



### C/2014 Q2 Lovejoy passing the Pleiades

Captured Jan 17, 2015 from DAS Dark Sky Site in Deer Trail, CO. Stack of 8 x 240sec exposures. Canon T3i w/50mm f/1.8 @ f/3.5. Tracked on the stars; stacked on both stars and comet, then combined.

Image © Sorin

### March Sky Calendar

- 5. .... Full Moon
- 13. .... Last Quarter Moon
- 14. .... Saturn is stationary
- 20. .... New Moon
- Vernal Equinox
- 25. .... Moon 0.9° north of Aldebaran
- 27. .... First Quarter Moon

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### Special Topics of Interest:

- Newsletter being published again!!
- Comet Lovejoy showing off
- New Volunteer Coordinator found
- Spring Banquet on March 7 with Roger N. Clark
- Astrophotography Workshop April 3

## March Skies by Dennis Cochran

The Spring Equinox occurs on the 20th, so this month is 2/3 Winter and 1/3 Spring. A nice foto op is on the 23rd when Venus and the Moon will be less than four degrees apart. Non-foto: do you have binoculars? Look at the Beehive Cluster, aka Praesepe, aka M44, in the center of Cancer's upside-down Y at 8h 43m +19.5d. Faintish Cancer follows easier-to-see Gemini along the ecliptic just south of overhead in the evening. Right under Cancer is the head of Hydra the Watersnake. Just west of the Alpha star of Cancer, the left-most of the two lower stars of the crab, is the open cluster M67 at 8h 50m +2d.

Down-right from Hydra's head is Monoceros the unicorn, which actually has a unicorn shape, facing west, on the S&T map. Just east of the horn star, Epsilon, at the northwest end of the beast, is the Rosette Nebula, NGC 2237, two full moons across, surrounding the open star cluster NGC 2244, at 6h 35m +5d. Above that is a bunch of nebulosity that contains the hard-to-find Cone Nebula at 6h 42m +9d. At the kicking end of

the beautiful modified horse, actually just over into Hydra's territory, is open cluster M48 at 8h 15m -6d. M50, another rich cluster is farther west at 7h 4m -8d. Below it are other clusters: NGC 2335 & 2343 at the top of a north-south strip of nebulosity called IC 2177, about 7h 10m -11d. Southeast a ways into Puppis, M46 & 47 are two more clusters located on either side of 7h40m -14d. And south of M46 at -18d you'll find NGC 2440, a planetary nebula. The Winter Milky Way, the outer swirls of the galaxy away from the center, is not so thin and empty after all.

West of the horned end of Monoceros is Orion the Hunter, everyone's favorite constellation, pictorially the best of the lot, shaped like a man with two raised arms and wide-spread feet and a famous three-starred belt slanting down from the weight of the even more-famous sword, or scabbard, anyway. The latter is dominated by M42/43, the Orion Nebula, surely the deep-sky object that new astronomers learn first. A furious

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**Partial Solar Eclipse Viewing at Chamberlin Observatory on October 23, 2014**

*DAS setup in Observatory Park for viewing the eclipse with about 200-300 members of the public turning out to see it through solar glasses and member's telescopes, as well as the Chamberlin scope with a custom solar filter. Photo taken as the sun was about to go behind the trees.*

*Image © Sorin*

**"We teamed up with the University of Denver to celebrate the 120th anniversary of DU's historic Chamberlin Observatory"**

## President's Message by Ron Hranac

**A** tip o' the hat and a big thanks to DAS member Bernd Christensen, who has agreed to be interim editor for The Denver Observer. It has been a bit of a dry spell newsletter-wise the last few months, so I thought I'd share some highlights from 2014.

Last year was a busy one for Denver Astronomical Society, with membership topping out at nearly 400. Many of our members were active volunteers in outreach activities that included monthly open houses; twice-weekly public nights; Space Day and Colorado Astronomy Day at the DMNS; star parties at various venues; and a presence at Anomaly-Con and Comic Con.

One thing that DAS members enjoy is sharing our love of astronomy with the public. Counting just events at the observatory, we reached 3,773 guests and students in 2014. That tally was up slightly from the year before, and does not include our activities at the Denver Museum of Nature and Science (DMNS), star parties, and AnomalyCon or Comic Con.

