

# The Denver OBSERVER

Newsletter of the Denver Astronomical Society  
*One Mile Nearer the Stars*

Image copyright 2007 David Wolf

## North American Salute

Just east of the bright star Deneb in Cygnus lie two tough nebulae—Telescopically difficult to observe, long-exposure photography or electronic imaging can illuminate their beauty. This image of the North America Nebula (NGC 7000) and the Pelican Nebula (IC 5067-5070) was shot from David's "Chainlube Observatory" in Englewood on September 11, 2007.

# COOL NIGHTS, HOT SIGHTS

## OCTOBER SKIES

Inside The Observer

October rolls around with some start-of-Fall constellations showing in the east. One thinks of Pegasus the Winged Horse and of Andromeda, the unfortunate princess who was about to be sacrificed to Cetus the Sea

Monster in order to get him to go away. Two separate constellations glued together, this pair is part of the six constellations involved in the story of Perseus rescuing Andromeda. Cassiopeia and Cepheus were Andromeda's parents.

out to the north. M31 is above the 2nd star in the upper arc. Perseus the Hero rises later. Look at your sky charts to identify his shape. Between Perseus and Cassiopeia (the sloppy "W") is the famous Double Cluster, sitting between Eta Persei and Chi Cassiopeia. Cepheus the King is a large, dim constellation nearly between Polaris and Cygnus. Between Cepheus and the right-hand arm of Cassiopeia's W is M52, embedded in the Milky Way as you'd expect an open star cluster to be. Cruise this end of the Milky Way with your binocs or a low-power eyepiece to find interesting asterisms. You might name one after yourself — then try to find it again!

To find poor, unloved Cetus, locate the huge "V" of Pisces below the diamond of Pegasus.

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If you're at the Dark-Sky Site or up in the mountains, you can see the Andromeda Galaxy, M31, with the naked eye. Locate it by finding the huge square of Pegasus in the east, tilted so that it appears as a diamond. Andromeda is a double linear grouping of stars off the upper left corner of the diamond, two arcs diverging

3 .....	Last quarter moon
11 .....	New moon
19 .....	First quarter moon
21 .....	Orionid meteor shower
26 .....	Full moon

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# President's Corner

Another successful National Astronomy Day and Colorado Astronomy Day has come and gone.

We all owe a special thanks to Darrell Dodge and his outstanding handling of Colorado Astronomy Day, and also to the many people that made the event a raging success. We have two more Astronomy Days to look forward to next year, one in the spring and another in the fall.

Looking to the future, we have the "Mars Madness" event on the horizon. Opposition this year is Christmas Eve. Ask Santa for some special Mars filters. At opposition Mars will be on Earth's meridian at midnight. This makes the evening viewing of Mars a Winter event this year, and the DAS will begin "Mars Madness" in January.

The predicted apparent size of Mars this year will only be 20 arcseconds--about 4 arc minutes or 20 percent smaller than the 2003 opposition. It will still be a spectacular event. We are in a period of declining oppositions, with the next few apparitions getting smaller and smaller each year. Mars will begin its retrograde loop in November. You can take some simple measurements with a



Wayne Green, DAS President

starchart and your telescope, and then record this curious effect for yourselves.

We have the October Auction coming up, so get those dusty artifacts unearthed and headed to a new (dusty) home with another member! This is a fun and rewarding event for all. Dan Wray, in a lapse of sanity, has agreed to run the auction this year. Now is a good time for someone who

*Continued on page 3*



DAS Schdule

## OCTOBER

5 General Membership Meeting at D.U.'s Olin Hall (*Begins at 7:30 P.M.*)

6-14 Okie Tex Starparty

12-13 EGK Dark Site Weekend

20 Open House at Chamberlin Observatory (*Begins at 5:00 P.M.*)

27 Annual DAS Auction (*Begins at 11:00 A.M.*)

## NOVEMBER

2 General Membership Meeting at D.U.'s Olin Hall—Members Show-N-Tell night (*Begins at 7:30 P.M.*)

9-10 EGK Dark Site Weekend

17 Open House at Chamberlin Observatory (*Begins at 5:00 P.M.*)

22 Thanksgiving Day (No Public Night)

30 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.thedasa.org) or call (303) 871-5172.*

## Society Directory

### President:

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### Vice President:

