai-sig@rosecityastronomers.org](mailto:ai-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: [sci-sig@rosecityastronomers.org](mailto:sci-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, May 6th, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: [downtown-sig@rosecityastronomers.org](mailto:downtown-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

When: Monday, May 16th, 6:30pm  
Location: OMSI Planetarium  
Topic: TBA  
SIG Leader: Howard Knytych  
Email: [newmembers@rosecityastronomers.org](mailto:newmembers@rosecityastronomers.org)  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

### Telescope Workshop

When: Saturday, April 16th, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: [tw-sig@rosecityastronomers.org](mailto:tw-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, April 20th, 7pm  
Topic: Creating the Universe from Nothing  
Presented by: Viktors Berstis  
Location: To Be Announced  
SIG Leader: Lamont Brock  
Email: [cosmology-sig@rosecityastronomers.org](mailto:cosmology-sig@rosecityastronomers.org)  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)

## Camp Hancock

**April 29 - May 1, 2011**

OMSI's Camp Hancock with meals and cabins fits the bill for a great outing on a cool Spring weekend. Dark skies, warm cabins, real bathrooms, hot showers, good meals and great friends top off the list of things to like and all are provided with the \$45 per night registration fee (OK, maybe not the friends).

Camp Hancock is an OMSI sponsored field station for the promotion of science education. It is located about 150 miles from Portland and is 2 miles east of the John Day River in Eastern Oregon in the Clarno Fossil Beds. Camp Hancock is NOT a resort hotel; it is a rustic kid's camp with 16 bunkhouses that sleep up to 14 people each in A-frame buildings. The bunkhouses are one room with bunks, mattresses, limited electricity and heaters on a 60 minute timer. You will be sharing the bunkhouse with others in our group, but it's never crowded and we usually average less than 3 people per cabin. There is a limited area for Tents, RVs and trailers.

Registrations will be taken at both the March 21st and April 18th general meetings. Visit <http://www.rca-oms.org/sp/hancock.htm> for mail in registration forms, or to register and pay online. The Registration and Payment Deadline is Saturday, April 23rd.

## Maupin Star Party

**May 27-29, 2011**

The Rose City Astronomers have been granted permission to use private property approximately 8 miles West of the town of Maupin for members-only scheduled Star Parties.

The Maupin Observing Site is located on a private airstrip about 8 miles east of Maupin, Oregon. Warning: this airstrip is used in the morning, but at the far end of the airfield. Most people don't even wake up.

There is no registration for the event itself, just show up and enjoy the weekend. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get some serious observing.

It can always be cold at night no matter what the season, so bring warm clothing.

RVs, trailers and tents will be allowed on the observing site (see observing site map for instructions). The town of Maupin offers lodging, restaurants and recreation if you don't want to rough it. We will have a portable outhouse on site.

More information can be found on the RCA website:

<http://www.rosecityastronomers.org/sp/maupin.htm>



## RCA - Stub Stewart Star Party

**May 28, 2011**

Looking for something closer to town with reasonably dark skies? [L.L. Stub Stewart State Park](#) is located near Vernonia, Oregon. Going west out of Portland on Highway 26 past the Highway #6 cutoff and continue approximately 8 miles and take Highway 47 towards Vernonia approximately 4 miles to the entrance to Stub Stewart State Park.

From beginners to experts of all ages, here's your opportunity to view the stars and other celestial objects up close and personal through telescopes. Viewing highlights may include planets, deep sky objects, and more. Sometimes we can even view the International Space Station passing overhead.

There is no formal registration for the event itself, just show up and enjoy the evening. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted.

Come and observe your favorite objects and spend a wonderful evening with friends, and friends you haven't met yet.

The viewing area will be held at the Hilltop Day-Use section of Stub Stewart which does have public restroom, drinking water, limited power, covered picnic area, sidewalk, limited parking, and graveled trails.

There are Tent camping, Trailer, and RV areas at the State Park along with cabins available for a fee. Be aware that they fill up early.

## OMSI - Astronomy Day Star Party

**May 7, 2011**

Held at [Rooster Rock](#) & [Stub Stewart](#) State Parks.

Viewing highlights includes the planets Saturn, first quarter Moon, deep sky objects including the M3 star cluster, Sombrero Galaxy and more!

See <http://oms.edu/starparties> for more information or cancellations.

### Star Parties Coming Soon!

<a href="#">Prineville Reservoir Star Party</a>	May 21
OMSI - Summer Solstice Celebration	Jun 18
Maupin Dark Sky Star Party Weekend	Jun 24-26
Stub Stewart Dark Sky Star Party	Jun 25
<a href="#">Golden State Star Party</a>	Jun 29 - Jul 3
Maupin Dark Sky Star Party Weekend	Jul 1-3
Stub Stewart Dark Sky Star Party	Jul 2
OMSI - Lunar Viewing	Jul 9
<a href="#">Table Mountain Star Party</a>	Jul 28 - 31
Trout Lake Star Party Weekend	Jul 29-31

# AN ENIGMATIC STRUCTURE IN OUR LOCAL UNIVERSE

by Leo Cavagnaro

## A Fascinating Region in the Large Magellanic Cloud to Explore in Detail Through Amateur Telescopes

### Part 2

In Part 1 of the article “**An Enigmatic Structure in Our Local Universe**” I have described a peculiar zone of the Large Magellanic Cloud (LMC) situated to the northwest of the well-known object 30 Doradus (often known as “Tarantula Nebula”), a starburst region. That zone is the Quadrant, a big circular arc of stars in the supergiant shell called LMC-4.

Part 2 is concerned about the other conspicuous structure there, an arc of stars called “Sextant”, also including some clusters and OB associations<sup>1</sup> present in the field of view.

This Part 2 is focused in a field centered at R.A. 5h 28m 42s Dec.  $-67^{\circ} 43' 37''$  (epoch J2000.0), about 45 arc min to the southwest of the biggest stellar arc “Quadrant” and about  $1^{\circ} 30'$  to the east-southeast of the 4.8 magnitude star  $\theta$  Doradus, easily visi-



The Large Magellanic Cloud. Photo courtesy of Pat Hanrahan (Rose City Astronomers, Oregon USA)

ble to the naked eye under a dark sky. Thus, it can be used as a guide to easily find the field.

## A Brief Description of the Field



Canota (Mendoza, Argentina). A view toward the northwest.

I spent two nights (around the first days of March) to observe the 1 degree-field under analysis. The observations were made from Canota, Mendoza Argentina ((latitude  $-32^{\circ} 34'$  longitude  $68^{\circ} 56' W$ ). Although a dome of light is present to the south, this nearby observing site about 25 miles to the north of Mendoza city usually offers a 6.1/6.2 limiting magnitude sky. The sky was totally clear both nights, after several days of cloudy and rainy days. However, the seeing was not the best but the sky was steady enough to observe the faint and small details of some of the objects in the zone. The second night had a worse transparency and a higher level of humidity.

At low magnification (42x) the field shows stars with the brighter ones with magnitudes around 8.5 and 9. To the east, some hazy objects containing several stars were visible. To the north you will see maybe the most interesting and conspicuous structure in the whole field, the “Sextant”, which harbor an interesting history (read more below) appearing at a first glance as a fine curved formation of nebulosity and stellar aggrupation.

### The Stellar Arc “Sextant” (Constellation III?)

To the southwest of the structure known as “Quadrant” described in Part 1 published in the December 2010 issue of the Rosette Gazette (Rose City Astronomers, OR USA), lies a smaller but more noteworthy structure referred to as “Sextant”. At a first glance through an 8-inch telescope at low power, this structure looked like a remarkable arc of nebulosity.

The Sextant is a large arc of young stars and clusters shaped like one-sixth part of a ring. A plausible model for the formation of Sextant is that it was triggered by the collapse of a small swept-up shell around a cluster that formed inside a giant expanding HI ring.

The question arises again, “*Is the Sextant arc the structure called “Shapley’s Constellation III”?* McKibben Nail & Shapley (1953) designated NGC 1974 (a component of the stellar arc) as the identifier of Constellation III, including an area of  $28' \times 28'$  around NGC 1974. They also noted that Constellation III is a triple cluster, so in fact they were probably referring to Sextant (paper “**Triggered Star Formation in the LMC4/Constellation III Region of the Large Magellanic Cloud I have observed**” by Efremov and Elmegreen, May 1998).

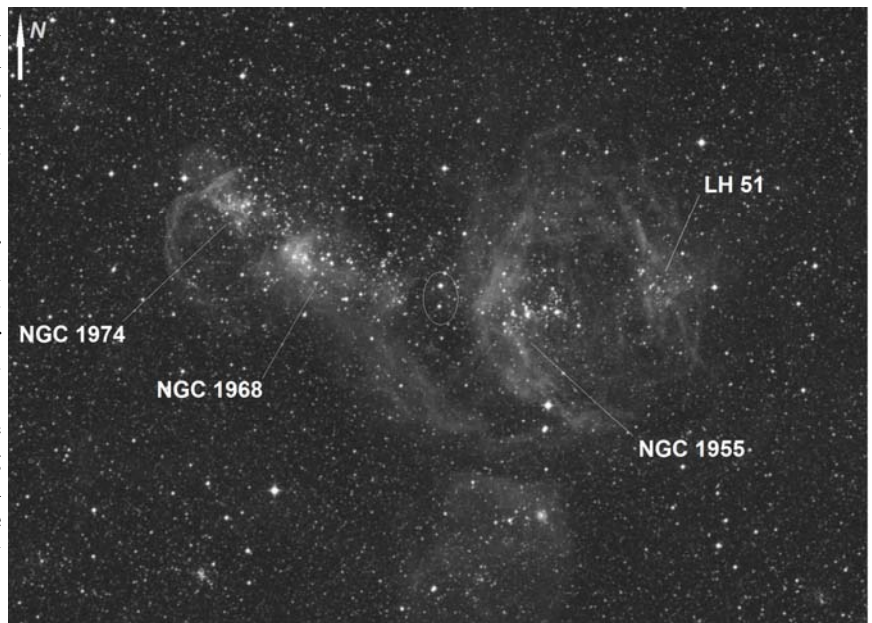


Figure 1. DSS image of the stellar arc known as Sextant. I have plotted the different zones easily discerned through a common amateur telescope.

The only thing resembling the Quadrant and Sextant stellar arcs is a large region in the Sc galaxy NGC 1620 (also UGC 3103) studied by Vader & Chaboyer (1995), a galaxy situated in constellation Eridanus with a Declination of  $-00^{\circ} 09'$ , thus being visible from both hemispheres and accessible to most of the amateur observers because of its brightness (mag. 12.4, Surface brightness 13.4). Due to its inclination it is difficult to know if this is a stellar arc or a spiral arm.

At low magnification (42x), four zones were visible there, three of them prominent and one fainter and more elusive. The easternmost one is called NGC 1974, discovered by James Dunlop in 1826, a cluster with nebulosity according with both the NGC/IC Project (<http://www.ngcproject.org/ngcicdb.asp>) and the [Wolfgang Steinicke's Revised NGC and IC Catalog](#), appearing round in shape and nebular. Observing carefully and using averted vision some very faint stars are visible embedded there.

Immediately to the west of NGC 1974 another nebular patch was visible, NGC 1968. There, an elongated stellar formation composed by stars brighter than those in NGC 1974 was clearly visible. Moving the telescope more to the west, the structure in Sextant is less conspicuous but a continuum of faint nebulosity seems to connect the whole complex. Two faint stars are the most prominent feature there (gray ellipse in **Figure 1**). Moving to the west, the westernmost of the prominent "patches" is very similar to NGC 1968, clearly visible without a filter at this magnification showing a very similar stellar configuration. We are talking about NGC 1955. Harder to see is a patch of nebulosity, LH<sup>2</sup>51 in **Figure 1**. With averted vision I could see a small area of smooth nebulosity and some stars. The view of the whole Sextant at this magnification but using an UHC filter was marvelous, with NGC 1974, 1968 and 1955 being the most conspicuous patches and with LH51 looking fainter, round and smooth.

The Sextant was also clearly visible at 78x. The nebulosity appeared rather continuous and the stellar configurations in NGC 1968 and 1955 looked similar both in appearance and orientation. However, the configuration of NGC 1955 looked like a rather arced chain of stars. Using averted vision the zones appeared very well detached in the entire structure. LH 51 was also visible, improving the view using this technique.

At the same magnification and using a UHC filter, the Sextant showed four zones of nebulosity, being NGC 1968 and 1955 the most conspicuous ones. At the center of the complex the two stars mentioned above were again visible.

At 104x the Sextant was visible across the field, filling it and offering a wonderful view of the entire structure. NGC 1974 looked like a swarm of faint stars of similar brightness in a round configuration and embedded in faint nebulosity. NGC 1968 looked more obvious containing brighter stars in an elongated configuration in the direction NE-SW and, like NGC 1974, embedded in faint nebulosity. Immediately to the west, the "central" zone showed

## Supernova Remnants in the LMC

The MCSNR (Magellanic Cloud Supernova Remnant Database) lists the confirmed and suspected supernova remnants in both the Large and the Small Magellanic Clouds, our nearby neighbors.

Two supernova remnants, namely the SNR 0532-675 and the SNR HP99 498 are situated in the field of view under study in this article. There is not an optical counterpart for HP99 498, a curious case in the nearby galaxy.

