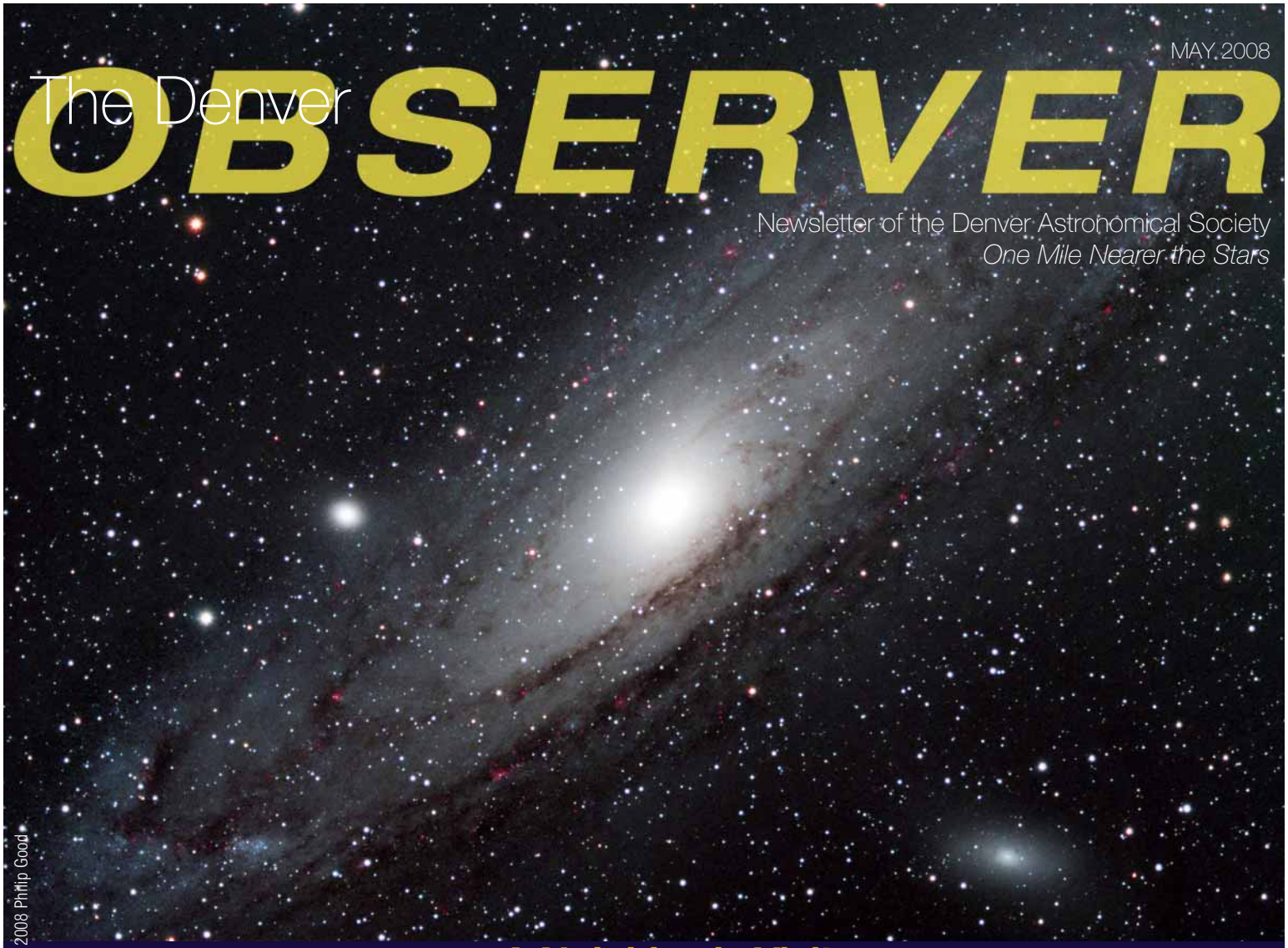
MAY 2008

The Denver OBSERVER

Newsletter of the Denver Astronomical Society

One Mile Nearer the Stars



A Neighborly Visit

M31, the Andromeda Galaxy (NGC 224) is a spiral galaxy approximately 2.5 million light-years away in the constellation Andromeda. It is the nearest spiral galaxy to our own, the Milky Way. Near it are two elliptical galaxies, M32 and NGC 205 (lower right).