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## Executive Board Members

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Ron Mickle Dan Wray

Steve Solon, Past President

President Emeritus, Larry Brooks

## Committees

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### IDA Representative:

Dr. Robert Stencel

### Public Outreach Committee:

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**The Observer is available in color PDF format from the DAS website.**

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Chamberlin Observatory C/O Wayne Green

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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.*

thedasa.org

# Spotlight on October's General Meeting Guest Speaker

by Keith Pool

The last quarter of the year is quickly approaching. You know, time is truly logarithmic—the older you get, the faster it goes. October's general meeting presentation will be about Greek Mythology and the Constellations, given by Mr. Robert Bruner. This will be the last lecture presented this year, as the general meeting in November is reserved for our annual "show and tell," and December's meeting is the holiday potluck dinner.

Mr. Bruner is an avid amateur astronomer who has been in the hobby for 56 years. His interest in the hobby was kindled when his father gave him a star chart in 1951. Additionally, he was able to travel to Yerkes Observatory where he actually met G.P. Kuiper. In 1953, he built his own 6 inch reflector and began observing with it. He was also able to spend the summer nights

of 1955 and 1956 observing through the 40 inch refractor at Yerkes.

Mr Bruner has been involved with the "Case for Mars" conferences for the last 20 years in Boulder; initially as an attendee and later, as a speaker. He has also given a presentation entitled "Antarctica: Applications to Life in Space" before a joint NASA/NSF conference held in Sunnyvale, California during 1987. In 1996, he wrote a paper about the origin of life which was accepted for presentation at the International Conference on Modeling and Simulation, held in Pittsburgh, Pennsylvania—The only non-Ph.D person to do so—among scientists from 30 countries.

For the past 19 years, Mr. Bruner has been a volunteer at the Denver Museum of Nature & Science. He has run planetarium shows, been a volunteer at the

Prehistoric Journey, been a research assistant to Dr. Mike Celaya (Assistant Curator, Space Odyssey), and a speaker for the DMNS on such topics as the "Collision of Comet Shoemaker-Levy with Jupiter," "Mars, A Deceptive Planet," and of course, "Greek Mythology and the Constellations." The general meeting for October will be held, as always, in room 105 at Olin Hall on the University of Denver Campus. The meeting will begin at 7:30 P.M., and usually lasts about two hours, with a follow-up reception at Chamberlin Observatory featuring refreshments, conversation and views through the 20-inch refractor (weather permitting). We hope to see you all there!

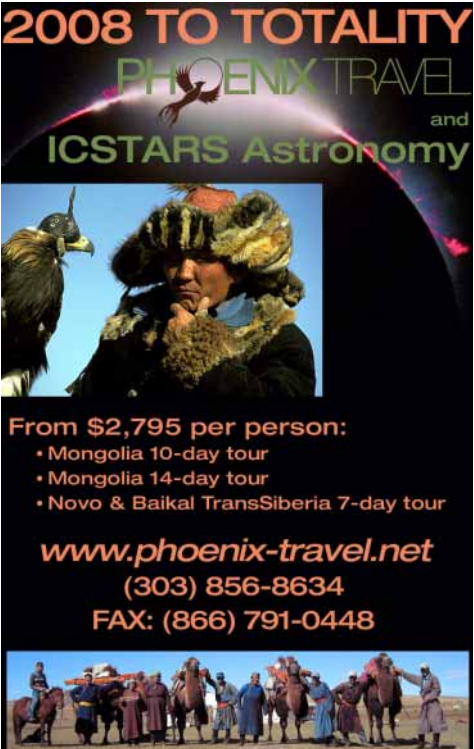
## President's Corner (continued)

wants to take on an event to apprentice themselves to Dan for next year!

Looking a bit further out on the horizon, we will be having the Christmas Potluck at the Columbine Universalist Church again this year. It is a great place for the event with plenty of room.

I appreciate the effort that all of you put into this year's Colorado and National As-

tronomy Day event. It was successful, proving to us that the Fall event is a good idea. As I mentioned earlier, next year there again be two events, one in the Spring and another in the Fall. This will give the Astronomical League enough data to make a permanent decision about the timing of this important event.—Wayne Green



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# Kids Make Colorado Astronomy Day Special

by Darrell Dodge  
all photos by Ron Pearson

Two memories stand out in my mind when reviewing the whirl of events and activities that took place during a wonderful day of astronomy, education, and fun on Saturday, September 15th. (There were many others for different people of course.)