In July, we teamed up with the University of Denver to celebrate the 120th anniversary of DU's historic Chamberlin Observatory. The festivities included several hours of back-to-back astronomy presentations, a professional photo shoot in the observatory's dome room, and hands-on activities for kids and adults. Adding to the fun, several visitors and DAS members dressed in Steampunk or period costumes. During the anniversary event, DAS presented a \$5,000.00 donation to DU's Dr. Robert Stencel for the Chamberlin Observatory Astronomy Endowed Staffing Fund.

The partnership with DU continued with the October partial solar eclipse. Members had solar scopes set up on the park lawn, and Chamberlin's Clark refractor had its white light solar filter attached so the public could peek at the Sun from indoors, too.

When the Alvan Clark-Saegmuller 20-inch refracting telescope was out of service for a few weeks in 2014, DAS members stepped up and worked with Dr. Stencel to make the necessary repairs.

*(Continued on page 4)*

## DAS SCHEDULE

### March

- 7. DAS Annual Spring Banquet.
- 8. Daylight Savings Begin, 2am.
- 13. E-Board Meeting at Chamberlin Observatory ; 7:30 P.M.
- 17. St. Patrick's Day.
- 20-22 EGK Dark Sky weekend.
- 28 Open House at Chamberlin Observatory—Venus & Jupiter. Starts at 6:00 pm

### April

- 3. DAS General Membership Meeting at Olin Hall (Begins at 7:30 P.M.). Members present Astrophotography.
- 10. E-Board Meeting at Chamberlin Observatory ; 7:30 P.M
- 17-19 EGK Dark Sky weekend.
- 25. Open House at Chamberlin Observatory—Mercury! Starts at 8:00 pm

Public nights are held at Chamberlin Observatory every Tuesday and Thursday evenings beginning at the following times:  
 March 10 - September 30 at 8:30 P.M.  
 October 1 - March 9 at 7:30 P.M.

Open House costs: If the skies are clear, \$3/person (\$5/family), \$1/person in inclement weather.

Costs to non-members are: \$3.00 adults, \$2.00 children and students with ID.

Please make reservations via our website ([www.denverastro.org](http://www.denverastro.org)) or call (303) 871-5172.



## Society Directory

### President:

Ron Hranac 303-790-0893  
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### Vice President:

Stuart Hutchins  
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### Executive Board Members

Jack Eastman	Ed Scholes
Joe Gafford	Sorin
Chuck Habenicht	Jeff Tropeano
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### Committees

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 format from the [DAS website](#).

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#### IT Coordinator:

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 Chamberlin Observatory  
 c/o Ron Hranac  
 2930 East Warren Avenue  
 Denver, Colorado 80210

The **Executive Board** conducts the business of the DAS at 7:30 p.m. at Chamberlin Observatory.

Please see the *Schedule of Events* for meeting dates. All members are welcome.  
<http://www.denverastro.org>

## A word from the Interim Editor

### by Bernd Christensen

I am sitting on an airplane and do what I would rarely do for my job: work on my laptop in a cramped economy seat - for this text. So, how in the world did I get into this? I loved to read the newsletter even before joining the DAS because it is a good mix of society activities and general astronomical and space "News of the Month". So, I thought I can help during my remaining time in Denver over the next few months. Seeing the trouble with finding a permanent editor, I did not want the Newsletter to go down.

Ron's estimate of 4 to 12 hours/month reassured me I could fit that into my work and business travel schedule. Patti got a hearty laugh about the time estimate and I am starting wondering if the time unit was more "per week". Part of it is recreating a template in a more modern layout program (MS Publisher)

which I had to learn from scratch, as well as getting into the rhythm of the publishing calendar.

I'll be very interested to hear what you think about the "new" Newsletter and if you want to contribute with your own input, so e-mail me at

[editor@denverastro.org](mailto:editor@denverastro.org).

I do ask for everybody's consideration in not having been able to publish this on time, I will try to stick more to the usual publication calendar for the coming issues.

And yes, work on the next issue has already started, so send your contributions!



Photo shows Bernd Christensen with his largest scope, a Celestron C11 Edge HD

**"I'll be very interested to hear what you think about the "new" Newsletter"**

### About the DAS

Membership in the Denver Astronomical Society is open to anyone wishing to join. The DAS provides trained volunteers who host educational and public outreach events at the University of Denver 's Historic **Chamberlin Observatory**, which the DAS helped place on the National Register of Historic Places. First light at Chamberlin in 1894 was a public night of viewing, a tradition the DAS has helped maintain since its founding in 1952.

