

# OBSERVER

## Cool Nights—Stellar Sights



**The “Outer Limits” galaxy, NGC 891 in Andromeda**

Our well-traveled astrophotographer, Joe Gafford, made this image at the 2008 Okie-Tex star party in Kenton, OK. He used an SBIG ST-2000XM ccd camera on his 18-inch f/4.5 Newtonian telescope. Exposures were: 20/15/15/15 minutes of LRGB respectively.

*Image copyright 2008 Joe Gafford*

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### Calendar

6..... First quarter moon

13..... Full moon

19..... Last quarter moon

27..... New moon

## NOVEMBER SKIES

Dusky doings amongst the planets this month. Jupiter is rapidly becoming an early evening object, trailing the teapot of Sagittarius into the sunset. Venus, meanwhile, is drifting up over the tea-making archer towards Jupiter. She passes the top of the teapot’s lid on the 17th. Who knows what will happen when Jupiter and Venus, two powerful mythical personalities, come within two degrees of one another at the very end of the month? Sparks will fly in the camps of the astrologers! There may be a photo op here, with the two bright planets joined by the crescent moon in the dusk of Sunday the 30th, and on the next night the moon is even closer. Unfortunately that means

that neither Jupiter nor Saturn will be around as the night deepens. The ringed planet doesn’t rise until 3 A.M.

While you’re out at dusk watching the western sky see if you can find Capricorn farther east in the southern sky. This large constellation looks like a jester’s grin. Neptune is a blue dot two degrees north of Gamma, the right hand of the two stars at the left corner of the grin. Uranus is brighter and greenish but farther east in Aquarius, north of Phi Aquarii. At a dark site you may be able to see it with the naked eye.

*Continued on Page 3*

## PRESIDENT'S CORNER

The annual Auction was a small success this year and we allocated the proceeds of \$468.80 to the Van Nattan-Hansen Scholarship Fund. A beautiful old 6-inch f/10 reflector made by an amateur named Wilmer Churchman was the centerpiece of the auction this year. Churchman's telescope had many interesting features, including an extra uncoated mirror for solar observing, a rotating wheel with a couple of eyepieces, and a rotating eyepiece cage.

The next general meeting is the annual *Show and Tell* meeting on November 14. So, get those projects finished and contact Keith Pool to reserve the time you need. We will have a projector, etc. At this meeting we will appoint the Nominating Committee for the DAS elections in February. I will not be seeking office again so Steve Solon will be free at last! Past presidents are members of the board for the duration of the next person's term! I held him hostage for three years.

The annual Pot Luck is coming up fast! It will be Saturday, December 13, at the Columbine Unitarian Universalist Church, 6724 South Webster Street in Littleton. Roughly, it is a block or so west of the intersection of Pierce and Coal Mine on the south side of the street. We will get together at 6:00 P.M. for a social hour and eat at 7:00 P.M. Bryan White will present an updated program of his 3D sky and aurora photography.

The work at Chamberlin is coming to a close. We appreciate the University of Denver kicking in an additional \$160,000 towards the final work and upgrades. We thank Dr. Stencil for allocating the office off the



DAS President Wayne Green speaks during Colorado Astronomy Day in the DMNS theatre.

Photo courtesy Ron Pearson

dome room for DAS use. I would like to thank Frank Mancini for working the small details with Dr. Stencil. We now have a place to keep records and to better support club operations and our outreach efforts. Come on by next Open House and check things out!

Cliff Simpson and I helped host a crowd of people this fall at the Broadmoor Hotel in Colorado Springs. My special thanks to Cliff who was able to fill in at the last moment to help with this event. We got to meet a wolf and a coyote who were our co-hosts for the event!

We are setting aside an area during openhouse where we can meet new members and make some of the club telescopes available for members and the public to use. We're interested in what people are looking for with amateur astronomy as we move into the 21st century. Drop on by and let us know what you are thinking.—Wayne Green.



### Society Directory

**President:**

Wayne Green (303) 530-1023

**Vice President:**

Keith Pool (303) 718-7273

**Secretary:**

Ron Pearson (303) 670-1299

**Treasurer:**

Brad Gilman (720) 488-1028

### 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:**

Mike Hotka (303) 840-1549  
Email: mbotka@yaboo.com.

**IDA Representative:**

Dr. Robert Stencil  
Email: coloida@hotmail.com.

**Public Outreach Committee:**

Ron Mickle (Chair)  
Bryan Wilburn (External Outreach Coordinator)  
Email: bwilburn@4dv.net.

**Student Astronomy Chair:**

Naomi Pequette (Chair)

### Volunteers or Appointed Representatives

**ALCor:**

Darrell Dodge (303) 932-1309

**Newsletter:**

Editor: Patti Kurtz (720) 217-5707  
Email: p\_kurtz@comcast.net.

Proofreaders: Darrell Dodge and Steve Solon

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

**Website:**

Darrell Dodge  
Email: dmdodge@aol.com.  
**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.*

**www.denverastro.org**



### Bryan White's Nitescapes 3-D

This year's Holiday Potluck will once again feature Bryan White's popular 3-D multimedia slide show of comets and aurorae. The presentation has been newly updated for 2008.