SNR 0532-675 (R.A. 05h 32m 20s Dec.  $-67^{\circ}31'40''$ ) is an optically confirmed remnant

*Radio image of the SNR 0532-675 (Copyright*

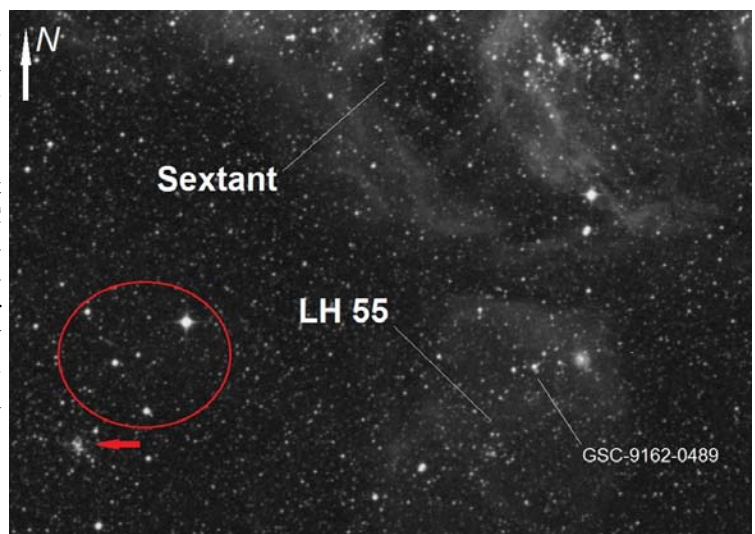


Figure 2 (DSS image)

no nebulosity with a “dark” zone dividing the two patches from those situated to the west. The two stars mentioned have visual magnitudes 11.2 and 12.8.

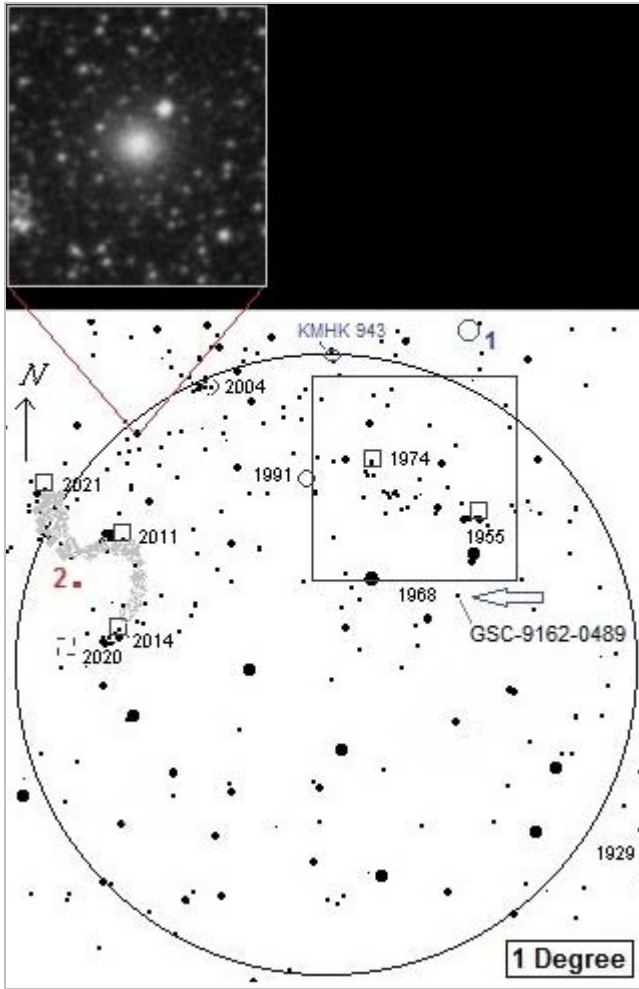


Figure 3

Figure 2. Very close to this nebula lies the OB association LH 55.

At higher magnification (78x), the small nebula is still barely visible. For moments, using averted vision, a very small nebulosity was visible and an extended faint nebulosity became visible surrounding it, and reaching and engulfing the star GSC-9162-0489. The extended nebulosity (actually an HII region) is known as LHA 120-N 51E and it is associated with the OB association LH 55.

104x was an appropriate magnification to observe this region with LH120-51B appearing like a small nebulosity with a bright central spot. A more detailed inspection of the small object LH120-N51B at 213x made it possible to see the faint small nebula with a bright stellar-like core.

Displaying a rather symmetric configuration, NGC 1955 and LH 51 are seen very similar to NGC 1968 and 1974 respectively (see Figure 1). NGC 1955 showed stars similar in brightness to that in NGC 1968. Finally, LH 51 was seen similar to NGC 1974 but a little fainter and showing less number of stars. Its appearance, similar in shape, looks more nebular. Through a UHC filter the sextant looked very impressive. A wider nebulosity was visible in NGC 1955 in the direction N-S (visible in Figure 1). LH 51 appeared bigger than NGC 1974 and 1968 through this filter but fainter and smoother.

To the east of the Sextant appears an object labeled in the chart as NGC 1991 (see Figure 3). However, I could not see anything there. According to the NGC/IC Project, NGC 1991 is another denomination for NGC 1974 so surely there is a mistake in the original eye-piece field chart.

A little bigger and round nebulosity was detected in the zone 1 in Figure 3 (left) being barely visible at 42x using a nebula filter (UHC). Observing it at 78x without a filter and using averted vision, it appeared like a faint and rather round nebulosity not very well detached from the background sky. Through a UHC filter it looked bigger in size comparing with earlier observations and round in shape. On the other hand, an extremely faint nebulosity seems to cover the zone between the Sextant and the zone 1. At this power and with this filter the nebulosity seems to have a triangular shape narrowing northward. A final observation at 104x showed this not very well detached nebula very barely visible with averted vision.

Indicated by an arrow in Figure 3 there is a small nebula that was hard to observe at low magnification (42x). Using averted vision, a small smooth nebulosity seems to be situated very close to the star GSC-9162-0489. The small nebula (0.7 x 0.7 arcmin in apparent dimension) has the not colorful denomination LHA 120-N51B. It is the small and round nebulosity visible to the west (to the right) of the star GSC-9162-0489 in Fig-

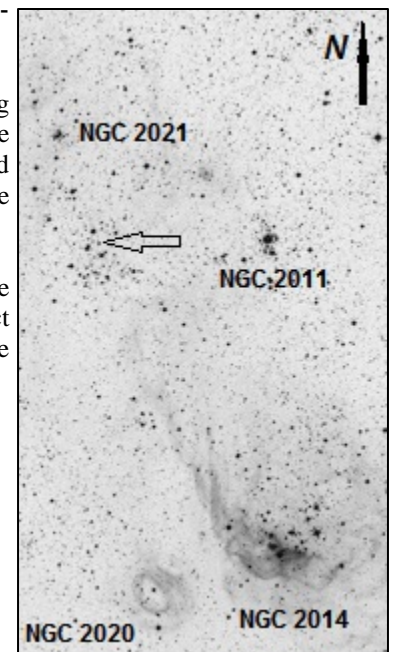


Figure 4 (DSS image)



The DSS image (**Figure 2**) shows a very small stellar cluster situated to the east of the region LH 55, indicated by a red arrow. I used the asterism indicated with a red circle to try to find it but at 78x and 104x it was not visible clearly.

Moving the telescope to the northeast of the Sextant, at the north edge of the eyepiece field, a sort of small nebula with smooth appearance was visible at 78x. Observing carefully with averted vision there seems to be a group of faint stars. This object is the cluster KMHK<sup>3</sup> 943 situated in an HII region named DEML212 (see **Figure 3**). KMHK 943 appeared like a small and little elongated hazy patch with a few stars embedded there when I observed it at 104x. Always averted vision improved the details.

**NGC 2004** was a noticeable 9.6 magnitude open cluster through my 8-inch telescope at 42x, situated in a region rich in faint stars. A bright and condensed core was visible surrounded by fainter stars.



Even without a nebula filter some zones of nebulosity were visible there (toward the northwest and the southeast from this cluster). A faint lane of nebulosity seems to connect NGC 2004 with the Sextant situated to the southwest. At the same magnification but using an UHC filter, the cluster was visible also very detached suggesting the existence of nebulosity there. At 78x, this cluster appeared interesting with a small and bright core which presented a “grainy” appearance when I saw it using averted vision. The outer parts of the cluster showed faint stars, some of them discerned and visible. The core of NGC 2004 seems to be a little offset.

At even higher power (104x), this cluster showed a “bright granular core”, where I could start to discern some stars observing carefully with averted vision. The outer zones, much fainter, appeared with faint stars, some of them being identified at this magnification.

NGC 2004 is mentioned together with NGC 2100, another LMC cluster, in the paper “**A Hypervelocity Star from the Large Magellanic Cloud**” (Alessia Gualandris and Simon P. Zwart, 2008) as possible parent clusters of HE 0437–5439, an 8M<sub>⊙</sub> hypervelocity star with a possible origin in our satellite galaxy and now located at a distance of 61 kpc from the Sun.

Also, a round object (an HII region?) was not visible, in a region populated by a group of faint stars (see upper panel in **Figure 3**). At 78x, the identification of this object was unfruitful. The stars immediately surrounding this object were barely visible that night through the 8-inch telescope making more difficult the accurate identification of the zone. Seemingly a faint star seems to be there but even higher magnification and perhaps a nebula filter would be more useful to try to see this challenging object.

**NGC 2011**, according with B. Kumar, R. Sagar and J. Melnick in their paper “**CCD Photometric and Mass Function Study of 9 Young Large Magellanic Cloud Star Clusters**” (February 2008) is located in the OB association region LH 75 with its photographic image indicating that it is elongated, fairly condensed and partly resolved cluster. Clearly visible through an 8-inch telescope like a single stellar swarm, this open cluster is actually a double cluster with its fainter component being not visible (read more in the paper “**HST WFPC2 Observations of the Peculiar Main Sequence of the Double Star Cluster NGC 2011 in the Large Magellanic Cloud**”, by D. A. Gouliermis *et. al.*). At low magnification (42x) it looked bright but much smaller than NGC 2004. The view at this magnification reminded me that of a small and bright planetary nebula. Near this cluster, faint stars and nebulosity suggest to me the S-Shape type distribution I have indicated with gray color in **Figure 3**, with the end part, near NGC 2021, appearing like an oval-shaped group of faint stars (indicated by the arrow in **Figure 4**). The S-shape I saw actually does not match very well with the DSS image of that zone.



A higher magnification (78x) made possible to show NGC 2011 like a defocused star immersed in the way of the S-shaped structure of stars and nebulosity present there. The oval aggrupation showed several stars of rather similar brightness. Through an UHC filter, NGC 2011 appeared like a star surrounded by small nebulosity. At 104x, NGC 2011 was bright looking like a star with a very small surrounding nebulosity. On the other hand, the zone near NGC 2021, a small 12.1 magnitude open cluster according with the NGC/IC Project, is a notable zone of stars and nebulosity, a structure that seems to be present in other regions of the Large Magellanic Cloud with the S-shape nebulosity being visible too.



**NGC 2014** (LH 76; Lucke & Hodge 1970) is an OB association that lies at the southern edge of LMC-4, embedded in the H II region DEM 229. At 42x it was a beautiful stellar aggregation easily visible. In its southern edge the brightest star of the swarm was detected (about 9.8 visual magnitude). The cluster looked elongated very closely east to west. Using a nebula filter (UHC), the view showed better the nebulosity present there and the stars looked dimmer, but they were visible. At 78x with a UHC filter some stars are visible in a hazy environment.

High magnification (104x) shows a stellar swarm with its members easily discerned and some of nebulosity engulfing the region.

**NGC 2020**, discovered by John Frederick William Herschel in 1836, was barely visible at low magnification (42x), needing averted vision for brief moments of better detection. It looked round in shape and with smooth brightness. Catalogued as a diffuse nebula, some sources like the [Wolfgang Steinicke's Revised NGC and IC Catalog](#) suggest that this nebula is maybe a supernova remnant.

The UHC filter improved very well the view of this object, looking again round in shape and smooth in appearance but much more detached from the background sky.

At 78x it looked round and mostly smooth in appearance. Averted vision was necessary for a better view of this object. At least two stars are superimposed. Using a nebula filter (UHC) I got a good view, being easily detected and also appearing almost round in shape and smooth in brightness, seemingly showing an inner dark feature when it was visible in detail using averted vision, suggesting the inner "hole" visible in the DSS image here.



DSS image of NGC 2020

At 104x I get the same view. The inner part appeared like a dark lane or "bar" across the object with averted vision and a UHC filter.

Number **2** in **Figure 3** (page 4) indicates a very small cluster with nebulosity that was visible through my 8-inch scope.

**B**efore beginning with the visual observation of the field I was studying the DSS image. This made possible the identification of some faint and small stellar aggregations (open or globular clusters?) that you will not find in common amateur sky charts and planetarium software. Most of these clusters are located in the lower half of the eyepiece field. In **Figure 5** I have plotted the clusters with red dots and numbers. The goal was to try to see these objects visually through my 8-inch telescope under the usual

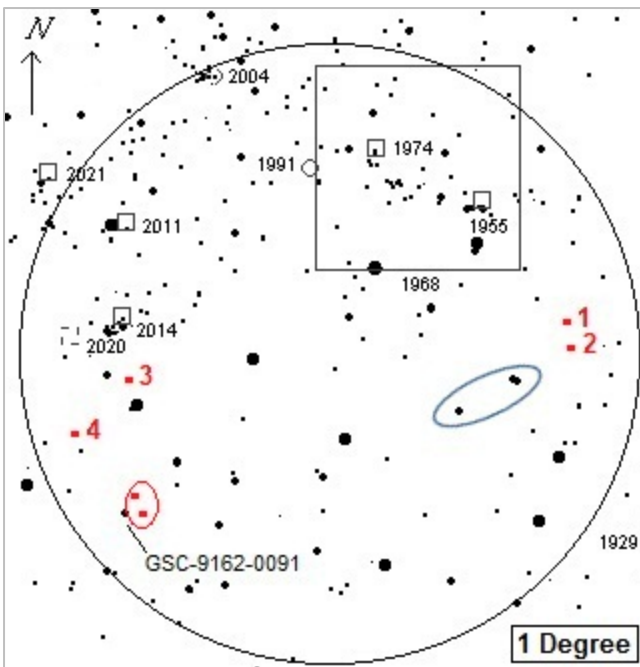


Figure 5

### Obscure Stellar Clusters

dark skies we have in Canota.