GALAXY SEASON IS HERE!

MAY SKIES

This month Mars creeps thru Cancer the Crab while Saturn almost bumps into Regulus in Leo. Saturn is retrograding west but resumes its normal eastward motion on the 3rd, so photograph the pair on that night to get them at their closest—not that another night will make much difference. Two days later on the 5th, the Eta Aquarid meteors peak with a possible surge in the morning hours, and the new moon will not interfere. A day later, the 6th, we'll see the sliver of a crescent moon posing with Mercury low in the west-northwest about 45 minutes after sunset, accompanied by Aldebaran, the red star in Taurus hovering off to the left, and the Pleiades hugging the horizon below and to the right. Maybe you can catch them all with a wide-angle scope or lens. Mercury is even now being visited by the Messenger spacecraft sending us back images to fill our astronomy magazines. Another photo-op occurs on the 12th when the Moon forms a triangle with Regulus and your favorite ringed planet. Mars visits the Beehive Cluster M44 in the early 20's of this month. Finally, if you wait until 1 A.M., or midnight at month's end, you can see Jupiter.

Continued on page 6

5 ..... New moon,
..... Eta Aquarid meteor shower peak
11 ..... First quarter moon
19 ..... Full moon
27 ..... Last quarter moon

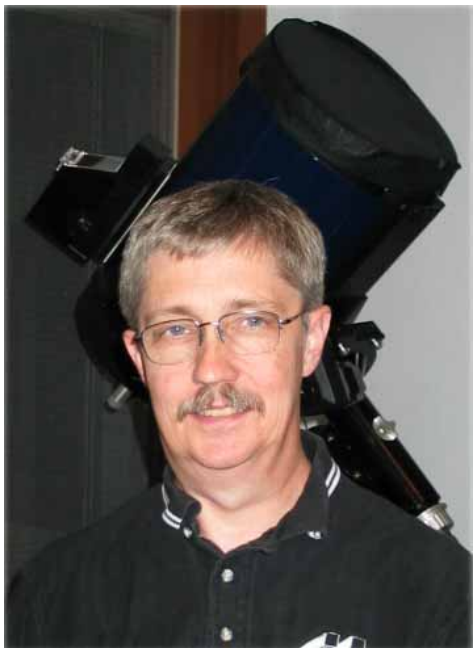
Inside The *Observer*

President's Corner

This month sees the "Spring Edition" of National Astronomy Day. We are holding our normal Open House that evening and are featuring the planet Saturn. Attendance at our Open Houses has been very strong, with lots of people interested in amateur astronomy.

The Executive Board has decided to shift the DAS membership dues structure from an anniversary date to a due date of January 1. This will take a large load off the day-to-day operations of the treasurer. The club now has over 300 members and keeping track of all those renewals each month is more than we can expect from a volunteer position! We all owe Brad Gilman and Darrell Dodge a hearty round of applause at least! Please read the article on Page 4 for details.

I am planning to travel to the Riverside Telescope Makers Conference and, about six weeks later, to the Astronomical League National Convention in Des Moines, Iowa, July 18-19 (*www.alconexpo.com*). I am very interested in learning what we can do to bring new people into amateur astronomy.



Wayne Green, DAS President

I would like your input on ways to revitalize amateur astronomy.

This month's general meeting is going to be another round of show-and-tell. Bring those observing logs and inventions to the meeting!

The weather is getting better and better. Remember, even in the city—the skies are not broken! And at the DAS Dark Sky Site they are spectacular.—*Wayne Green*

DAS Schdule

MAY

3-4 EGK Dark Site Weekend
10 National Astronomy Day and Open House at Chamberlin Observatory *(Begins at 7:30 P.M.)*
11 Mother's Day
16 General Membership Meeting at Olin Hall *(Begins at 7:30 P.M.)*
23 E-Board meeting at Chamberlin Observatory *(Begins at 7:30 P.M.)*
31-1 EGK Dark Site Weekend

JUNE

7 Open House at Chamberlin Observatory *(Begins at 7:00 P.M.)*
13 General Membership Meeting at Olin Hall *(Begins at 7:30 P.M.)*
15 Father's Day
20 E-Board meeting at Chamberlin Observatory *(Begins at 7:30 P.M.)*

Public nights are held every Tuesday and Thursday evenings beginning at the following times:
March 9 - April 14 at 8:00 P.M.
April 15 - September 1 at 8:30 P.M.
September 2 - March 8 at 7:00 P.M. at Chamberlin Observatory
Costs to non-members are: $3.00 adults, $2.00 children.
Please make reservations via our website (www.thedas.org) or call (303) 871-5172.