One was a young girl pulling at her mother's hand as she was literally dragged into the El Pomar Education Center at the Museum of Nature & Science to view Bryan White's multimedia 3-D aurora show, as she shrieked: "Please, PLEASE, don't make me wear 3D glasses!" The other was a young boy whose parents coaxed him outdoors to the West Patio to view the Sun through the many solar and solar-filtered telescopes assembled there. "Awww, I don't really want to do this, he groaned, pulling back as he looked in a bewildered way at what must have seemed like an incredibly complex and difficult array of technology to master.

With a little encouragement from Bryan and the DMNS's Jennifer Moss-Logan the little girl donned the glasses and made it through the spectacular aurora show. Her fears had dissolved so much by the end that she helped Bryan col-

lect the 3D glasses from the audience and then skipped from the room.

The dour young boy—with a mention of a possibility of seeing Venus in the daytime, and a bit of encouragement from his parents—reluctantly agreed to allow Ron Hranac show him the brilliant crescent of Venus that Ron had teased out of the bright sky with his refractor. That little boy and his parents left ten minutes later with huge smiles on their faces. "That was reeally cool," the boy said to his mother as they strolled back into the museum.

Whether it was the audience for the fine presentations at the DMNS by Naomi Pequette, Bryan White,

Steven Lee, Phil Good, and Cathie Havens; the viewers of solar observing facilitated by John and Judy Anderson, Ron Hranac, Ted and Todd, Jarold Self, Tim Pimentel, Wayne Kaaz, Pauline Ide, and John Johnson; the questioners at the DAS information table manned by Naomi and Jim Pequette with assistance from Ron Pearson for much the day; or the attendees at the fine talks by Keith Pool and Bob Bruner and the displays and telescope observing stations inside and outside Chamberlin Observatory in the evening, the thing that made

(and makes) Colorado Astronomy Day different and special was the large number of young children that came out. More, it seemed than our usual open houses.

The quality of the presentations at DMNS and Chamberlin was very high again this year. We all know how great Bryan's mind-blowing aurora presentations are (he also brought them to Chamberlin in the evening.) Naomi did a great job leading her mostly youthful audience through the steps they can take toward becoming amateur astronomers. Steven Lee's passion right now is the Mars Rovers, and that certainly showed in his presentation to a standing room only crowd at the Galaxy stage. The professionalism of the DMNS curators and docents at the special Space Odyssey exhibits was certainly evident. Phil Good gave an informative overview of the possibilities for imaging with cameras (digital and otherwise) and CCDs. He did a great job of explaining how prospective imagers can start small (with star trails and short-exposure planetary and constellation shots) before working up to more complex things, stressing that small telescopes are the best way to start. The audience was clearly impressed by



the samples of his own images. To close the day at the DMNS, Cathie Havens of S&S Optika did her thing on understanding, selecting, and using telescopes, again to an audience with many young members.

At Chamberlin Observatory, Keith Pool's "Astronomy 101" PowerPoint show introduced a growing crowd of novices to what they can see in the sky. Bob Bruner of the DMNS (the October general meeting speaker) presented his perfected "Mars: A Deceptive Planet" slide presentation to help get people ready for the Mars apparition this winter. Bryan's aurora slides and Joe Gafford's astro imaging show kept people interested while they waited to get up to the 20-inch. Dr. Bob and Mrs. Stencel greeted people entering the South entrance of the observatory with a display on their new history and activity book for children about Chamberlin Observatory. Ron Mickle and Rich Loper helped dozens of kids get their first views through the 20-inch refractor.