Numbers **1** and **2** in **Figure 5** indicate the positions where two small stellar clusters lie. In the case of the cluster **2** I used the stars marked with the blue ellipse as a guide because it is situated about the same distance that exists between those stars in the same imaginary line that connect them. At low magnification (42x) and with higher power (78x) they were not visible at all needing even higher magnification to know if they are visible in a small telescope. However, even at 104x the clusters were out of reach of my 8-inch telescope.

Crossing the field and reaching the eastern edge four more small objects lie there. In **3** the DSS image shows a small hazy object and a small stellar cluster in **4**. Both were not visible at low magnification (42x). I observed this zone again using 78x and 104x but both were not visible.

### A “Hidden” Pair of Very Faint Clusters. A Case for Applying High Magnification.

I had a very interesting experience trying to find out if two small clusters in the field, indicated with a red ellipse in **Figure 5**, were catalogued or not and in which catalogue they would appear. Two extremely faint stellar clusters are located in the south-east part of the field and they were in the threshold of visibility in my 8-inch telescope under a dark sky and with our neighbor galaxy about 38 degrees high in the southwest late summer sky.

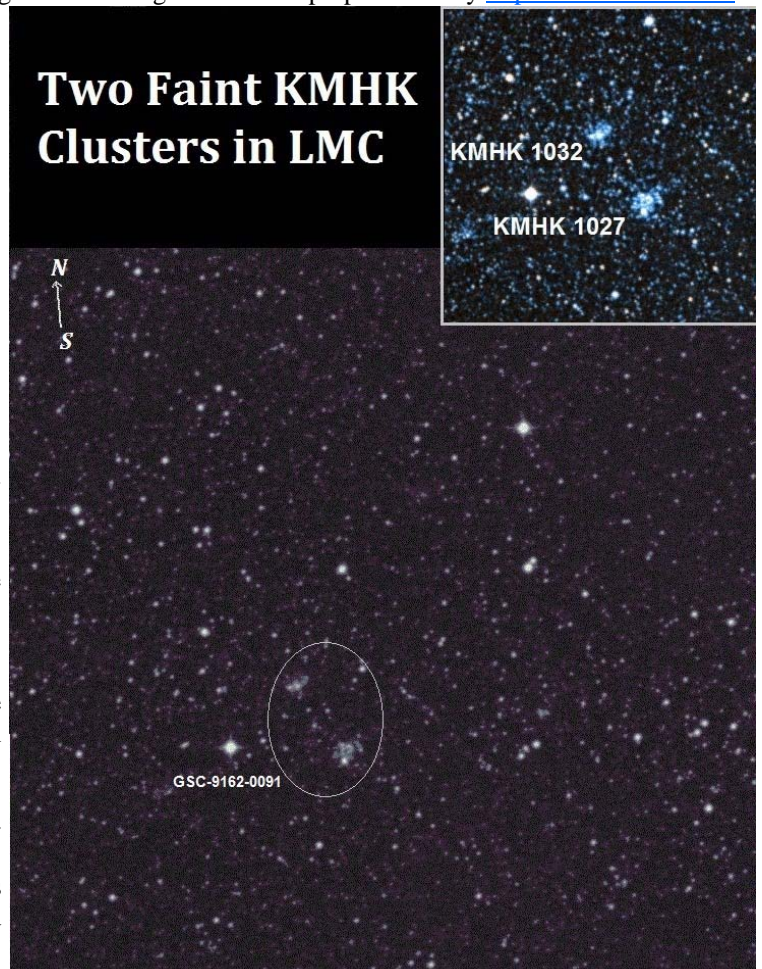
I could not find these clusters labeled in planetarium software or sky charts because they are very small, faint and unknown objects. I included them in the observing list after analyzing the DSS image of the field proportioned by [http://archive.stsci.edu/cgi-bin/dss\\_form](http://archive.stsci.edu/cgi-bin/dss_form). I did not have the equatorial coordinates (epoch J2000.0), so I made a first approximation of their positions working with that image and obtaining the coordinates proportioned by this web page. After achieving a first approximation (within 1 arc minute in accuracy) I checked the list of the “**Catalogue of extended objects in Magellanic Clouds (Bica+, 2008)**” available at CDS “*The Strasbourg astronomical Data Center*” <http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=J/MNRAS/389/678>. There I selected the Open Clusters and Associations table options with 3740 and 3326 rows (objects) respectively (you can get it at <http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=J/MNRAS/389/678>, I found them!!! The clusters are catalogued and they are named KMHK 1027 (also BRHT38a) and KMHK 1032 (BRHT38b). **Figure 6** shows both clusters in a RGB composition image (upper right) obtained using the

Aladin<sup>4</sup> previewer at the SIMBAD query results page [http://simbad.u-strasbg.fr/simbad/sim-id?Ident=\[SL63\]%20551](http://simbad.u-strasbg.fr/simbad/sim-id?Ident=[SL63]%20551).

At 42x, the small stellar clusters close to the 11 magnitude star GSC-9162-0091 (indicated with the gray ellipse in **Figure 6**) were not detected.

At 78x the clusters were hardly viewed. With averted vision two very small hazy spots were visible for moments. Using an eyepiece that gave me 104x the two clusters were detected like small and faint spots, needing averted vision for a brief improved view.

At 213x I got the best view of the cluster pair. With averted vision they looked like very small hazy patches. KMHK 1027, the southernmost one (lower in **Figure 6**), with an apparent dimension of 1 x 0.9 arc min., is a little bigger and brighter than KMHK 1032 (0.7 x 0.7 arc min.) and it was more easy to see for me. The very faint star on the south



**Figure 6.** A composite image of ordinary clusters in LMC, with a close up RGB image of the clusters (upper panel).

edge of KMHK1027 could be glimpsed two. Definitely they are good target to test your visual acuity!!!

The Large Magellanic Cloud hosts a zoo of deep-sky objects to test your telescope, visual capability and to know how far you can go in visual observation.

Thank you to Rose City Astronomer Jan Keiski for checking grammar.

~~1\_ **OB Association:** The concept of a stellar association was originally introduced in 1949 by V. A. Ambartsumian, who later separated them into OB and T associations (Ambartsumian 1968). Morgan, Sharpless, & Osterbrock (1952) considered as a stellar association any loose group of stars within an area where bright OB stars exist and with evidence of a common origin.~~

A recent definition of a stellar association (Kontizas et al. 1999) refers to it as a single, unbound concentration of early-type luminous stars, embedded in a very young star forming region.

2\_ **LH** Luke, P. B. and Hodge, P. W. "A Catalogue of Stellar Associations in the Large Magellanic Cloud". *Astronomical Journal* 75, 2 (1970): 171 – 175.

3\_ **KMHK** refers to a list of LMC clusters published in 1990 by M. Kontizas, D.H. Morgan, D. Hatzidimitriou and E. Kontizas (*Astronomy and Astrophysics Suppl. Series*, Vol. 84, p. 527).

4\_ **Aladin** is an interactive software sky atlas allowing the user to visualize digitized astronomical images, superimpose entries from astronomical catalogues or databases, and interactively access related data and information from the *Simbad database*, the *VizieR service* and other archives for all known sources in the field

[\(see available data\)](#). Created in 1999, Aladin has become a widely-used *VO tool* capable of addressing challenges such as locating data of interest, accessing and exploring distributed datasets, visualizing multi-wavelength data. Compliance with existing or emerging VO standards, interconnection with other visualisation or analysis tools, ability to easily compare heterogeneous data are key topics allowing Aladin to be a powerful data exploration and integration tool as well as a science enabler. Copyright © UDS/CNRS - distributed under GPL v3 licence

---

#### Items for sale from Beth Deal

Well it has almost been a year now and I find that I still need to find a good home for Larry's telescope and eyepieces.

Meade 8" Telescope with Meade Tripod with Wedge asking price \$1000

Vixen Lanthanum LV6mm eyepiece \$55

Celestron 1 1/4 2X Barlow \$30

Celestron 6.3mm Plossi \$15

Celestron 25mm SMA \$10

10mm Orion Ultrascopic Illuminated \$45

55mm Televue Plossi \$120

26mm Televue Nagler Type 5 \$350

Variable Moon Filter 1 1/4 \$20

Vixen Lanthanum LV25mm eyepiece \$70



Everything is in excellent condition and just needs a home where they will be loved and appreciated like Larry did with his things.

Thank you.

Send inquiries to Beth Deal: [bethsdeal@Comcast.net](mailto:bethsdeal@Comcast.net)

In Memoriam

Larry Deal

1955-2010

Larry joined the Rose City Astronomers in January 1999 and had been an active member for the past eleven years. He volunteered for the Rosette Gazette Newsletter editor position in March of 2003. In September 2005 he received an honorable mention for the Astronomical League's Mabel Stearns Award which recognizes astronomy newsletter excellence. In 2007 he won first place for the Mabel Stearns award for his work on the Rosette Gazette.



# Minutes of the Rose City Astronomers Board February 7<sup>th</sup> 2011 Held at OMSI Classroom 1

## Board Members Present

Sameer Ruiwale (President)  
Ken Hose (VP Membership)  
Dawn Willard (VP Community Affairs)  
Larry Godsey (Treasurer, Webmaster, Magazine Sales)  
Duncan Kitchin (Secretary)  
Larry Froberg (Sales Director)  
Howard Knytych (New Member Advisor)  
Jan Keiski (Library Director, OMSI Liaison)  
Greg Rohde (Telescope Library)  
David Nemo (Observing Site Director)  
Scott Kindt (Newsletter Editor, SIG Director)

## Call to Order

The meeting was called to order at 7:14 by Sameer Ruiwale and, there being 11 of board members present, the quorum requirement of 10 was declared to be met.

## Approval of Agenda

The agenda was approved by unanimous consent.

## Approval of Minutes

Moved: Approve minutes from the January 2011 board meeting. Moved: Greg, Second Sameer: Passes 10-0-1.

## Directors' Reports

Secretary's Report – Duncan Kitchin: Quorum (10) met with 11 voting members present.

Treasurer's Report – Larry Godsey: Way under budget still. Specific items under budget – telescope library has spent nothing so far this year, but there are plans in hand to acquire new equipment. Library is also under budget. Programming has some bills due which are expected. As discussed at the previous meeting, the site fund checking account has been moved to a savings account. The operations CD has matured and has been temporarily moved to the operations checking account. Larry is investigating with the bank what the options are, since the bank is now charging for checking accounts unless specific restrictions are met.

VP Programming – Matt Brewster: Not present, but Matt provided a programming update to Sameer. Will be Dr Brownlee speaking this month – Principal investigator on the Stardust mission. March is already booked – Greg Crinklaw will be presenting on comet hunting. He will be teaching SkyTools power tips class on Saturday, March 19th.

VP Observing – Matt Vartanian: No updates. Discussion - are we holding Kah-Nee-Ta? Have not seen a contract yet. Sameer will investigate. Also have Camp Hancock at the end of April. Larry Godsey has discussed with OMSI and agreed a reduction in the minimum attendance for Hancock – now down to 24 people nights versus 40 people per night previously. Price has been established as \$45 flat fee for food and lodging per night. There was some discussion on viability and interest in Kah-Nee-Ta from RCA members; it was noted that there was always interest in the past years and some members have regularly attended this event; it is also family friendly and appeals to members who might want to bring family/kids along. Motion: “Authorize the President to approve the contract with Kah-Nee-Ta on behalf of RCA”. Moved: Greg Rohde, Second: Duncan. Motion passes 11-0-0.

VP Community Affairs – Dawn Willard: Solar viewing on Wednesday 11am and star party on Friday 6pm of this week at Elmonica elementary school. Also have two other requests for events.

Media Director – Diana Fredlund: Not present, but report sent to Sameer. Has sent a note to Matt Vartanian about the “think out loud” show. Has talked to the producer about doing the show time in May.

VP Membership – Ken Hose: January had many new members join – 14 plus 5 renewals. Total member families 314. Number was 326 at this time last year, and 299 the year before. Total dues brought in this month was \$631.

New Member Advisor – Howard Knytych: New member meeting last month with 32 attendees; well above average. Subject of the meeting was winter observing highlights. Had Digistar and PowerPoint presentation. Proved to be a very effective

*(Continued on page 14)*

(Continued from page 13)

combination. Would like to investigate continuing to use this combination for future presentations. Next new member meeting is in March. Subject is still under consideration; may do Messier marathon, which would line up well with outing. Suggestion to publicize the new member meetings in the Oregonian A&E section. Sameer will talk to Diana about this.

Sales – Larry Froberg: Outstanding sales month. Brought in \$789 last month. Calendars helped a lot – 33 sold, reaching the breakeven point. Have 23 left. Dawn is now helping out with sales. Bought 34 copies of SkyTools, have sold 31 copies. The 3 that are left are all the standard versions. Software is being mailed out as payment received. Spent \$2471 in total, will bring in approximately \$2700.

Book Library – Jan Keiski: Nominal.

Telescope Library – Greg Rohde: Coronado PST that was out to Meade for repair has come back. The repair itself is at no charge, but there was a \$15 shipping charge. The other PST has a similar problem, but not as bad – Greg will send it in for repairs at some point.

IDA – Dawn Nilson: Not present.

Magazine Subscriptions – Larry Godsey: Nominal.

Webmaster – Larry Godsey: Larry talked to Leo Cavagnaro about whether he would like to post his articles to the website in Spanish. Still under discussion. Also talking about helping GAMA to establish their own website.

Site Committee – David Nemo: David has exchanged some emails with Clackamas Community college. Still working on a proposal which will be brought back to the board for approval.

Youth Director - Jean London: Not present.

Newsletter Editor – Scott Kindt: Nominal.

SIGs – Scott Kindt: Sameer will be sending out a notice calling for a volunteer to take over SIG Directorship. Discussion as to whether we have a calendar of items for the cosmology SIG.

Alcor – Dale Fenske: Not present, but Dale has reported to Sameer that he would like to step down from his role.