Society Directory

President:
Wayne Green (303) 530-1023
Email: president@thedas.org
Vice President:
Keith Pool (303) 718-7273
Email: vicepresident@thedas.org
Secretary:
Ron Pearson (303) 670-1299
Email: secretary@thedas.org
Treasurer:
Brad Gilman (720) 488-1028
Email: treasurer@thedas.org

Executive Board Members

Jack Eastman — Ron Mickle
Joe Gafford — David Shouldice
Stuart Hutchins — Bryan Wilburn
Frank Mancini — Dan Wray
Steve Solon, Past President
President Emeritus, Larry Brooks

Committees

Van Nattan-Hansen Scholarship Fund
Ron Pearson (Chair)
P.O. Box 150743
Lakewood, Colorado 80215-0743
EGK Dark Site Committee:
Wayne Kaaz (Chair) (303) 840-1549
Email: kaazmos@msn.com
IDA Representative:
Dr. Robert Stencel
Public Outreach Committee:
Ron Mickle (Chair)
Bryan Wilburn (External Outreach Coordinator)
Email: bwilburn@4dv.net (303) 542-5137
Student Astronomy Committee:
Naomi Pequette (Chair)

Volunteers or Appointed Representatives

ALCor:
Darrell Dodge
Email: alcor@thedas.org (303) 932-1309
IDA Representative: (International Dark Sky Association):
Dr. Robert Stencel
Newsletter:
Observer editor, Patti Kurtz
Email: p_kurtz@comcast.net (720) 217-5707
Observer proofreaders: Darrell Dodge and Steve Solon
The Observer *is available in color PDF format from the DAS website.*
Website:
Darrell Dodge
DAS Information Line:
(303) 871-5172
DAS Correspondence:
Denver Astronomical Society
Chamberlin Observatory C/O Wayne Green
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.

thedas.org

Summer is Star Party Time!

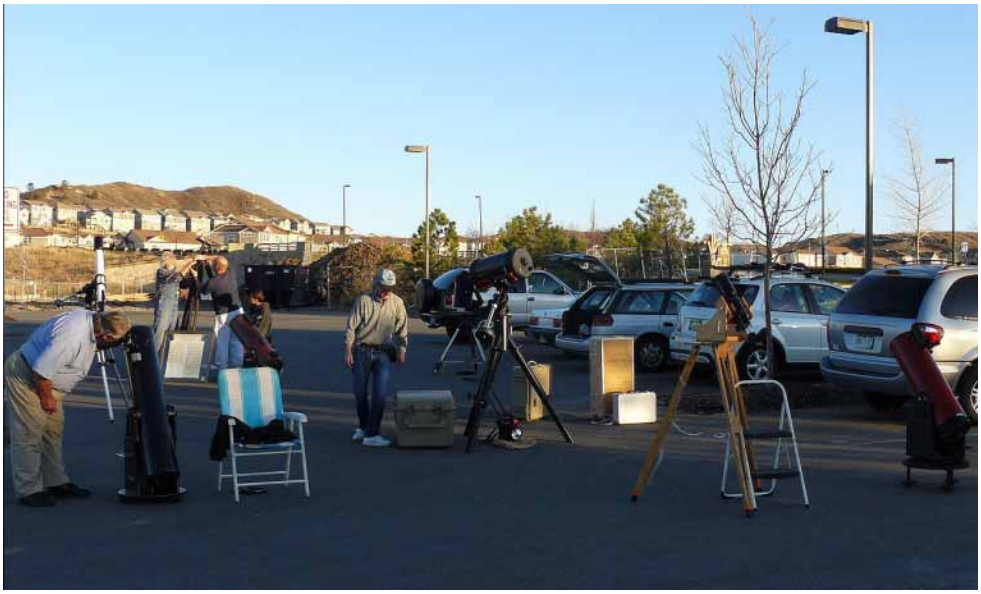
by Keith Pool

On Monday, April 14, five members of the DAS held a public star party at the Grange Community Center at the Meadows in Castle Rock. Eighty interested members of the public were in attendance.