The DAS is a long-time member in good standing of the **Astronomical League** and the **International Dark Sky Association**. The DAS's

**mission** is to provide its members a forum for increasing and sharing their knowledge of astronomy, to promote astronomical education to the public, and to preserve Historic Chamberlin Observatory and its telescope in cooperation with the University of Denver.

The DAS is 501 (c)(3) tax-exempt corporation and has established three tax-deductible funds: the Van Nattan-Hansen Scholarship Fund, the DAS-General Fund and the Edmund G. Kline Dark Site Fund.

More information about DAS activities and membership benefits is available on the DAS website at [www.denverastro.org](http://www.denverastro.org).



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### One Mile Nearer The Stars

## President's Message

*(Continued from page 2)*

A membership survey was conducted in 2014, and you surprised us when so many of you responded. We listened! The survey results helped guide the E-Board in making some changes and implementing new programs. For example, you asked for a wider variety of membership activities. We started by holding our spring picnic for the first time at Bear Creek Lake Park. You wanted easier access to lectures. Since last February, we have been videotaping most of the monthly membership meeting lectures and uploading them to YouTube. To date, our uploaded videos have been viewed 2,378 times.

You suggested that we increase public and youth awareness. We now have a robust presence on social media. DAS has a page on Facebook (818 "likes" as I write this). We're on Google+, Twitter, reddit, and Yelp. We attended Starfest, Nerd Night Denver, and the previously mentioned Comic Con and AnomalyCon.

We're not resting on our laurels. Communication with DAS members is important, so the E-Board is planning a follow-up survey later this year.

Each year we hold an auction to benefit the Van Nattan-Hansen Scholarship Fund, and 2014's auction raised about \$800.00 for the scholarship program. By the way, if you know of a deserving

student who may qualify for a Van Nattan-Hansen scholarship, encourage him or her to apply. More information is available at <http://www.denverastro.org/vannattan.html>, or send an e-mail to [vnh@denverastro.org](mailto:vnh@denverastro.org).

In addition to regular nighttime observing and astrophotography, a fair amount of maintenance and upgrade work was completed at the Edmund G. Kline Dark Site. Some of that work included preventive measures to reduce the likelihood of surprise visits underneath the warming hut by some of the creepy-crawlies of the rattling variety. We also signed a new lease agreement with the property owners, ensuring continued access to the site for the next several years. More information about the Edmund G. Kline Dark Site can be found at <http://www.denverastro.org/dss.html>.

By the time you read this, our annual E-Board officer and trustee elections will have taken place. The new leadership will be busy planning another exciting year for DAS members and the public. If you have comments or suggestions, feel free to contact any of the E-Board members. We welcome your input. Our next major membership event is the DAS Spring Banquet (see the separate article for details); I hope to see you there!

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## March Skies

*(Continued from page 1)*

stellar nursery is birthing stars in the inverted taco shell shape of M42, including the four new stars of the Trapezium, whose stellar winds have helped carve out the inside of this huge gaseous cloud. M43 is the blazing blob just north, on top of the taco shell. A lot of stuff is going on here.

Barnard's Loop arcs along the east side of the hunter like a very open C. You can image it but not see it, yet you can catch M78, a blob of bluish reflection nebula northeast of the belt about one belt-width and near Barnard's Loop's northern end. The Horsehead Nebula, the ultimate foto-op, is smaller than you'd expect it to be,

protruding from a bank of dark nebulosity south of the lower-left star of the belt, Zeta Orionis. Rigel, the right foot star, has a nebula west of it called the Witch Head, or IC 2118, at 5h 7m -7d.

Closer to home, Comet Lovejoy is past its prime as a spectacle as it moved into Andromeda in the low southwest. Jupiter is in Cancer; look for it after you gaze at the Beehive Cluster M44. Look for the Red Spot on Jupiter because it has been dwindling for decades and may disappear before you manage to see it! And you'll have to wait til midnight for Saturn to bring its famous rings into view and mid-early morning for its high-south view.