OMSI Liaison – Jan Keiski: Information fair this May, when the auditorium is available.

Sister Club update – Jan Keiski : GAMA has just held their Southern Messier Marathon. Leo reports best ever views of Saturn.

## Old Business

Review Kah-Nee-Ta Star Party contract for 2011 event – Matt Brewster. Already discussed.

SkyTools Class Update – Larry Godsey. Both classes are filled and the budget will cover all of the expenses.

Vote on purchase of Orion Astroview Mount with single axis drive for Telescope Library – All. This item had been postponed pending the availability of a quorum. Moved: Howard. Second: Duncan. This will come out of the reserve funds. Motion passes 11-0-0.

Update on Skamania Lodge request for telescopes / volunteers - Dawn Willard will check further.

Update on costs / procedures for shipping a telescope to GAMA in Argentina - Margaret Campbell-McCrea / Larry Godsey. Two boxes – one with scope, another with tripod and mount. Also found a small eyepiece case. Will crate up the scope and eyepiece case in a single case. Shipping costs are expected to be approx. \$500 - need to investigate whether this will cover import charges and shipping from the port to Mendoza. Greg will investigate and report back. Greg offered to build a wooden crate for the scope to better estimate shipping cost but will hold off until the board makes a final decision on whether the cost is justified. Given the cost, and demands for telescopes locally, we should also investigate whether the scope might be better used by donating to a local group.

Update on proposal for “Think out loud” radio show – Diana Fredlund. Already discussed.

## New Business

Proposal for New Member Orientation class or series (once or twice a year?) – Howard Knytych. Suggestion that we have such a program for a day or half day once or twice a year. Howard will investigate and report back to the board. We should also consider that there are many new member resources available. Should consider at a future meeting how much demand there is for an additional series of introductory meetings.

Composition of board. Discussion as to whether the current board configuration is fixed by the bylaws. Determined that there are positions which may be created or dissolved by a vote of the board. Suggested that the historian position could be dissolved as duplicative with other functions such as the newsletter editor and secretary. Will be discussed at next meeting.

TABLED: Create Mirror Making Machine usage instructions – David Nemo / Greg Rohde. Greg will look into getting a fixture made. Peter is starting a project to make a 12.5” mirror using the machine.

## Adjournment

There being no further business, the meeting was adjourned at 8:48pm

# APRIL 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 	2
3 	4 7pm Board Meeting OMSI Classroom 1	5	6	7	8 <a href="#">Downtowners Luncheon</a> Kell's Noon	9 <a href="#">OMSI Starparty</a> <a href="#">Rooster Rock</a> and <a href="#">Stubb Stewart</a>
10 	11 7pm <a href="#">Astro Imaging SIG</a> Beaverton Library	12	13	14	15	16 10am - 3pm <a href="#">Telescope Workshop</a>
17 	18 7:30pm General Meeting OMSI Auditorium	19	20 7pm <a href="#">Cosmology SIG</a>	21 Lyrids peak	22	23
24	25	26	27	28	29 <a href="#">Camp Hancock Star Party</a>	30 <a href="#">Camp Hancock Star Party</a>

## April 2011

May 2	Monday	Board Meeting	OMSI Classroom 1	7pm
May 6	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
May 7	Saturday	Astronomy Day at OMSI	OMSI	All Day
May 7	Saturday	<a href="#">OMSI Star Party</a>	<a href="#">Rooster Rock</a> and <a href="#">Stubb Stewart</a> State Parks	7:30pm
May 9	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
May 14	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm
<b>May 16</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:30pm</b>
May 18	Wednesday	<a href="#">Cosmology SIG</a>	Linus Pauling House	7pm
May 27-May 29	Fri - Sun	<a href="#">Maupin Star Party</a>	Wapanita Air Strip near Maupin	
May 28	Saturday	Stubb Stewart Star Party	<a href="#">Stubb Stewart</a> State Parks	

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356

# The Rosette Gazette

Volume 23, Issue 05

Newsletter of the Rose City Astronomers

May, 2011



## Information Fair and Swap Meet

Fair begins at 7:00 PM with a  
short business meeting at 7:30 PM

Whether you are looking for more information about the club, or the deal of the year on that 360° immersive field of view eyepiece, have we got a deal for you!

This month's general meeting features our annual Information Fair. Come visit us and get acquainted with RCA activities and members.

There will be several tables set up in OMSI's Auditorium with information on RCA programs and activities. Learn about the following:

- Learn about membership benefits.
- Learn about RCA star parties & regional star parties.
- Learn about Astronomical League amateur observing programs such as the Messier, Caldwell and Herschel programs and how to earn observing certificates and awards for these.
- Find out about RCA special interest groups (SIGs) such as Cosmology, Astrophysics, Astrophotography, Amateur Telescope Making and others.
- Find out about our Telescope Library where members can check out a variety of telescopes to try out.
- The RCA library will be open with hundreds of astronomy related books and videos.
- The RCA Sales table will feature a large assortment of Astronomy reference books, star-charts, calendars and assorted accessories for purchase.



### In This Issue:

- 1...General Meeting
- 2...Club Officers
- .....Magazines
- .....RCA Library
- 3...Local Happenings
- .....Special Interest Groups
- 4...Star Parties
- 5...The Observers Corner
- 8...Camp Hancock Observing Report
- 9...RCA Board Minutes
- 11...Calendars



**We will also hold a swap meet where members have the opportunity to trade their astronomy related items.**

Enter at the Planetarium Entrance right (north) of the Main Entrance. Proceed to your right to the auditorium.



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

## All are Welcome! Monday May 16

New Members: 6:30 pm in the Planetarium

Information Fair Begins: 7:00 pm Location: OMSI Auditorium

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

First Quarter Moon  
May 10

Full Moon  
May 17

Last Quarter Moon  
May 24

New Moon  
Jun 01





## CLUB OFFICERS

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Mark Martin	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR	Ken Hose	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitfund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Scott Kindt	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>

# Local Happenings



This is to announce the New Members' Meeting for Monday evening 5/16/2011 at 6:30 in the OMSI Planetarium, prior to the general RCA meeting. The subject this time will be one that most new members deal with sooner or later: choosing equipment. As you can imagine, we'll be talking about advantages and disadvantages of different types of telescopes. But we won't limit the discussion there. We'll also talk about binoculars, mounts, filters, eyepieces, and the usually overlooked advantages of organic 1x magnification devices, also known as the Mark-1 eyeballs. Greg Rohde has offered to bring out examples from the telescope library, so this program can be a hands-on experience for anyone who isn't familiar with the equipment.

Although the new members' meetings are intended for new members, anyone is welcome to come.

Whether you're an oldie or a newbie, be ready for lots of Q & A.

Clear Skies,  
Howard Knytych  
New Member Advisor

Would you like to be a part of the team that provides direction for the Rose City Astronomers club? If so, we currently have the Special Interest Group Director position that needs to be filled. This person is responsible for ensuring the smooth operation of the SIG's.



Please email [president@rosecityastronomers.org](mailto:president@rosecityastronomers.org) if you are interested.  
Thanks,  
Editor.

## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, May 9th, 7pm  
Location: Beaverton Public Library  
Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: [ai-sig@rosecityastronomers.org](mailto:ai-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: [sci-sig@rosecityastronomers.org](mailto:sci-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, June 3rd, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: [downtown-sig@rosecityastronomers.org](mailto:downtown-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

When: Monday, May 16th, 6:30pm  
Location: OMSI Planetarium  
Topic: Choosing the right equipment  
SIG Leader: Howard Knytych  
Email: [newmembers@rosecityastronomers.org](mailto:newmembers@rosecityastronomers.org)  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

### Telescope Workshop

When: Saturday, May 14th, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: [tw-sig@rosecityastronomers.org](mailto:tw-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, May 18th, 7pm  
Topic: To Be Announced  
Presented by: To Be Announced  
Location: To Be Announced  
SIG Leader: Lamont Brock  
Email: [cosmology-sig@rosecityastronomers.org](mailto:cosmology-sig@rosecityastronomers.org)  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)



**Maupin Star Party  
May 27-29, 2011**

The Rose City Astronomers have been granted permission to use private property approximately 8 miles West of the town of Maupin for members-only scheduled Star Parties.

The Maupin Observing Site is located on a private airstrip about 8 miles east of Maupin, Oregon. Warning: this airstrip is used in the morning, but at the far end of the airfield. Most people don't even wake up.

There is no registration for the event itself, just show up and enjoy the weekend. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get some serious observing.

It can always be cold at night no matter what the season, so bring warm clothing.

RVs, trailers and tents will be allowed on the observing site (see observing site map for instructions). The town of Maupin offers lodging, restaurants and recreation if you don't want to rough it. We will have a portable outhouse on site.

More information can be found on the RCA website:  
<http://www.rosecityastronomers.org/sp/maupin.htm>

**RCA - Stub Stewart Star Party  
May 28, 2011**

Looking for something closer to town with reasonably dark skies? [L.L. Stub Stewart State Park](#) is located near Vernonia, Oregon. Going west out of Portland on Highway 26 past the Highway #6 cutoff and continue approximately 8 miles and take Highway 47 towards Vernonia approximately 4 miles to the entrance to Stub Stewart State Park.

From beginners to experts of all ages, here's your opportunity to view the stars and other celestial objects up close and personal through telescopes. Viewing highlights may include planets, deep sky objects, and more. Sometimes we can even view the International Space Station passing overhead.

There is no formal registration for the event itself, just show up and enjoy the evening. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted.

Come observe your favorite objects and spend a great evening with friends, and friends you haven't met yet.

The viewing area will be held at the Hilltop Day-Use section of Stub Stewart which does have public restrooms, drinking water, limited power, covered picnic area, sidewalk, limited parking, and graveled trails.

There are Tent, Trailer, and RV areas at the State Park along with cabins available for a fee. Be aware that they fill up early.



**OMSI - Summer Solstice Star Party  
June 18, 2011**

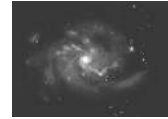
Held at [Rooster Rock](#) & [Stub Stewart State Parks](#).

Viewing highlights includes the planet Saturn, the Moon, deep sky objects including the M3, M13, M5 star cluster, the Ring nebula, the Dumbbell nebula, M81-82 Galaxies and more! A sighting of the International Space Station is always a possibility.

On the scheduled day of each OMSI Star Parties, it is suggested that interested visitors call the OMSI Star Parties Hotline, 503 797-4610 #2, or check <http://omsiedu/starparties> for possible weather-related cancellations. The event starts at sunset and is free with \$5 parking per vehicle. Warm clothing and a flashlight with red light are recommended. Personal telescopes and binoculars are welcome.

**[Star Parties Coming Soon!](#)**

<a href="#">Prineville Reservoir Star Party</a>	May 21
<a href="#">OMSI - Summer Solstice Celebration</a>	Jun 18
<a href="#">Maupin Dark Sky Star Party Weekend</a>	Jun 24-26
<a href="#">Stub Stewart Dark Sky Star Party</a>	Jun 25
<a href="#">Golden State Star Party</a>	Jun 29 - Jul 3
<a href="#">Maupin Dark Sky Star Party Weekend</a>	Jul 1-3
<a href="#">Stub Stewart Dark Sky Star Party</a>	Jul 2
<a href="#">OMSI - Lunar Viewing</a>	Jul 9
<a href="#">Table Mountain Star Party</a>	Jul 28 - 31
<a href="#">Trout Lake Star Party Weekend</a>	Jul 29-31



## VCC 846

### The Object

Noted observer and author Tom Polakis has written the excellent “Roam the majestic Virgo cluster of galaxies” article in the March 2011 issue of Astronomy magazine. He gives a tour of many of the brighter galaxies in the Virgo cluster but also mentions the obscure and very faint VCC 846. I’d never heard of it, and briefly thought “I need to observe that!” the next time I was under a clear sky. However, I quickly forgot all about it.

What makes VCC 846 interesting is that it has the greatest measured blue-shift of any galaxy. A blue-shift means it’s moving toward us, not away, which is red-shift. Almost every other galaxy in the universe is moving away from us because of the expansion of the universe. That means VCC 846’s velocity within the Virgo cluster is high enough in our direction to overcome the expansion of space-time.



“VCC” stands for the Virgo Cluster Catalog and VCC 846, at magnitude 16.4, is just one of this catalogs many extremely faint galaxies. It’s a small elliptical about 0.4 x 0.3 arc minutes in apparent size.

Location of VCC 846 in relation to M84 and M86 in Markarian's Chain in Virgo, [http://en.wikipedia.org/wiki/Markarian's\\_Chain](http://en.wikipedia.org/wiki/Markarian's_Chain).

Its saving grace is that it’s in a easy to locate spot, about a quarter degree northwest of NGC 4402, which is a nice 12.5 magnitude edge on galaxy, itself about a half degree north of M86. There’s even a nice line of 13<sup>th</sup> magnitude stars that help you triangulate on VCC 846’s exact position. The inset photo shows VCC 846 as a small puff of faint-

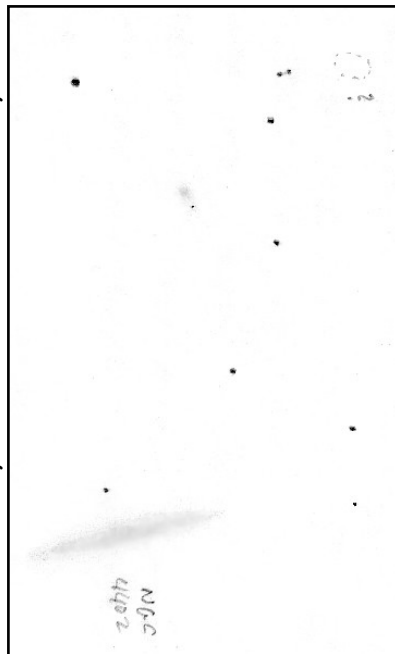
ness near the top center of the image. Many of the similar faint puffs in the image are also VCC galaxies and are better seen in the final image at the end of this article.