The star party kicked off at about 7 P.M. with Keith Pool giving a Power Point lecture on Introductory Astronomy, which lasted for about an hour. This gave the sun a chance to set and the sky to become moderately dark, and also for the other participating members time to set up their equipment.

Other DAS Members who were in attendance and donated graciously of their time were Dennis Cochran, Jack Eastman, Cliff Simpson and Howard Weatherhead. All together we had eight different telescopes with various apertures for the public to view through. For once, our fickle Colorado weather cooperated, and we had clear skies with great viewing conditions. The public was treated to views of the first quarter moon, Saturn, Mars, a setting Orion Nebula, the Pleiades and a few other assorted celestial objects. Many of the kids had a great time as well—I let them go "hands on" with my 8-inch dob and find a few things for themselves.

Afterwards, we all agreed that we had an excellent time showing and talking about the night sky, and we could tell that the attendees had a great time, too. It also gave us the opportunity to talk to them about how light pollution is robbing us of one of our greatest natural wonders. Many seemed concerned about this, as I had conversations with some of the attendees about this topic.

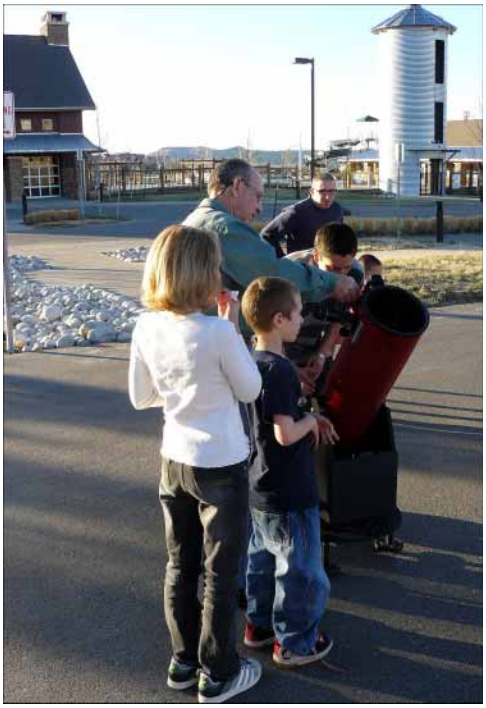


DAS Members setting up their equipment before the star party.

Keith Pool kicked off the star party with a Powerpoint presentation titled "Introductory Astronomy."

If you haven't signed up to do a public star party, you may want to consider it. For a small investment of time, you will have a rewarding experience. The general public will also benefit by gaining an appreciation and understanding of the night sky that they would not otherwise receive, and the reward may come back to us again in the form of a newly aware population who understand what light pollution is robbing us of. They say knowledge is power, and if we can get the word out to enough folks, perhaps something can be done. Perhaps you are that very person who will show the Andromeda Galaxy to a congress person who may actually be in a position to carry the dark-sky torch to a political level that can get make something happen. If you are interested in participating in or hosting a star party of your own, get in touch with Bryan Wilburn. He is the club's point of contact for external outreach, and he can either get you involved or help you set something up.

Cliff Simpson shows off the Moon to a family at the event.



Renewing the DAS Renewal Date

by Darrell Dodge (2007 DAS Secretary) and Ron Pearson (2008 DAS Secretary)

Most organizations to which we belong have a single renewal date for all members. When we look at the DAS renewal system, it's easy to see why they do it that way. Significant costs and labor are required to maintain the DAS policy of renewing members for the month in which they originally joined the organization. It's easy to forget membership due dates, especially if you download your newsletter from the Web site or paid several months late the previous year. So members must be sent individual reminders that are often forgotten in the stacks of junk mail we receive every day. In fact, it's not unusual for two, three or even four reminders to be sent before members renew.

The cost of postage and mailing materials required to remind one DAS member to renew can amount to over $4.00 per year, more than 10% of the $35 annual dues payment. In addition, the labor contributed by the DAS secretary and treasurer to manage this system is required every month of the year, taking time away from other society needs, administrative requirements and activities.

Advantages of a Single Renewal Date

In addition to reduced costs and volunteer labor and eliminating the confusion about renewal dates, there are several other reasons why a single renewal date is more efficient: 1) it is easier to publicize membership renewals in an efficient and memorable way when there is a single renewal date; 2) the society membership roster would only have to be printed once per year (perhaps with a mid-year addendum of new members); 3) the roster submitted to the Astronomical League for billing memberships and mailing of the *Reflector* would be more accurate; 4) the possibility of clerical errors or disputes associated with membership renewal dates would be totally eliminated, 5) membership in the DAS Yahoo Group would be easier for the group leader to manage, and 6) it would be easier for DAS to plan a yearly budget.