# Spring Banquet on March 7 and a talk by Roger Clark



Roger N. Clark

The 2015 DAS Spring Banquet will be held on Saturday, March 7 at **Embassy Suites Denver Tech Center** approximately 1/2 mile east of I-25 and Arapahoe Rd. The address is 10250 East Costilla Ave, Centennial, CO, 80112. The social gathering time starts at 6 pm with a cash bar provided, and a buffet dinner will be served at 6:30pm. The main course will be Southwest Chicken Lasagna and a vegetarian option as well.

### SOUTHWEST CHICKEN LASAGNA

*Flour Tortillas layered with Southwest Chicken, Cheddar Cheese & Green Chili Served with Tricolor Tortilla Chips, Sour Cream, Garden Salsa*

Reservations for dinner may be made online or by mail starting the week of February 9. The cost per meal will be \$25. Please specify whether you want the Southwest Chicken or the Vegetarian dinner. The DAS website is [www.denverastro.org](http://www.denverastro.org) with online payments handled by Paypal. You may pay by credit card without a Paypal account or also pay by check to DAS. We need your name and dinner choices. The mailing address is Treasurer, PO Box 102738, Denver, Colorado 80250

If you have special dietary needs, please contact Stuart Hutchins, VP of DAS at [vp@denverastro.org](mailto:vp@denverastro.org) or by phone at 303-697-4353. Accommodation be can be arranged.

Please note that outside food and drink may not be brought into the dining room.

Our **speaker for the evening** will be **Dr. Roger N. Clark**, a longtime DAS member, renown planetary geologist, avid amateur astronomer and accomplished photographer of nature both terrestrial and celestial. Dr. Clark was a Senior scientist (ST) with the U. S. Geological Survey until October, 2014. and is now a senior scientist with the **Planetary Science Institute**. He is a science team member on the Cassini mission to Saturn, Visual and Infrared Mapping Spectrometer (VIMS) and a Co-Investigator on the **Mars Reconnaissance Orbiter** among many other positions in a distinguished career. For more detailed Information please visit his website, [www.clarkvision.com](http://www.clarkvision.com). The subject of Dr. Clark's presentation will be **"Nightscape and Astrophotography with Modern DSLRs"**, a very exciting topic. He may even add some recent developments of one of the space missions he is working on.

**Dr. Roger N. Clark will talk to us about "Nightscape and Astrophotography with Modern DSLRs"**

# Volunteer opportunities — New External Outreach Coordinator

You will see upcoming outreach opportunities here and on the DAS website. Please email Lindsey Shaw at [extenal@denverastro.org](mailto:extenal@denverastro.org) to sign up for assistance with upcoming outreach events.

Lindsey has taken over the DAS External Outreach Coordinator position from Naomi Pequette who was recently promoted to Assistant Coordinator for the Earth and Space Sciences Galleries and the Denver Museum of Nature and Science.

Lindsey is a second year Masters student at the University of Denver's Josef Korbel School of

International Studies pursuing her degree in International Security and a certificate in Homeland Security. While Lindsey studies the social sciences, she has been an astronomy enthusiast since age 5. We welcome Lindsey and congratulate Naomi on her new position!

**Naomi Pequette was recently promoted at the DMNS.**

**Lindsey Shaw is our new External Outreach Coordinator.**

**Congratulations to Both !!**

## April General Meeting: "AstroImaging for Members by DAS Members "

Members will share their results in Astrophotography and what it took them to get there.

This will be the focus of the April 3 General Meeting at Olin Hall. In a survey taken last summer many members indicated interest in imaging celestial objects. There was also interest in getting information and coaching from experienced DAS imagers.

This meeting will be an opportunity to do just that. The program will be informal. In the last few years new lower cost cameras and software have appeared on the market that facilitate entry into this popular but challenging phase of the hobby. As an aspiring imager, I will present a brief personal survey of the scene and equipment and software requirements. Several DAS'rs will show examples of

their work and discuss their imaging setups and techniques. Among those who have agreed to participate so far are Darrell Dodge, Joe Gafford, Sorin, Jeff Tropeano, Bernd Christensen and Ron Pearson. There will be time for questions and discussion of how to promote training and mentoring within DAS for this activity.

If you want to participate or have suggestions as to topics to cover please contact Stuart Hutchins at [vp@denverastro.org](mailto:vp@denverastro.org) or by phone 303-697-4353. Please visit the website [denverastro.org](http://denverastro.org) for the exact meeting time and location.

*By Stuart Hutchins*



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