Note the faint star just to the lower right of VCC 846. It is 16<sup>th</sup> magnitude and, assuming fairly steady skies, is slightly easier to see than the galaxy itself. Knowing exactly where to look and what to look for is a powerful technique for seeing extremely faint objects. Used judiciously with averted vision it's surprising how faint you can see this way. The pitfall is that knowing the exact spot and size of a very faint object makes it too easy for the unintended activation averted *imagination* – seeing what you expect to see.

Vision is a tricky thing at the ragged edge of detection, and the eyes can and will play tricks. It takes practice and good technique to weed out false detections so you can be sure if you saw something or not. One way to check yourself when you think you see a small, faint object like VCC 846 is to try to “see” it in a different part of the field of view. Purposely trying to trick your eyes into seeing something you know isn't there is surprisingly easy sometimes. If you can see the same hint of barely detectable puff in a random blank area then your eyes are playing tricks. Or by dumb luck there's an identical faint fuzzy there too, but Occam's Razor favors befuddled vision.

### The Observation

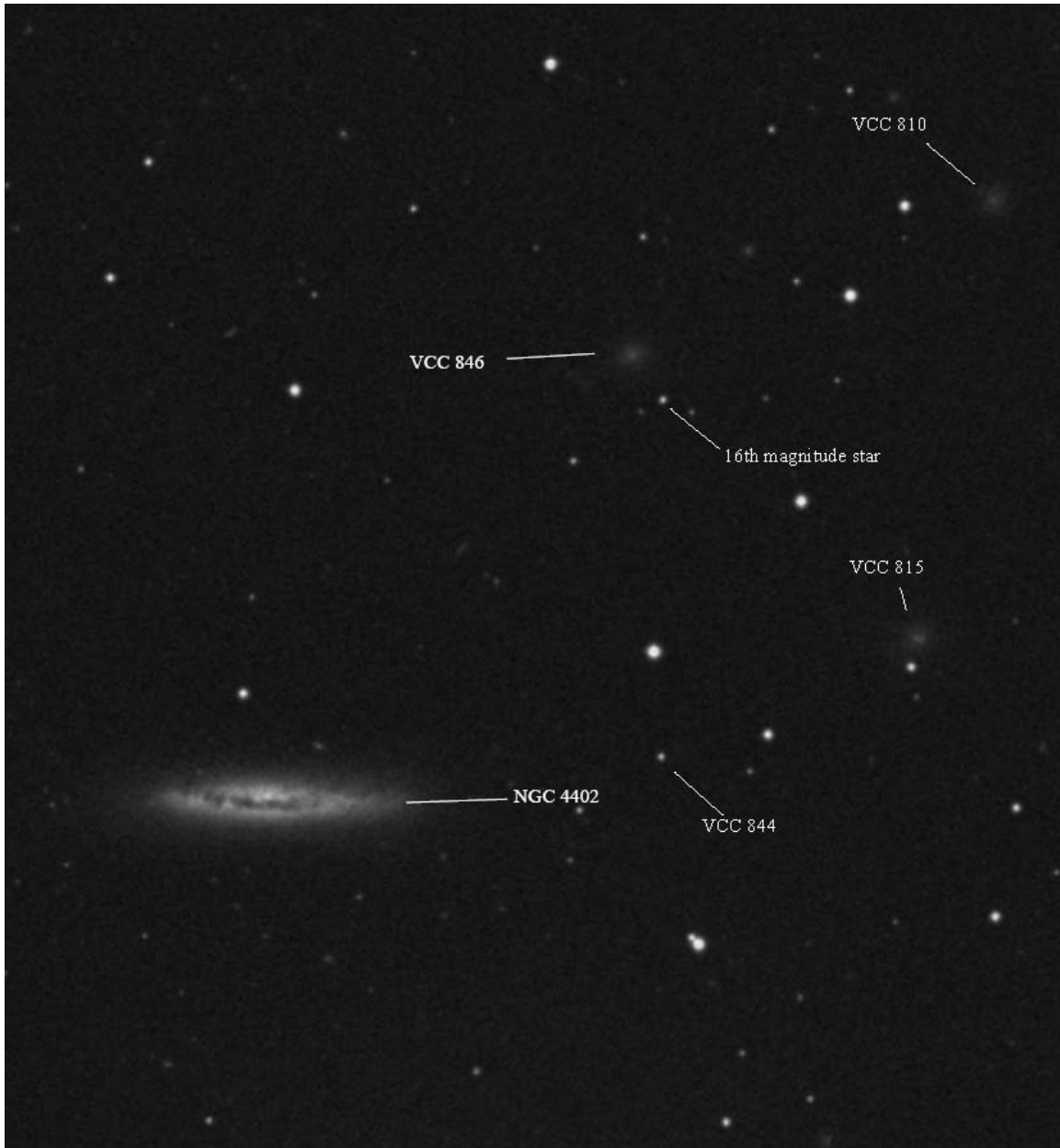
The night of February 9 was clear and I joined Chuck Dethloff out at his place in the Coast Range. He and Judy enjoy excellent dark skies out there – not quite like central Oregon but very good indeed. So there we were, enjoying a rare clear February night when Chuck asks if I'd like to see VCC 846 in the 16 inch, and that maybe I might want to try it in the 28. I'd been fishing for some faint Abell planetary nebulae so a change of pace sounded good, especially when Chuck reminded me about VCC 846's blue-shift. Then I remembered my mental note to observe this unique galaxy so I was excited Chuck brought it up. It took only a few minutes to find the right spot, and then the fun began.



*Negative and inverted versions of my sketch of VCC 846 and its surroundings. VCC 846 is at left center with a faint star immediately to its right. The dashed circle with a question mark in the upper left corner is the suspected location of VCC 810. Note the double star to the left of the dashed circle that doesn't appear in the DSS images.*

Chuck was using Judy's 16 inch and I had my 28. The night was clear, the seeing steady but transparency was well below normal – every object appeared noticeably fainter than usual. Nonetheless, the nice and sharp images made up for that somewhat and observing

Chuck was using Judy's 16 inch and I had my 28. The night was clear, the seeing steady but transparency was well below normal – every object appeared noticeably fainter than usual. Nonetheless, the nice and sharp images made up for that somewhat and observing



conditions were quite nice overall. At 105x all I could see was the nice edge on galaxy NGC 4402 and a ragged line of 13<sup>th</sup> magnitude stars. 253x didn't show much more but I started getting hints of something lurking at VCC 846's location. Doubling the power to 506x did the trick when I could dimly but plainly see both VCC 846 and the 16<sup>th</sup> magnitude star next to it.

This is often how it goes for small, faint objects. It takes a much higher magnification than you might think so the object is large enough for the eye to be able to detect it. The same thing held true in the 16 inch – Chuck had to push the power to the high 400x range for it become detectable. We exchanged views for a few minutes and verified that VCC 846 could be seen in each scope.

### ***The Moral***

Ok, so how is it that an object that could be dimly seen in a 28 inch scope could also be detected in a 16 inch? “Not easily” is the short but true answer. The longer answer has several variables that combine differently for everyone. The variables include experience as an ob-

server, innate ability to detect very faint objects, patience, good observing conditions, overall level of health, alertness and quality of the telescope. I suspect that a 16 inch was the minimum size scope needed to have seen VCC 846 that night, and perhaps a 14 inch under ideal conditions would do the trick.

Half of this story's moral is to not assume you can't see a really faint object with your scope. Most calculated attempts to assign a magnitude limit to a particular aperture are considerably understated, especially if you're an experienced observer and know what you're doing, have good skies, etc. For instance it's not uncommon to find a 16 inch scope listed as having a magnitude limit of 15.7 or so. If true, magnitude 16.4 VCC 846 should have been out of reach even on a perfect night.

The other half of the moral is that "optimum magnification" is also usually understated, so the use of *high* magnification is often crucial for seeing small, faint objects. But what if you don't have much experience going really faint? Like anything else – practice, practice, practice. This isn't everyone's cup of tea of course, and even though unusually sensitive vision isn't required, not everyone can see really faint objects even with practice because eyesight varies greatly from person to person. All I'm suggesting is that if you're interested in seeing faint stuff like VCC 846 you have to consistently push yourself and your equipment. No guarantees for success of course, but then your chances are zero if you don't try.

Perhaps the coolest part of our observation is that Tom notes in his article that he knew of no amateur observations of VCC 846, so it's possible that Chuck and I are the first two. I think it's likely that *someone* has seen it through a scope before, but at the very least we seem to be the first to report an observation. This is part of the appeal of looking for an object like VCC 846, as even though we may not be the first to see it visually we are among the few who have.

---

## Camp Hancock Observing Report

By Howard Knytych

After a l-o-o-n-g wet winter and spring, Camp Hancock on the weekend of April 29 - May 1 was superb!

First indication of good things to come was when the weather cleared as I was driving east on I-84 before reaching Hood River. Friday evening was mostly clear, cool, and breezy at first, with some moisture in the air and some scintillation. But conditions were essentially clear until about one-ish. Mark Martin and I were set up on the hill on the north end of the campground near the men's bathroom. He with his 16" Meade truss tube, and I with my 18" dob. I was intent on observing galaxies in the area of Hydra and Centaurus, below Corvus. Although they were low in the sky, amid passing scattered clouds and murk, I managed to pick up M83, NGC5264, NGC5253, and NGC5102. Mark reported hearing about a possible supernova in NGC3972 in the bowl of the Big Dipper. Using his ST3 chart, we both searched it out, located it, but neither of us could really see it. I had similar trouble teasing dwarf galaxy Leo 1 from the background. Both of these objects were well placed, high in the sky. After a hot chocolate break in the cafeteria after midnight, we stepped outside to find the sky had grown overcast, which put an end to the evening. The next day, Saturday was clear and cloudless, with temperatures in the comfortable mid sixties or low seventies. Saturday evening was as good or better than any I've seen at Hancock. Dry, cloudless all night long, cool (not too cold), and a little breezy until the wind died around 2200. We had visitors, including a few newbies and five eagle scouts who were up there to work on construction and repair projects at the station. So there were lots of opportunities for public outreach and the typical "oohs" and "wows" that accompany seeing showcase objects. Mark and I both revisited NGC3972, which that night was visible with direct vision. It's a fat, edge-on galaxy with a slightly brighter core area. We saw a 12th magnitude star (estimated by comparing it with a nearby 14th mag field star) located near the core which was not indicated on the chart. We presumed this to be the reported possible supernova, which, according to the internet reports, is brightening. Later I again tried for Leo 1. After moving Regulus out of the FOV and staring for several minutes, every so often I was able to detect a brief flicker or slight brightening of a large oval area, using averted vision. Mark saw it also in my scope. Later I searched for a couple of super thin edge-on galaxies what were featured in a [Sky&Tel](#) article a few months ago. I called it a night at about 1:30.

I've been at Hancock many times, but this weekend, particularly Saturday night, was as good or better than I've ever seen there. I was sorry to leave Sunday morning, but also satiated after breaking a long, dismal wet spell with no observing.



## Minutes of the Rose City Astronomers Board March 7<sup>th</sup> 2011

Held at OMSI Classroom 1

Chair : Sameer Ruiwale  
Secretary : Duncan Kitchin

### Board Members Present

Sameer Ruiwale (President)  
Ken Hose (VP Membership)  
Larry Godsey (Treasurer, Webmaster, Magazine Sales)  
Duncan Kitchin (Secretary)  
Larry Froberg (Sales Director)  
Diana Fredlund (Media Director)  
Jan Keiski (Library Director, OMSI & Sister Club Liaison)  
Greg Rohde (Telescope Library)  
David Nemo (Observing Site Director)  
Matt Brewster

### Call to Order

The meeting was called to order at 7:12 by Sameer and, there being 9 of board members present, the quorum requirement of 10 was declared to be not met.

### Approval of Agenda

No quorum present.<sup>1</sup>

### Approval of Minutes

Moved: Approve minutes from the December 2010 board meeting. Moved Sameer, second Greg Rohde. 8-1-1.

Moved: Approve minutes from the February 2011 board meeting, Moved David Nemo, Second Larry Froberg. Motion passes 10-0-0.

### Directors' Reports

Secretary's Report – Duncan Kitchin: Quorum (10) not met with 9 voting members present.

Treasurer's Report – Larry Godsey: Account details distributed in paper copies, plus also available on the website. All checks were cashed by the time the accounts were printed. Profit and loss on the back of one of the sheets, plus details showing all items. Many items with group purchase of Skytools, plus classes. Still well under budget for this point in the year. About \$1400 income from the class, versus

costs so far of about \$1200.

VP Programming – Matt Brewster:

VP Observing – Matt Vartanian: Need to get additional advertising for Kah-Nee-Ta. Larry will also open bookings for Camp Hancock.

VP Community Affairs – Dawn Willard: Not present.

Media Director – Diana Fredlund: Has not been able to get hold of “think out loud” – have not been responsive to emails, but will keep trying. Has been getting information published in the Oregonian A&E section.

VP Membership – Ken Hose: Only one renewal this month, 8 new members. Brought in \$302 in dues this month. Total member families now stands at 323, compared to 330 for the same time last year and 299 for this time the year before that.

New Member Advisor – Howard Knytych: Not present, but Howard is preparing for the Messier marathon presentation as the topic for this month's new member meeting.

Sales – Larry Froberg: Had a very good sales month – well over budget for sales this year. Much of that due to sales of sky tools. Calendars have also been selling well. Have 7 calendars left. With observing season coming up, Larry has been investigating materials for more advanced observers, such as Herschel 400 list. RCA put together Herschel 2 list many years ago which was published by the Astronomical league, but has since gone out of print. Larry will also check with Carol and Candace, who originally compiled the list. Brought \$391 merchandise in sales plus \$2456 in sales of Skytools, with \$300 more to come in.

Book Library – Jan Keiski: \$58 from book sales this month, in addition to \$19 from previous month.