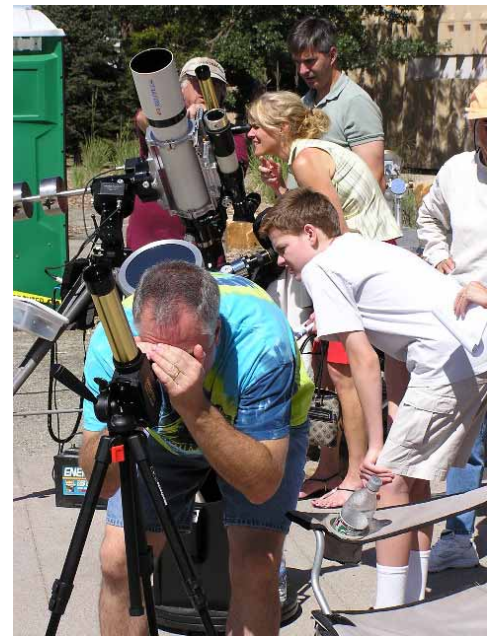
We weathered some real challenges this year, and the many DAS volunteer participants (at least 70 by my probably conservative estimate) deserve a lot of credit for creativity, patience and persistence. The first was the almost total lack of parking spaces at the Denver Museum of Nature & Science between 8 and 11 A.M. due to the huge Alzheimers Walk at City Park. This required long walks from distant parking spots and a Herculean effort (aided by some

helpful members of the Active Teens of the Museum) to haul some of the bigger solar scopes around to the West Patio.

The next was the lack of sunspot activity. This could have been discouraging and could have kept a lot of volunteers away, but we were able to make the best of what might have been a disaster several years ago with the many hydrogen alpha filters (which showed some vivid prominence activity), John Anderson's solar spectrograph and small radio telescope, and Ron Hranac's crowd-pleasing (and crowd amazing) view of Venus. Everyone was upbeat and it was clear that visitors were pleased and impressed by their observing experience with DAS members who expertly explained the significance of what they were looking at. I should also mention the extremely pleasant DMNS security guard who watched over the west entrance, helped us with overcoming the dire parking situation, and even assisted visitors in understanding and approaching the observing stations through the long (and hot) afternoon.

The last challenge was the haze and clouds that punctuated what had been forecast 48-hours earlier to be a clear night, but that helpfully avoided the moon and Jupiter for most of the early evening.

Final numbers on attendance were not in as this was written, but with 300-400 at both the solar viewing and the DAS information table, 300 plus at DMNS presentations, and over 200



who showed up a Chamberlin, 1,000 people would be a good guess.

Again, a big "Thank You" to Jennifer Moss-Logan and the Denver Museum of Nature & Science staff, an amazing group of Denver Astronomical Society volunteers, and especially to the kids (and the parents who brought them) for making the Denver part of Colorado Astronomy Day 2007 a wonderful day for everyone.





A beautiful Autumn object, the Double Cluster in Perseus is made up of the two naked-eye visible clusters—NGCs 884 and 869. The clusters are 7600 and 6800 lights years away from us, respectively, and are fairly young for star clusters at 3.2 and 5.6 million years old.

Image copyright Philip Good

## October Skies (continued)

Continued from page 1

Below that are the dim stars of Cetus, a late riser in the night. It contains the variable star Mira under the bottom point of Pisces' "V". Mira was the first variable to be discovered and is now known as a long-period variable, with a cycle of almost a year.

As for the solar system, our old friend Jupiter, Bringer of Jollity in Gustav Holst's tone poem "The Planets", will be setting by 10pm at the beginning of the month, so look for him early in your observing session low in the southwest. Mars is up later and is getting bigger. What does this mean? There's a song with lyrics that say, "Have you heard, it's in the stars, next July we collide with Mars!" sung by Bing Crosby in the movie "High Society" that also starred Grace Kelly, Frank Sinatra, Louis 'Satchmo' Armstrong,

Celeste Holmes and Walter Pigeon, circa 1960.

Overhead Review: If you've got a scope that's easy to maneuver at the zenith, look for a few objects that ride nearly across the zenith in the evening: From west to east: M13, the big glob in Hercules (west of Vega, the bright star in Lyra) along the western edge of the Hercules' Chinese take-out box; M57, the Ring Nebula at the far end of the Lyra parallelogram; Albireo, the colorful double at the head of Cygnus (bottom of the Northern Cross) and if you have dark skies and a big scope, check some of the elusive stuff around the middle of Cygnus (p.62 of Sept. *S & T*). Near Albireo, don't forget M27, the Dumbbell Nebula (photo to the right), just above the tip of the arrow of Sagitta. While you're burning out your eyeball at the telescope, I shall be in

Slovenia drinking wine—if I survive the long flight in the meatball section at the back of the airliner.—*Dennis Cochran*



Image copyright Joe Gafford



# In Defense of the Department Store Telescope

by Keith Pool

A number of things have been written or said about the cheap department store telescopes that end up under Christmas trees, and then later, in closets unused. Most of which is unfavorable at best. I wish to offer my own opinions regarding these telescopes. You can disagree if you wish, but please hear me out.