EBoard Actions

To realize all of these advantages, the DAS EBoard approved a proposal at its March meeting to change DAS procedures and Bylaws so that all memberships are due for renewal on the same date. The date selected for this proposal is January 1st 2009. This will coincide with the start of the DAS fiscal year, which also starts January 1.

In addition, effective January 1, 2009, the DAS yearly renewal fee will increase $1 to $36.00 per year. The increase will make it easier to calculate a membership cost per month and will help pay for higher postage and printing costs in recent years, as well as the prorating required by the change to a single renewal date.

(Speaking of printing and mailing costs, each distributed copy of the Denver Observer *costs about $1.40. That's about $10.00 for each of the 325 DAS members. We want to continue the option of getting the newsletter by mail, but kudos to the members who download theirs in full color PDF format each month—saving the DAS over $1700 per year.)*

Prorating System

One of the concerns associated with standard membership renewal dates for any organization is the unfairness to those people who join or renew their membership late in the year, because they only receive several months for their membership fee before having to pay again in January. In an attempt to compensate for "lost" months of membership, the EBoard agreed to a prorating system that will be in effect for existing and new members this year and for all new members in subsequent years.

Four groups will be affected, as follows:

1) New members and existing members whose renewal dates were February 1st through May 1st of 2008 will be compensated when they renew in January 2009

Highlights of the New Membership System Transition:

- Beginning in 2009, the renewal date for all members will be January 1.
- New Members and those existing members whose renewal date is before June 1 will receive a prorated bill for 2009.
- In December 2008, members who joined in 2008 and those renewing members whose renewal date was before June 1, 2008 will receive a prorated bill for 2009 in the mail.
- Existing members whose renewal date is June 1, 2008 and after will receive a prorated (reduced) bill for their 2008 renewal in the mail.
- The DAS regular membership fee will increase $1.00 to $36.00 per year effective January 1 2009.
- Members may opt out of the prorating system.

by reducing their renewal costs by the number of months they "lost" by registering before the policy change. For example, a member whose joining or renewal date was February 1 in 2008 would be billed $33.00 to renew for the year 2009.

2) Existing members who have not yet renewed for 2008 should still renew on their presently scheduled dates for the reset of the year; however, the amount paid for the balance of 2008 will be reduced to the number of months from their renewal date to the end of the calendar year (December 31, 2008.) Existing members will receive a bill before their renewal date that displays the amount that they owe. The cost for each month of membership will be $3.00, so—for example—a person whose renewal date is June 1 would be billed $21.00 for 7 months, while a person whose renewal date is December 1 would pay $3.00 for one month.

Two voluntary options will be provided for existing members: a) turning down the prorating offer and paying full membership for both 2008 and 2009, and b) opting to renew membership for two years—the prorated balance of 2008 plus the full 2009 fee.

3) New Members who join from June 1st to the end of 2008 will pay the full membership fee when they join. However, beginning in January 2009, renewals for new members who joined in 2008 will be adjusted for the second year of membership by charging $3.00 per month for each month their membership was effective in their joining year. For example, a person who joined in October (and paid the full $35.00 member fee) would be billed only $9.00 (3 months x $3.00) for the second year of his or her membership. For subsequent years, the full $36.00 registration fee would be due on January 1.

The new member policy established in the preceding paragraph will be maintained for subsequent years for the period February 1—December 31.

4) Student Members will be treated the same as regular members; however, their monthly costs and adjustments will be $1.00.

Subsequent regular membership fees of $36.00 per year and student membership fees of $12.00 per year will be due on January 1, 2009 or (if two years are paid) January 1, 2010.

Sky & Telescope and *Astronomy* renewals will not be affected by this change. They will be renewable on the same date as they are now.

The DAS EBoard realizes that the next year or so may be a bit more confusing than usual because of the prorating system, but expects that the eventual benefits of this new system will reduce the confusion and hassle in subsequent years and will give members more bang for their membership buck.

Participation Prize Award

Each quarter we award a small prize as a token of appreciation for members volunteering with DAS events. The last quarter's prize goes to Norm Rosling (photo at right with Wayne Green). Norm won a 32mm eyepiece, donated by S&S Optika, and his choice of a magazine subscription or a year's extension of his membership.