This will go towards a new rolling book cart.

Telescope Library – Greg Rohde: Nominal.

IDA – Dawn Nilson: Not present

Magazine Subscriptions – Larry Godsey: Nominal.

Webmaster – Larry Godsey: Nominal.

Site Committee – David Nemo: Nominal.

Youth Director - Jean London: Not present.

Newsletter Editor – Scott Kindt: Not present.

SIGs – Scott Kindt: Not present.

*(Continued on page 10)*



(Continued from page 9)

Alcor – Dale Fenske: Not present.

OMSI –Jan Keiski: The May info fair will be in the auditorium.

Sister Club update – Jan Keiski: Nominal – now heading into winter in the southern hemisphere.

## Old Business

Review Kah-Nee-Ta Star Party contract for 2011 event – Matt Brewster. Room commitment is now down to 10 room rights. Contract is signed.

SkyTools Class Update – Larry Godsey. Class is full, 2 on the wait list. Will try to work out how to get them in. Discussion as to whether we should have copies available for sale at the general meeting. Larry Godsey will check.

Update on Skamania Lodge request for telescopes / volunteers - Dawn Willard.

Update on costs / procedures for shipping a telescope to GAMA in Argentina - Margaret Campbell-McCrea / Larry Godsey. Sameer reports that Margaret was looking at valuing the telescope. Has also talked to somebody who has previously shipped a telescope to Africa. Recommendation was to ship as checked air baggage. Proposed that, bearing in mind the costs of shipping and value of the scope, it would be more appropriate to loan or donate to a local school. Sameer will ask Dawn Willard to get some ideas, and will report back.

Update on proposal for “Think out loud” radio show – Diana Fredlund. Already covered.

Send out notice to members for vacant board positions – Sameer Ruiwale. Matt Brewster would like to look for somebody to bring on board as a backup and hand over to them over the next few months. Also need a replacement SIG director and ALCOR.

Update on how to get RCA notices into Oregonian A&E section – Diana Fredlund. Requires two weeks’ notice.

Proposal for RCA / Clackamas Community College Haggart Observatory use – David Nemo / Sameer Ruiwale. Will discuss this at a future board meeting.

TABLED: Create Mirror Making Machine usage instructions – David Nemo / Greg Rohde

## New Business

Dissolve Historian position and consolidate duties into Secretary / Newsletter editor. Motion to dissolve the historian position and merge duties into

secretary and newsletter editor as appropriate. Moved: David Nemo, Second: Ken Hose. Motion carries 10-0-0.

Ken Hose volunteers to take over ALCOR position. Motion: appoint Ken Hose as ALCOR representative. Moved: Jan Keiski. Second: Diana Fredlund. Motion carries 9-0-1 (Ken Hose abstaining).

Discussion on RCA Facebook page. RCA page appeared on Facebook with links to RCA site by a non-member. Discussion as to whether we should keep it. Larry Godsey is strongly opposed; there is no additional value, given the features available on our own website, and much downside given the lack of control over postings. Discussion amongst board members that Facebook/Twitter is used extensively by younger crowd today and could be used as a mechanism to reach out to them. Some possibilities – lock down the wall to make sure that nobody else can post. Possibly post updates on a monthly basis. Larry Godsey proposes to run for a month or two to see if it useful.

Discussion on RCA joining “Astronomers without Borders” as affiliate. Sameer has investigated. Organization has a lot of contacts. Proposing affiliate membership; currently has about 1000 affiliates throughout the world, including IDA. Have online viewing events, linked up across multiple clubs. Project called STAR – “sharing telescopes and resources” telescopes sharing telescopes and experiences with developing countries. There is no cost to become an affiliate. Propose board members investigate and we will discuss next month.

Bob – dioramas for information fair in May. Also has some IDA pictures for the information fair. IDA national conference was at Haggart Observatory. Richard Berry has one of our displays about lighting – will try to get for the information fair. Proposes to do a presentation on radio astronomy and neutrino astronomy; there is now considerable interest in this field. Also “radio Jove” a low cost radio astronomy kit available from NASA. Bob will send a proposal to Matt Brewster.

## Adjournment

There being no further business, the meeting was adjourned at 8:56

# MAY 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 7pm Board Meeting OMSI Classroom 1	3	4	5	6 Noon <a href="#">Downtowners Luncheon</a> Kell's	7 <a href="#">OMSI Starparty</a> <a href="#">Rooster Rock</a> and <a href="#">Stub Stewart</a>
8 Mothers Day	9 7pm <a href="#">Astro Imaging SIG</a> Beaverton Library	10	11	12	12	14 10am - 3pm <a href="#">Telescope Workshop</a>
15	16 6:30 <a href="#">New Members SIG</a> 7:00pm Information Fair General Meeting OMSI Auditorium	17	18 7pm <a href="#">Cosmology SIG</a>	19	20	21
22	23	24	25	26	27 <a href="#">Maupin Star Party</a>	28 <a href="#">Maupin Star Party</a> <a href="#">Stub Stewart Star Party</a>
29	30 Memorial Day	31				

## June 2011

June 3	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
June 4	Saturday	Starlight Parade	Downtown Portland	Evening
June 6	Monday	Board Meeting	OMSI Parker Room	7pm
June 13	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
June 18	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm
June 18	Saturday	<a href="#">OMSI Star Party</a>	<a href="#">Rooster Rock</a> and <a href="#">Stub Stewart</a> State Parks	7:30pm
<b>June 20</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:00pm</b>
June 22	Wednesday	<a href="#">Cosmology SIG</a>	Linus Pauling House	7pm
June 24-June 25	Fri - Sun	<a href="#">Maupin Star Party</a>	Wapanita Air Strip near Maupin	
June 25	Saturday	<a href="#">Stub Stewart Star Party</a>	<a href="#">Stub Stewart</a> State Parks	Evening

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356

# The Rosette Gazette

Volume 23, Issue 06

Newsletter of the Rose City Astronomers

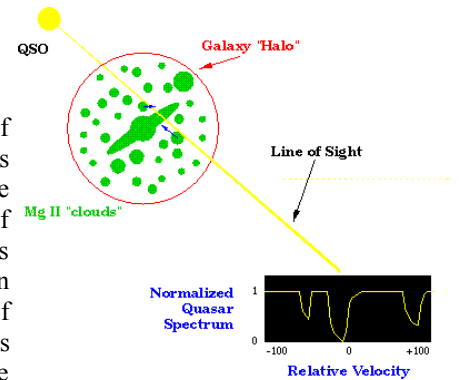
June, 2011



## QSO Absorption Lines and Cosmological Simulations: The Quest to Understand Galaxies

By Chris Churchill

The primary challenge for contemporary studies of galaxy formation and evolution is to establish detailed models in which the physical processes deep within galaxies are unified and made consistent with the observed universe of galaxies on much larger scales. The small scale processes include stellar formation and stellar feedback on the galaxy in which they are embedded. Stellar feedback encompasses all of the effects that stars exert on their home galaxies -- the effects of the radiation stars emit, the effects of novae, and the chemical enrichment that results as stars produce more complex elements from their hydrogen fuel. The large scale physics includes accretion of primordial gas from the intergalactic medium, merging of galaxies, and most interestingly the influence of stellar driven super winds that develop into huge chemically-enriched gas halos many times the sizes of the galaxies themselves.



Absorption lines seen in the spectra of distance QSOs have historically proven to be the most powerful tool for understanding the role of gas in the universe on all spatial scales and over the majority of the age of the universe. Simply stated, "QSO absorption lines" are one of astronomy's most powerful observational windows on the universe. In addition to observing these phenomena in real world data, we also use fluid-dynamic cosmological simulations to develop and refine our understanding of stellar feedback physics and its role in governing the gas physics that regulates the evolution of galaxies and the intergalactic medium.

In this presentation, he will summarize the method known as "QSO absorption lines" and discuss how it works in practice. He will then describe experiments in which he compares observational data to cosmological simulations and presents his current best view of how galaxies evolve in the cosmic web.

Chris Churchill is an Associate Professor of Astronomy at New Mexico State University in Las Cruces, NM. He heads the NMSU Quasar Absorption Line Group. Chris specializes in observational spectroscopic techniques and analysis, including long slit and echelle formats. He has taught many introductory classes in Astronomy and Physics at UC Santa Cruz, Penn State, and NMSU. He is currently working hard to complete a graduate level text book entitled "Absorption Line Spectroscopy of Cosmological Sources" to be published in the Astrophysics Series of Cambridge University Press. His favorite topics in the class room are "Life in the Universe" and "Human Space Flight".

**All are Welcome! Monday June 20th**

**General Meeting Begins: 7:30 pm Location: OMSI Planetarium**

©Copyright 2011 The Rose City Astronomers All Rights Reserved.  
Trout Lake Star Party photo above courtesy Michael Minnhaar  
Moon photos below courtesy David Haworth

### In This Issue:

- 1...General Meeting
- 2...Club Officers
- .....Magazines
- .....RCA Library
- 3...Local Happenings
- .....Special Interest Groups
- 4...Starlight Parade
- 5...Star Parties
- 6...The Observers Corner
- 9...Take the Next Step
- 11...RCA Board Minutes
- 13...Calendars



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

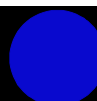
Full Moon  
Jun 15



Last Quarter Moon  
Jun 23



New Moon  
Jul 01



First Quarter Moon  
Jul 07



## CLUB OFFICERS

Office	Name	Email
President	Sameer Ruiwale	president@rosecityastronomers.org
Past President	Carol Huston	pastprez@rosecityastronomers.org
VP Membership	Ken Hose	membership@rosecityastronomers.org
VP Observing/Star Parties	Matt Vartanian	observing@rosecityastronomers.org
VP Community Affairs	Dawn Willard	community@rosecityastronomers.org
VP Communications	Mark Martin	communications@rosecityastronomers.org
Treasurer	Larry Godsey	treasurer@rosecityastronomers.org
Secretary	Duncan Kitchin	secretary@rosecityastronomers.org
Sales Director	Larry Froberg	sales@rosecityastronomers.org
Newsletter Editor	Scott Kindt	editor@rosecityastronomers.org
Media Director	Diana Fredlund	media@rosecityastronomers.org
New Member Advisor	Howard Knytych	newmembers@rosecityastronomers.org
Webmaster	Larry Godsey	webmaster@rosecityastronomers.org
ALCOR	Ken Hose	alcor@rosecityastronomers.org
Library Director	Jan Keiski	library@rosecityastronomers.org
Telescope Director	Greg Rohde	telescope@rosecityastronomers.org
Observing Site Director	David Nemo	sitfund@rosecityastronomers.org
IDA Liaison	Dawn Nilson	ida@rosecityastronomers.org
OMSI Liaison	Jan Keiski	omsi@rosecityastronomers.org
Magazines Director	Larry Godsey	magazines@rosecityastronomers.org
SIG Director	Scott Kindt	sigs@rosecityastronomers.org
Youth Programs Director	Jeannie London	youth@rosecityastronomers.org
Sister Club Liaison	Jan Keiski	sisterclubs@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 \$65.90 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 the link for magazines. Please make checks out to "RCA" and allow two months for your subscription to be renewed.

<http://www.rosecityastronomers.org/magazines/>  
 Larry Godsey <magazines@rosecityastronomers.org>



### 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. 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.rosecityastronomers.org/library.htm>  
 Jan Keiski <library@rosecityastronomers.org>



# Local Happenings

# CONGRATULATIONS!



Congratulations to Howard Knytych and Mark Martin!

Howard Knytych has received Award # 14-M for the Astronomical League's Local Galaxy Groups and Galactic Neighborhood Observing Award.



Mark Martin has received Award #2522 for the Messier Club Observing Award.



Would you like to be a part of the team that provides direction for the Rose City Astronomers club? If so, we currently have the Special Interest Group Director position that needs to be filled. This person is responsible for ensuring the smooth operation of the SIG's.



Please email [president@rosecityastronomers.org](mailto:president@rosecityastronomers.org) if you are interested.

## Special Interest Groups

### Astro-Imaging Special Interest Group

When: Monday, July 11th, 7pm  
Location: Beaverton Public Library Conference Room  
12375 SW 5th St  
Beaverton  
SIG Leader: Greg Marshall  
Email: [ai-sig@rosecityastronomers.org](mailto:ai-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/astroimage.htm>

### Science Special Interest Group

When: On Hold  
Location: Technical Marine Service, Inc  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: Dan Gray  
Email: [sci-sig@rosecityastronomers.org](mailto:sci-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/science.htm>

### Downtowners Luncheon

When: Friday, July 8th, Noon  
Location: Kell's  
112 SW Second Ave. Portland  
SIG Leader: Margaret Campbell-McCrea  
Email: [downtown-sig@rosecityastronomers.org](mailto:downtown-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/downtowners.htm>

### New Members Special Interest Group

When: Monday, July 18th, 6:30pm  
Location: OMSI Planetarium  
Topic: TBD  
SIG Leader: Howard Knytych  
Email: [newmembers@rosecityastronomers.org](mailto:newmembers@rosecityastronomers.org)  
[http://www.rosecityastronomers.org/sigs/new\\_members.htm](http://www.rosecityastronomers.org/sigs/new_members.htm)

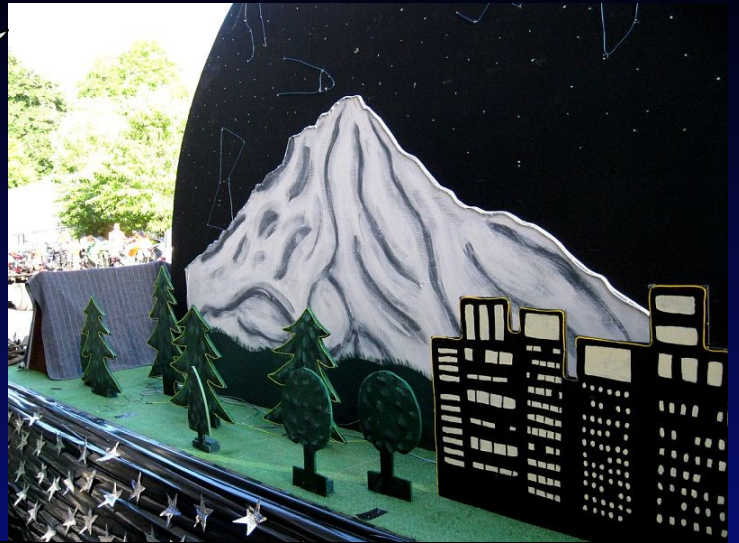
### Telescope Workshop

When: Saturday, July 16th, 10:00am - 3:00pm  
Location: Technical Marine Service, Inc.  
6040 N. Cutter Circle on Swan Island  
Portland  
SIG Leader: John DeLacy  
Assistant: Don Peckham  
Email: [tw-sig@rosecityastronomers.org](mailto:tw-sig@rosecityastronomers.org)  
<http://www.rosecityastronomers.org/sigs/tmw.htm>

### Astrophysics / Cosmology SIG

When: Wednesday, June 22nd, 7pm  
Topic: "Space Shuttles, now and future"  
Presented by: Jim Todd  
Location: Linus Pauling House  
SIG Leader: Lamont Brock  
Email: [cosmology-sig@rosecityastronomers.org](mailto:cosmology-sig@rosecityastronomers.org)  
[www.rosecityastronomers.org/sigs/cosmology.htm](http://www.rosecityastronomers.org/sigs/cosmology.htm)

# Starlight Parade 2011





## Maupin Star Party

**June 24-26, 2011**

**July 1-3, 2011 (Yes! 2 weekends in a row!)**



The Rose City Astronomers have been granted permission to use private property approximately 8 miles West of the town of Maupin for members-only scheduled Star Parties.