My personal opinion is, after you weigh all the facts, that the average 60 mm telescope sold in department stores is really not all that bad. First, however, I must qualify what a “cheap” department store telescope is. The telescope in particular that I am referring to is the average 60 mm refractor of 700-900 mm focal length, mounted on a free standing wood or metal tripod, either equatorially or alt-azimuth. I am not referring to the truly cheap, plastic tabletop models on a ball and pinion mount that seem to be offered everywhere today for around 30 bucks.

Many of us cut our astronomical eyeteeth on a telescope of this size (myself included) and they gave us fairly wonderful views of the night sky that piqued our interest well enough that we stayed with the hobby. These telescopes usually have pretty fair objective lenses, but lack a decent quality eyepiece to give really good views of the heavens. Some other things that are lacking are a quick, down to earth, easy-to-read reference that really aids in a viewer's enjoyment of the heavens, and a decent finder scope.

In my own past, I “fixed” this problem by using a discarded hunting rifle scope my dad gave me. It gave bright, clear wide angle views, and was a major improvement over the 6x30 finder scope provided with the main scope. The finder scope problem is easily fixed now days by purchasing a Telrad or other similar reflex sight offered through any one of a number of vendors. They are relatively inexpensive and easily mounted to the telescope. They make finding the brighter

night sky objects a simple and easy task, and really enhance one's enjoyment of the night sky.

Another relatively easy fix is to provide a couple of inexpensive Plossl or similar eyepieces. These can be had relatively cheaply, and together with a .965 to 1-inch adaptor to fit it to the focusing mechanism of the Japanese imports, greatly enhance views of the night sky. One of the first items I purchased for my 60 mm refractor way back when was a University Optics 16mm Koenig eyepiece. I used it exclusively for several years and was able to see most of the Messier objects with it.

There are a number of good references available today for the budding young astronomer. My personal favorite, however, is the rather dated “*Sky Observer's Guide*,” which was originally published hardbound in 1959, and then later as a little Golden Pocket Guide. The nice thing about it is that it's compact size allows for quick use at the eyepiece, and it can easily be read in one or two sittings by young teenagers who may have many other things vying for their attention. Although the charts and tables are out of date, much of the information contained within is still useful and pertinent. It provides a good beginning stepping-stone to other, more complex literature. Although it is now out-of-print, copies of the “*Sky Observer's Guide*” can be found in used book stores and through on-line giants such as Amazon.com. Often the cost of the shipping is more than the price of the book. I can usually find it for a dollar or less, and they make wonderful gifts to give to that interested person who may show up in your life.

Perhaps, however, the most important item lacking in furthering a young amateur's interest in the hobby is a mentor—Someone who is willing to share their love and knowledge of the night sky

that was no doubt passed on to them by someone else in their own past. Someone who may spark an interest in astronomy that will kindle an excitement for the hobby that lasts not just for a few nights, but for a lifetime. Someone who taught them how to star hop to get to the fainter deep-sky objects and how to navigate and become familiar with the night sky. Someone who taught just how much “power” to use on a given object, which eyepieces to use, and what to do with the telescope after you have looked at the Moon, Jupiter and a few of the brighter stars a half a dozen times. Anyone out there have such a person in their life? Maybe a child or grandchild?

I recently gave each of my two sons a 60mm refractor and a “*Sky Observer's Guide*.” My oldest son has since made his own investment in an 8-inch Dobsonian telescope, as his interest has grown. It has also brought us closer together as we share now a common interest. My small investment was returned to me when both my sons accompanied me to Rocky Mountain Star Stare this past June, although the elder one lives far away in Georgia. I was thrilled to witness their own excitement as they were able to discover on their own the many wonders a dark, cloudless night has to offer.

Do you know someone who may own a small telescope and may be looking for that mentor to come along and teach them how to use it? If so, why not invest a little bit of your time in them and share with them your passion for the hobby. No book or written literature can convey a love for the night sky the way another human can. The reward you reap may very well be greater than your investment in time. Think about it.



## 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](http://www.thedas.org).



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