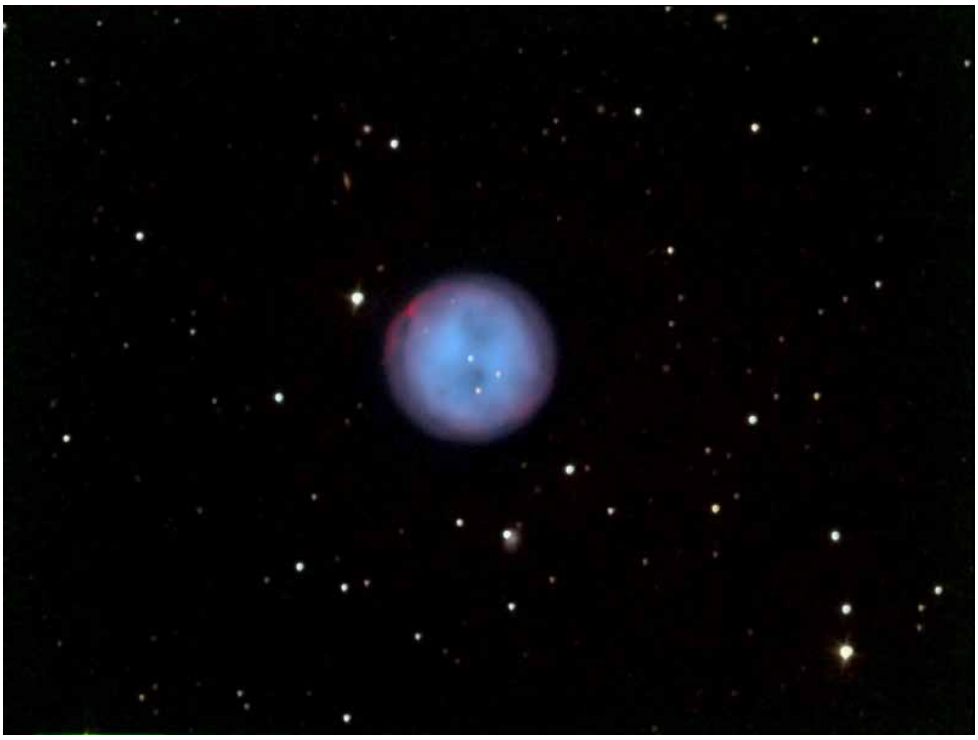
Norm is a dedicated volunteer Telescope Operator with Public Night and Open House events at Chamberlin Observatory. As such, he gets his name in the bucket alot! The main message is that we have alot of fun at these events, and usually retire to the local Village Inn afterwards. So, Thanks Norm!

May Skies *(continued)*

Continued from page 1

All of those neato galaxies mentioned last month will still be there, if you missed them. Face-on spiral M101 makes the point of a triangle above the last two stars in the Big Dipper's handle. And remember M51 below the end of the handle? If you free-fall past it into the open region around the zenith you can find the two-star constellation Canes Venatici (CV). These are two more hunting dogs like Canis Major and Minor, however they don't belong to Orion—they are with Bootes and are nipping at the heels of Ursa Major. The brighter, or alpha star is Cor Carolis (CC), "Heart of Charles," probably Charles II of England, the "party animal" king who came after Cromwell. Anyway, there are galaxies galore in this part of the sky. M63, the "Sunflower Galaxy," lies halfway between CC and M51. CC itself is a binary separated by 20 arcseconds. M104, another galaxy, is situated on the M51 side of the line connecting the CV pair. Fainter galaxies form a sort of Great Wall north and south off the faint end of CV, with M106 among those in the north. Southeast of CV is the "corner" asterism of Coma Berenices (CB) where you can find M64, the "Black Eye Galaxy," a bit to the right of halfway between Alpha and Beta CB. Last month we mentioned the naked-eye star cluster Melotte 111 in CB, a great binocular object in town and a sparkling naked-eye object under dark skies. These scattered stars were "Berenice's Hair" to the ancients.