The Maupin Observing Site is located on a private airstrip about 8 miles east of Maupin, Oregon. Warning: this airstrip is used in the morning, but at the far end of the airfield. Most people don't even wake up.

There is no registration for the event itself, just show up and enjoy the weekend. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted and seasoned observers to get some serious observing.

It can always be cold at night no matter what the season, so bring warm clothing.

RVs, trailers and tents will be allowed on the observing site (see observing site map for instructions). The town of Maupin offers lodging, restaurants and recreation if you don't want to rough it. We will have a portable outhouse on site.

More information can be found on the RCA website:

<http://www.rosecityastronomers.org/sp/maupin.htm>

## RCA - Stub Stewart Star Party

**June 25, 2011 and July 2, 2011**

Looking for something closer to town with reasonably dark skies? [L.L. Stub Stewart State Park](#) is located near Vernonia, Oregon. Going west out of Portland on Highway 26 past the Highway #6 cutoff and continue approximately 8 miles and take Highway 47 towards Vernonia approximately 4 miles to the entrance to Stub Stewart State Park.

From beginners to experts of all ages, here's your opportunity to view the stars and other celestial objects up close and personal through telescopes. Viewing highlights may include planets, deep sky objects, and more. Sometimes we can even view the International Space Station passing overhead.

There is no formal registration for the event itself, just show up and enjoy the evening. You don't even need a telescope to participate; other members are enthusiastic to share their views. This is a good opportunity for beginners to get acquainted.

Come observe your favorite objects and spend a great evening with friends, and friends you haven't met yet.

The viewing area will be held at the Hilltop Day-Use section of Stub Stewart which does have public restrooms, drinking water, limited power, covered picnic area, sidewalk, limited parking, and graveled trails.

There are Tent, Trailer, and RV areas at the State Park along with cabins available for a fee. Be aware that they fill up early.



## OMSI - Summer Solstice Star Party

**June 18, 2011**

## OMSI - Lunar Viewing Star Party

**July 9, 2011**

Held at [Rooster Rock](#) & [Stub Stewart](#) State Parks. Viewing highlights includes the planet Saturn, the Moon, deep sky objects including the M3, M13, M5 star cluster, the Ring nebula, the Dumbbell nebula, M31, M81, and M82 Galaxies and more! A sighting of the International Space Station is always a possibility.

On the scheduled day of each OMSI Star Party, it is suggested that interested visitors call the OMSI Star Parties Hotline, 503 797-4610 #2, or check <http://oms.edu/starparties> for possible weather-related cancellations. The event starts at sunset and is free with \$5 parking per vehicle. Warm clothing and a flashlight with red light are recommended. Personal telescopes and binoculars are welcome.

## Star Parties Coming Soon!

[Golden State Star Party](#) Jun 29 - Jul 3

[Maupin Dark Sky Star Party Weekend](#) Jul 1-3

[Stub Stewart Dark Sky Star Party](#) Jul 2

[OMSI - Lunar Viewing](#) Jul 9

[Table Mountain Star Party](#) Jul 28 - 31

[Trout Lake Star Party Weekend](#) Jul 29-31

[OMSI-Perseid Meteor Shower Watch](#) Aug 12

[Mt. Bachelor Star Party at Sunriver](#) Aug 24-28

[White River Star Party](#) Aug 27

[Oregon Star Party](#) Aug 31-Sep 4



## M82, Arp 337

Even though star hopping to M82 has always given me more trouble than it should, it's always been one of my favorite galaxies. I've been fascinated by its nearly edge-on but ragged appearance and how it contrasted with the ethereal quality of nearby M81 and its wispy spiral arms. It was also one of the reasons I decided to buy a binoviewer years ago, as it showed how great some deep sky objects can look with one of these devices.



As a kid I remember reading that astronomers thought M82 might be exploding, and even though the details were a little fuzzy on what could be the cause, certainly the best photos of it showed something energetic was going on in its core. Best of all it wasn't difficult to imagine something odd was happening in M82 because it looked a little strange even through a small telescope.

It turns out M82 is a starburst galaxy, and it's the closest one to the Milky Way. It's not exploding, but is instead creating new stars at a furious rate which gives rise to the unusual filaments streaming from its core. It's the darkest of these filaments that are superimposed on the central region of M82 that we see as the interesting and irregular dark lanes. These are shown to dramatic effect in the Hubble Space Telescope image.

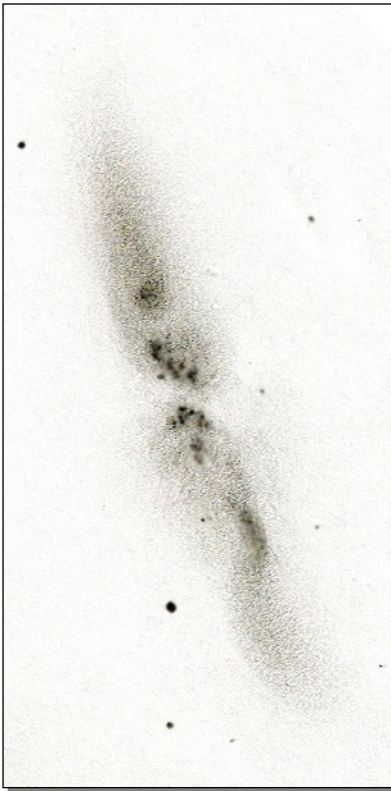
On one of the few clear nights we've had this year - made even more exotic by being a Friday night - I decided it was time to have a good long look and do another sketch of

M82. My previous attempts through the years have all left me unsatisfied because I couldn't catch the look of it through the eyepiece very well. I discovered that I only needed to increase the image scale of my sketch to get a decent result, which was helped by using higher than normal magnifications.

*(Continued on page 7)*



(Continued from page 6)



By the time I found M82, the Sky Quality Meter (SQM) was giving readings in the 21.3 range and even though it was cold (17F) it was a beautiful night at Chuck and Judy Dethloff's home in the Oregon Coast Range. Nearby M81 looked nice but as soon as I got M82 in the field of view I was riveted. The steady seeing was bringing out small and subtle details I'd never seen and after a few minutes of soaking in the view I started sketching.

I kept bumping up the magnification until I hit 812x, which turned out to be quite spectacular, but in the end I settled on 406x for most of the sketching and used higher magnifications to confirm some of the smaller and more delicate features near the core.

Interestingly, the use of nebula filters on M82 didn't dim the galaxy all that much. It didn't enhance any specific features either, but even with the h-beta filter the galaxy, although considerably dimmer, was still quite visible. Typically, a UHC, OIII or h-beta nebula filter will dim a galaxy into near invisibility. I'm not sure why they didn't do

the same to M82.

What interested me the most were the small, nearly stellar areas surrounding the core – I hadn't seen them before. The steady seeing helped bring them out as it allowed the effective use of high power. While observing and sketching I thought they might be HII regions and star clusters but two things changed my mind after a bit of research.

The first was looking at the HST image above – the dark, lacy filaments are everywhere around the core and they create the appearance of much, if not most, of this fine detail. I also checked the Aladin Sky Atlas, a site that overlays professional data on a DSS image. It confirmed that the apparent detail is merely the filaments in silhouette.



The central dark lane was prominent as usual and along with the fine detail near the core I could also see subtle variations in brightness through the outer reaches of M82. These too are contrast effects with the dark filaments, and the more I look at the HST image and imagine what M82 would look like without them, the more I think it would be a bright but mostly featureless galaxy in amateur size scopes.

The detail near the core was seen only at 406x and above, and even then it came and went with the seeing. Averted vision helped a lot but mostly it took waiting for the moments of steadiest seeing. Overall I spent about 90 minutes observing and sketching.

(Continued on page 8)

I didn't see the filaments beyond the bright borders of M82, only their silhouettes in front of it. They form a faint fan of material on either side of the core as seen in photos and I'll bet on a very dark and transparent night I might be able to barely detect them. The filaments give the appearance that M82 is exploding, and in fact Halton Arp's notes merely say that M82 is undergoing an "internal explosion". Certainly looks that way but the real story is more interesting than that.

At a distance of about 12 million light years, M82 is the closest starburst galaxy to the Milky Way. The central 1600 light years around the core is the most active starburst region which produces stars 10 times faster than the Milky Way does. The bi-polar superwind is fueled by a supernovae going off on average every ten years. Evidently most of these supernovae aren't directly visible, which is really too bad as it would be awesome to see them all blow up. The composite Hubble, Spitzer and

Chandra space telescopes image below is the best image showing the dynamic superwind streaming from the central region of M82.



There's a super massive black hole at the center of M82 but there's also the first ever discovered intermediate size black hole - somewhere between 200 and 5000 solar masses - about 600 light years from the center of M82.

In 2010, radio astronomers discovered a unique mystery object in M82 that has them scratching their heads. Its emissions don't match any known object, but some astronomers theorize that it might be a kind of micro-quasar since it has an apparent superluminal motion of nearly four times the speed of light relative to the center of M82. As the saying goes, "more research is indicated", and it will be fascinating to find out what's going on here someday.

Evidently all this activity was stirred up by a close interaction with M81 in the astronomically recent past. Starting about 100 million years ago the interaction funneled huge amounts of gas into M82's core, beginning a series of star burst episodes. The most recent episode began only about 4 to 6 million years ago. Apparently the two galaxies are moving apart from each other now and are currently separated by about 300,000 light years.

When I began my project of observing and sketching all 338 Arp objects I thought they would be dim and obscure objects. Although that's true for the majority of them, there are a surprising number of bright and well known galaxies in list, not the least of which is M82. Second to the last in the Arp catalog - it's listed in the "miscellaneous" category - M82 is one of the more interesting galaxies in the northern sky observationally, and its unique and still somewhat mysterious physical nature makes it even more fascinating intellectually. Even without considering nearby M81, it's simply a must-see for anyone with a telescope.

# Take the Next Step

By Tom Koonce

June, 2011

Lancaster, California

The moderate summer evenings are finally here and the best time of year to observe the sky has arrived. I have written at length in the past about how to get started in amateur astronomy, but this month we'll step it up a few notches with a discussion of what I think a beginner needs to take observing to the next level. I have no business association with any of the companies mentioned in this article, but have extensive experience to back up each of my recommendations below. I'm calling it as I see it. Your actual mileage may vary.

First, get a *Telrad* for your telescope. This "1X spotting scope" is the most useful accessory you'll get and many star guides, maps and books are written that use its illuminated 0.5, 1.0 and 2.0 degree centering circles. I also recommend installing a "blink" kit on the Telrad to cycle the red illumination on and off to help your night vision when locating very dim deep-sky objects. There are other 1 X finders on the market that you can use, but I think the Telrad holds up the best over time.

Next, you're going to be considering getting eyepiece filters and maybe even a new eyepiece. Here's what I think are the essentials and I list them in priority order.

Get a *Thousand Oaks Solar Filter* for your telescope. By doing so, you will have instantly doubled the utility of your scope because you'll also be able to observe during the day with your telescope. The Sun is our nearest star and a high quality glass solar filter will last you many years.



Make sure that you have *decent quality eyepieces* that will yield magnifications of approximately 50X through 200X. I recommend TeleVue, Meade or Celestron Super Plossls. It's essential that you have great eyepieces to match the great telescope that you are using. Go to a Star Party with your telescope and set up next to someone who can lend you several different eyepieces for you to try out. Find ones that you really like and buy ones just like them. Don't buy any eyepiece that you haven't had a chance to use. On the question of whether or not to buy 1 1/4" or 2" eyepieces, I'll say that if you really enjoy amateur astronomy, you will eventually be buying 2" eyepieces, but they are expensive and you need to have a good idea of the kind of observing you will be doing most of the time. Eyepieces hold their value very well, so hold off on buying the 2" eyepieces for now and get the best 1 1/4" eyepiece that you can afford. If you've been reading my articles over the years, you'll know that I recommend that buying eyepieces that are in excellent shape from amateur astronomy-based websites like [Astromart.com](http://Astromart.com) and build up your collection, but you should also consider companies which offer great prices for brand new eyepieces such as Woodland Hills Telescope and Oceanside Pacific Telescope.

Get a high quality *O-III* (pronounced "Oh-three") *narrow band-pass filter* that screws into the base of your eyepieces. This is the most useful deep sky filter. If you enjoy observing deep-sky objects like the Ring Nebula, Swan Nebula, or would like to observe the Veil Nebula, then get the O-III before you buy a light pollution filter, a set of color filters, or a moon filter.

(Continued on page 10)

(Continued from page 9)

If you have a Schmidt-Cassegrain telescope, get a “Skylight” filter to seal the back of the telescope tube. Then get a high quality, 2” diagonal with a 1 ¼” adapter. I like the 2” TeleVue diagonal.



If you have a Newtonian telescope, get a quality *barlowed laser collimation tool*. 90% of all of the Newtonians / Dobsonians people have me look through at star parties are incorrectly collimated and are thus performing at far less than their optical potential. The collimation tool will help you attain new levels of focus with your Newtonian. I use the Howie Glatter barlowed laser collimator and am extremely pleased with it.

Get an *adjustable red light flashlight*. Make sure that the brightness can be dialed down very close to the off position so that minimum light is illuminated. Now that you’re taking the next step in amateur astronomy, you’re going to have to pay more attention to your night vision. After your eyes become dark adapted, most of the single switch red flashlights are too bright and are useful only to upset other observers around you. Begin to pay more attention to observing etiquette. You shouldn’t walk up to other observers with your red flashlight on its cord around your neck, turned up to high, thus affecting other’s night vision. It is encouraged for you to park with your car headlights pointed away from the general observing area and to turn your car’s interior dome lights off at the beginning of the evening.

Get a *polarizing moon filter*. This is made up of two polarizing filters that can rotate about each other so that you can “dial” the brightness of the moon up or down to counter the brightness when directly observing the moon. You’ll find this much handier than a single neutral density filter for changing brightness of the phases.

Get a good *night sky atlas*. If you have an eight inch or larger telescope, I prefer the large “Sky Atlas 2000.0 Deluxe Laminated” atlas, with black stars on a white background. For smaller scopes, you can take a look at Sky & Telescope’s “Pocket Sky Atlas”. This is the right time to re-read the great book “Night Watch – A Practical Guide to Viewing the Universe”.

Get a *portable table* to take with you observing. A sturdy folding card table works well. You’ll need a place to put your maps and eyepieces.

*Begin working on your Messier Pin*. This is an observing challenge sponsored by the Astronomical League. By completing the observation of all of the Messier objects, you will truly know the night sky.



Dedicate an *old blanket, carpet, or artificial turf* to put beneath your telescope when observing. It will keep dirt and dust off of your scope, and when you drop that new eyepiece or little retaining screw out of your diagonal at 2:00 am, it will help spare those around you from hearing a staccato of four letter words punctuating the night. Not that \*I’ve\* ever done such a thing myself...

This will get you started. I didn’t mention other items such as an observing stool to sit on, color filters, a warm jumpsuit, or large camp chair for taking a break. You can add these as you go forward. Advancing in amateur astronomy is not about the *equipment*, but about *honing your observing skills*. Each item I’ve mentioned will either enable or simplify the technical portion of observing so that you can concentrate more on the sky and less on whether or not you have the necessary resources at hand.

Clear Skies, Tom



# Minutes of the Rose City Astronomers Board

April 4<sup>th</sup> 2011

Held at OMSI Classroom 1

## Board Members Present

Sameer Ruiwale (President)  
Ken Hose (VP Membership)  
Larry Godsey (Treasurer, Webmaster, Magazine Sales)  
Duncan Kitchin (Secretary)  
Larry Froberg (Sales Director)  
Howard Knytych (New Member Advisor)  
Jan Keiski (Library Dir., OMSI & Sister Club Liaison)  
David Nemo (Observing Site Director)

Mark Martin (Guest)

## Call to Order

The meeting was called to order at 7:15 by Sameer Ruiwale and, there being 8 board members present, the quorum requirement of 9 was declared to be not met.

## Approval of Agenda

The agenda was approved by unanimous consent.

## Approval of Minutes

Minutes could not be approved due to the lack of a quorum.

## Directors' Reports

Secretary's Report – Duncan Kitchin : Nominal

Treasurer's Report – Larry Godsey: balance sheet provided, showing assets and liabilities, with addition of bills which were known about when the balance sheet drawn up. Profit and loss sheet also provided, showing us well under budget at present. Itemized profit and loss sheet for this month also provided showing details of every payment and deposit. Sticking with Chase bank for a while, having resolved issues related to payment of fees. Larry had investigated other banks, but all had fees. Larry has also provided a proposed budget for next year. Will put up on the website in the board only area.

VP Programming – Matt Brewster - Report via Sameer: it appears that this month's scheduled speaker has cancelled. Mark will look for a replacement. There are several possibilities, but time is short. There is an OMSI astro-imaging conference this weekend, for which several people have prepared presentations. Mark also has a lead for a presentation on the NASA new horizons mission.

VP Observing – Matt Vartanian: Not present. Discussion: we should consider having a host for events such as Kah-Nee-

Ta and Maupin. This would assist in coordination of the event, and allow a point of contact for tracking attendance and dealing with enquiries. Discussion: some board members expressed concern about the level of attendance at board meetings. Whilst it is understood that it may not be possible to attend every board meeting, it makes conducting business difficult if elected officers are routinely absent from meetings. Discussion: should we consider setting up a phone line? We have had this in the past to take messages. Larry Godsey will try setting something up experimentally.

VP Community Affairs – Dawn Willard: Not present.

VP Membership – Ken Hose: Last month 8 new members compared to 6 in each of the previous two years. New members included 3 renewals, compared to 5 for each of the previous two years. Total membership now stands at 334 member families compared to 338 this time last year and 315 the year before that. Brought in \$350 in dues last month. About a third via PayPal. Ken has also taken delivery of the Astroview mount and tripod. Is hanging onto it for the time being to get a chance to test it, but is awaiting a clear night for the opportunity.

Alcor – Ken Hose: Ken needs to talk to Dale to get materials and information to complete the transfer of ALCOR responsibility. AR: Sameer to talk to the Astronomical League to notify them that the liaison has changed.

New Member Advisor – Howard Knytych: Completed a briefing on how to conduct a messier marathon last month. Around 30 attendees. Presenting in the planetarium is working out very well and greatly helps the presentation material. How do new members get notified of upcoming new member presentations? A broadcast email would get sent to everybody.

Media Director – Diana Fredlund: Not present.

Sales – Larry Froberg: Good sales month – brought in \$204 from 23 copies of SkyTools 3. Also brought in \$303 from merchandise sales. Currently \$6929 versus \$6921 in costs. Above breakeven at this point. Larry Godsey – just under \$200 profit from sales of SkyTools 3.

Book Library – Jan Keiski: Nominal.

Telescope Library – Greg Rohde: Not present.

IDA – Dawn Nilson: Report via Sameer: Dawn has been waiting for the Model Light Pollution Ordinance to be finalized prior to developing a second Light Pollution Symposium. Spoke to David Ingram last week who gave assurances that the document currently posted is nearly 100% complete and that any dissemination of information

*(Continued on page 12)*

(Continued from page 11)

from it would not be questionable. Therefore, Dawn has discussed her ideas for a follow-up symposium and is working with David Ingram on identifying speakers. Hoping to use the auditorium at OMSI again for a 90 minute symposium with the following agenda:

- 1. Overview of Light Pollution Issues (human health and safety, wildlife, astronomical observation) – D. Ingram
- 2. Overview of the Light Pollution Model Ordinance Components – need to nail down one among 3 potential speakers identified
- 3. A Case Study of Adopting a Light Pollution Ordinance – Dave has a good Washington example
- 4. A Case Study of Seeking Support to Initiate a Ordinance Adoption Process – Portland Metro Area community rep (Portland? Gresham?)

If we were to have a Monday symposium on a third Monday of the month, we might be able to have the number 2 speaker present at our RCA monthly meeting and perhaps have RCA cover travel expenses for the speaker? Just an idea. Any comments or ideas on this report are welcomed.

Magazine Subscriptions – Larry Godsey: Nominal. Discussion:

Howard – not always clear when magazine subscriptions end. Larry – need to look at the label on the magazine as delivered. Delivery is contracted out, and this is the only place the subscription expiration date appears.

Webmaster – Larry Godsey: Facebook and Twitter are both up and running. Dareth Murray is still Larry Godsey's backup for the website, but Larry is going to talk to her to make sure that she is still ok to act in that capacity.

Site Committee – David Nemo: Detailed report on Haggart observatory provided by David Nemo. Report attached as addendum. If we can find volunteers who are interested in taking this on, it could be an interesting opportunity. In addition to the main telescope, there is also a shed with many donated telescopes which can be used for public star parties. There is also a large classroom that seats 40-50 people.

Met with leaders in Boy Scouts organization. Looking for partners that can become mentors and helpers for merit badges. Are offering observing field at Camp Baldwin (near Dufur) in exchange for providing volunteers to help out at summer camps providing assistance in certifying merit badges.

Youth Director - Jean London: Not present.

Newsletter Editor – Scott Kindt: Not present.

SIGs – Scott Kindt: Looking for a volunteer to take this position.

OMSI –Jan Keiski: May Info Fair set for Auditorium

Sister Club update – Jan Keiski: Leo Cavagnaro, VP

Observing, GAMA, asked if RCA will be planning a trip to Northern California for the May 2012 annular eclipse. GAMA held their monthly star party with many people in attendance at their Canota observing site which is 25 miles north of Mendoza. April is a good month to observe because of steady skies. Nights are cooler, but still can observe comfortably. They used the 16 inch telescope, six

8 inch telescopes, one 10 inch telescope, and a 5 inch reflector from a new member. Also binoculars. Two rangers from the Villavicencio Nature Reserve that their observing site resides in were invited and attended the star party.

## Old Business

SkyTools Class final figures – Larry Godsey: 110 attendees, \$165 profit.

Update on Skamania Lodge request for telescopes / volunteers - Dawn Willard. No update.

Update on costs / procedures for shipping a telescope to GAMA in Argentina - Margaret Campbell-McCrea / Larry Godsey. We have decided not to pursue this due to the high costs.

Update on proposal for “Think out loud” radio show – Diana Fredlund. Diana is ready to set this up at short notice, but needs a volunteer.

Proposal for RCA / Clackamas Community College Haggart Observatory use – David Nemo / Sameer Ruiwale. Already discussed.

Vote on RCA joining “Astronomers without Borders” as affiliate - All. No quorum present for a vote to take place. Will revisit next month.

Update on RCA Facebook Page – Larry Godsey. Already updated. Both Facebook and Twitter are set up.

TABLED: Create Mirror Making Machine usage instructions – David Nemo / Greg Rohde

## New Business

Approve & Sign OMSI – RCA Agreement for year 2011-12 - All / Sameer. Agreement is prepared. Sameer will make available on the board forum. Very similar to last year.

Vote Mark Martin to replace Matt Brewster as VP Communications – All. No quorum present, will postpone vote until next month.

May '11 Information Fair Logistics and Format. Do we want to keep the same format as last year, with Sameer announcing all of the SIGs, or have a format where each SIG director presents their SIG? Concluded that we will stick to the same format as last year.





Discussion on whether to continue having Info Fair in the future. Discussion – attendance is frequently much less than a regular monthly meeting, because many members have already seen much of the SIG information. Could we have a format in which the SIGs have tables set up at regular meetings? Need something which is a draw for the members. We will revisit in the next couple of months as to whether to continue with the info fair, and in what format. We will continue for this year with the May info fair as planned.

Astronomy Day planning (May 7<sup>th</sup>, 2011). Moved the OMSI event to the 9<sup>th</sup> of July.

## Adjournment

There being no further business, the meeting was adjourned at 9:00.

# JUNE 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	1 	2	3 Noon <a href="#">Downtowners Luncheon</a> Kell's	4 Starlight Parade
5	6 7pm Board Meeting OMSI Parker Room	7	8 	9	10	11 10am - 3pm <a href="#">Telescope Workshop</a>
12	13 7pm <a href="#">Astro Imaging SIG</a> Beaverton Library	14	15 	16	17	18 <a href="#">OMSI Starparty</a> <a href="#">Rooster Rock</a> and <a href="#">Stub Stewart</a>
19	20 7:30pm General Meeting OMSI Planetarium	21 Summer Solstice	22 7pm <a href="#">Cosmology SIG</a>	23 	24 <a href="#">Maupin Star Party</a>	25 <a href="#">Maupin Star Party</a> <a href="#">Stub Stewart Star Party</a>
26	27	28	29	30		

## July 2011

July 1-3	Fri - Sun	<a href="#">Maupin Star Party</a>	Wapanita Air Strip near Maupin	
July 2	Saturday	<a href="#">Stub Stewart Star Party</a>	<a href="#">Stub Stewart</a> State Parks	Evening
July 8	Friday	<a href="#">Downtowner's Luncheon</a>	Kell's	Noon
July 9	Saturday	<a href="#">OMSI Star Party</a>	<a href="#">Rooster Rock</a> and <a href="#">Stub Stewart</a> State Parks	7:30pm
July 11	Monday	Board Meeting	OMSI Parker Room	7pm
July 11	Monday	<a href="#">Astro-Imaging SIG</a>	Beaverton Public Library	7pm
July 16	Saturday	<a href="#">Telescope Workshop</a>	Swan Island	10am-3pm
July 18	Monday	<a href="#">New Members SIG</a>	OMSI Planetarium	6:30pm
<b>July 18</b>	<b>Monday</b>	<b>General Meeting</b>	<b>OMSI Auditorium</b>	<b>7:00pm</b>
July 20	Wednesday	<a href="#">Cosmology SIG</a>	Linus Pauling House	7pm
July 29-31	Friday	Trout Lake Star Party	Flattop Snow Park near Trout Lake	

<http://www.rosecityastronomers.org>

Rose City Astronomers  
Oregon Museum of Science and Industry  
1945 SE Water Ave  
Portland, OR 97214-3356