Globular clusters M53 and NGC5053 are at the bottom of the Alpha-Beta line that makes up the side of CB's corner, just left of Alpha. East of the CB area is Bootes (Arcturus) and farther east Hercules will be rising. M13 is on the western edge of the "Chinese-take-out-box" asterism of Hercules. South of Arcturus is Spica, the bright star in Virgo. The four-sided shape of Corvus the Crow is easy to make out below and right of Spica. Below the left corner of Corvus is the globular cluster M68, actually located in the long wandering line of stars that make up Hydra the "Water Snake," a constellation you don't hear much about. Hydra had a fight with Hercules and lost. Okay—see you at Chamberlin for the Open House on Saturday, May 10.—*Dennis Cochran*



A Hoot of an Object!

One of the largest of planetary nebulae is M97, the Owl. Although visually it's very faint, with photography Joe managed to capture the "owl's face." At the EGK site on March 9, 2008, he used an SBIG ST-2000 XM CCD camera with Astrodon LRGB filter pack on his 18-inch f/4.5 Newtonian telescope. He made 15 minute exposures each of LRGB.

Check out the revamped Astronomical League website for observing ideas, information on observing awards and access to the new online store!
www.astroleague.org

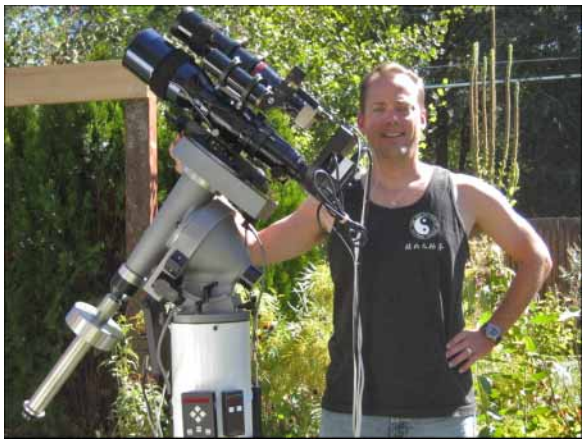
Welcome New Members!

Don Brooke
Shannon W. Bray
Bob MacArthur
Bennett Machanic
Robert M. Mason
Erik Mullins
Jerry Persall
Monte Pickett
Jolene Pilcher
Gary Reed
Wade Sears
Lee Silence
Tyler Simpson (Student)
Todd & Stephanie Stephenson

observers deck

DAS Imager Profile: *Philip Good*

In last month's issue, we began to present a monthly series that may answer questions you have about astro-imaging. Initially we'll highlight photographers whose images you've come to know in the pages of the Observer, *and then start a question and answer forum. Please send your questions to the editor at p_kurtz@comcast.net.*



Philip Good with his Stellarvue 90T and 66ED Imaging Setup
Philip's backyard imaging setup—A Stellarvue 90T and guide scope 66ED. He also uses the Stellarvue F50 as a finder scope. Philip's mount is a Mountain Instruments MI-250, and his camera is an SBIG ST-2000XM CCD with Guide CCD. The beginning of his observatory project can be seen on the left side of the picture.

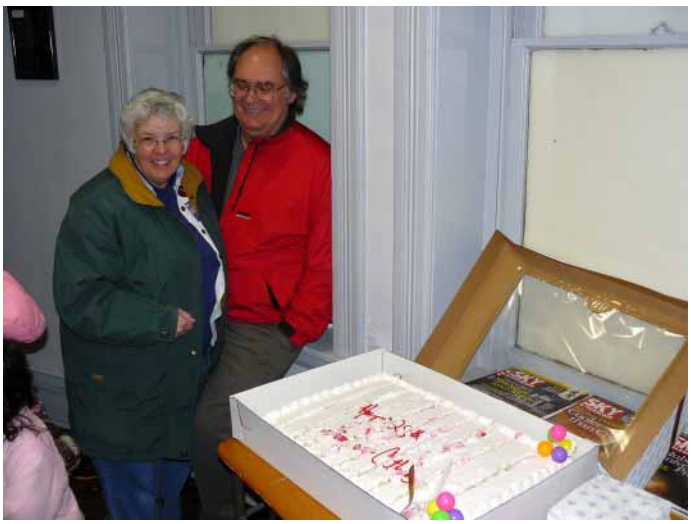
I've been an amateur astronomer for about ten years—I began with an Orion achromat refractor on a manual equatorial mount and a set of binoculars. I enjoyed using this scope with my wife on trips to our property in the mountains near Hartsel. The moon and planets and easy to find deep sky objects were my main targets. I started reading about the computerized "goto" telescopes and how you could connect your computer to them and find thousands of objects. Being a tech-junkie this sounded like the way to go for me, so I bought a Celestron Nexstar 8i "goto" SCT.

This opened up the entire sky and I was completely hooked on astronomy—both in the mountains and in my Denver backyard. I moved up to a bigger aperture Nexstar 11GPS and began to experiment with imaging through the SCT and a semi-APO refractor using a Canon DSLR, taking pictures of lunar eclipses and experimenting with planetary imaging. I had many failed attempts at long exposure photography with the fork mounted SCT on a wedge—I could never get everything to come together for successful images.

About two years ago I decided I would give astrophotography one last effort before giving in to frustration, so I invested in an SBIG ST-2000 CCD camera and an Orion Atlas Equatorial mount. I began imaging through short focal length refractors. This turned out to be just the ticket for me. The self-guiding CCD camera and more forgiving tracking of the light-weight refractor allowed me to finally have success with autoguiding and long exposure astrophotography. My first deep space images were mostly galaxies and galaxy clusters but dealing with light pollution from the Denver sky-glow made processing the images difficult.

I began seeing narrowband images by Neil Fleming and others taken from light polluted suburban areas and was mesmerized by some of these otherworldy images. I invested in a Hydrogen-Alpha filter for imaging, and later SII and OIII narrowband filters. These filters block out almost all light, including light pollution, except for very narrow bands of light centered around certain frequencies of light given off by emission nebulae. Using these filters I could do long exposure deep-space photography from my Denver backyard. The first images that come down from the camera can be very exciting because many of these objects are not visible even through large amateur telescopes. They all have unique shapes, structures, lighting and contrast. The image processing for these objects is also different from normal RGB imaging because there is no "correct" final image. A lot of the processing involves bringing out the unique features of the nebula, often in a way that hasn't been done before. Through much patience and many hours of exposures for a single object, an amateur can create an image that only years ago could only be achieved from professional astronomers with very large expensive equipment.

I'm also involved with space during the daylight hours. I'm an aerospace engineer and own an engineering consulting company. I contract with Lockheed Martin and NASA on interplanetary missions. In the past I've worked on the Mars '98, Mars Odyssey, Stardust and Genesis programs and am currently consulting on the Mars Reconnaissance Orbiter and Orion programs space programs.



Happy Anniversary!
Tim and Cathie Havens celebrated their wedding anniversary at the Chamberlin Observatory Open House on April 12th. They were married at the observatory 28 years ago. Congratulations!
Photo courtesy Bill Ormsby

About the Denver Astronomical Society

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' 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 a 501(c)(3) tax-exempt corporation and has established three tax-deductible funds: the Van Nattan-Hansen Scholarship Fund, the Public Outreach Fund, and the Edmund G. Kline Dark Site Fund. To contribute, please see the bottom of the membership form for details.

More information about the DAS, its activities, and the special tax-deductible funds is available on the DAS web site at ***www.thedas.org.***

Application for membership to the Denver Astronomical Society

New ☐ **Renewal** ☐

Name: _____

Address: _____

City, State, Zip: _____

Phone numbers: Home ( ) Work ( ) _____

E-mail Address: _____

Occupation: _____

Other Interests: _____

(Students Only) School: _____ Grade: _____

Do you want to download the newsletter in PDF format from our website instead of by postal mail?

Yes ☐ No ☐

Do you want the above information excluded from the yearly roster?

Yes ☐ No ☐

Please Circle All That Apply:

Regular Membership: $35 Students: $12 *(Students under age 23)*	$ _____
Astronomy Magazine/$34 and/or *Sky & Telescope* Magazine/$32.95	$ _____
Van Nattan Scholarship Fund	$ _____
Public Outreach Fund	$ _____
DAS Dark Site Fund	$ _____
Total Amount Paid	$ _____

Please send all checks to Brad Gilman, DAS treasurer, 7003 S. Cherry St., Centennial, CO 80122-1179. Please make donations to the DAS Dark Site with a separate check, payable to the "DAS Dark Site Fund." For DAS Membership and other funds, including new-member magazine subscriptions, please make amounts payable to the "Denver Astronomical Society." DAS RENEWALS ONLY: you may now send your Sky & Telescope ***subscription funds directly to the magazine's subscription service, using the renewal form sent to you.***

Denver Astronomical Society

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