*Image copyright  
Bryan White*

## GENERAL MEETING UPCOMING EVENTS

*by Keith Pool*

As you all may or may not know, the November General Meeting is our annual *Show and Tell* meeting. Now I'm sure some of you may be scratching your heads and saying to yourselves, "didn't we just have one of those?" Well, you are not losing it. The E-Board decided to have one in May this year to give those folks who didn't have the opportunity to share at last November's meeting the chance to speak. Anyhow, November is our traditional show and tell meeting, so all you tinkerers and astrophotographers, let's see what you came up with over the summer.

December's general meeting is the annual Holiday get-together and potluck dinner on Saturday December 13th from 6 P.M. to 9 P.M. Bryan White is the scheduled speaker. As usual, it's a great chance to share some good stories and great food. The event will be held at the Columbine Unitarian Universalist Church, at 6724 S. Webster Street in Littleton, which has proven to be a great venue for DAS parties. Complete details will be provided on the Web site and in the December Observer. Hope to see you at both general meetings.

### NOVEMBER SKIES (CONTINUED FROM PAGE 1)

Cepheus, the King in the Princess Andromeda story, is a house-shaped circumpolar constellation above the W of Cassiopeia the Queen. The peaked roof of this house points a bit east of Polaris. There are things to be seen along the bottom of the house. A short way inside the house, above the centerpoint between the two bottom stars is the star cluster NGC 7160 featuring blue giants that are part of the Cepheus OB2 Association of young stars. A similar distance below the bottom line of the house is Mu Cephei, a red supergiant star called Herschel's Garnet Star. Right below that is the large, loose star cluster IC1396. From the lefthand bottom star of the house one can angle east, left and up 45 degrees about 1/4 of the house-bottom distance, to Delta Cephei, the original Cepheid Variable, which varies one magnitude over a 5.4-day period.

While you're in that part of the sky swing over to Cassiopeia to find three star clusters near the 2nd star from the left in the W, Lambda Cass. M103 is a fan-shaped cluster just off towards the lefthand star of the W, while NGC 457 and 436 are in the opposite direction from Lambda a slightly greater distance. 457 is bright while 436 is faint, a big-scope object. And while you're in Cass you can look way off the righthand end of the W along the Alpha-Beta line for the rich cluster M52 and the Bubble Nebula, the planetary NGC 7635. But wait, there's more: The Double Cluster (DC) is down from the left end of the W getting close to the top of Perseus. While we're looking at well-known objects, from the DC position look across to the nearest point of the Great Square of Pegasus, the Alpha star. About 2/3 of the way from the DC to that point is

M31, the Andromeda galaxy. Before you set out on this voyage, however, estimate a point 1/4 of the way between DC and Alpha Peg and stop there on the way to find M76 the Barbell Nebula, a dumbbell-like planetary near Phi Perseii. Now finish the trip to Andromeda. Paul Hodge says that M31, an Sb galaxy, is made up mostly of orange and red stars smaller than the sun. From there one can look east for the little pointed constellation Triangulum, a slim pie-slice indeed. Now drift down from M31 3/4 of the way to Triangulum's point to find M33, a large face-on spiral. This may be hard to see since it is so spread out. Once in a Messier Marathon I simply could not find it. Good luck!—*Dennis Cochran*.



# 2008 COLORADO ASTRONOMY DAY AND 400TH TELESCOPE ANNIVERSARY CELEBRATION A BIG SUCCESS IN SPITE OF BAD WEATHER

by Darrell Dodge and  
Rodney Pinkney

All Photos by Ron Pearson

The 11th Annual Colorado Astronomy Day, Saturday, October 4th, provided fun and education activities for hundreds of kids and adults, in spite of skies that deteriorated from hazy during the day to solid clouds by evening. The event was co-sponsored by



the Denver Astronomical Society (DAS), the University of Denver's historic Chamberlin Observatory, and the Denver Museum of Nature & Science (DMNS). For the first time, aerospace companies Ball Aerospace, and Lockheed-Martin joined the celebration; exhibiting projects that related to the Hubble Space Telescope update and the missions to carry humans back to the moon.

Daytime activities began at the **Denver Museum of Nature & Science**, where visitors took in a presentation by astronaut Bruce McCandless on the Manned Maneuvering Unit (MMU) developed by Lockheed-Martin; helped make a model of Ball Aerospace's new camera for the venerable Hubble Space Telescope; watched an explorer walk on the surface of Mars; took in informative talks on the galaxy stage by DMNS and DAS presenters; and participated in hands-on, educational activities at Space Odyssey. In recognition of the 400th anniversary of the invention of the telescope, John Flemming worked with Space Odyssey volunteers helping visitors learn how telescopes and astronomical cameras work and how to select the best telescope for various types of observing. On the West Patio, visitors had brief glimpses of the Sun from 11 A.M. to about 2 P.M. through solar telescopes operated by DAS members. This included John Anderson's popular solar spectrograph and solar radio exhibits. Cloudy skies interfered with the observing activities, but our telescopes produced fuzzy red, yellow and green balls through the clouds and the enthusiastic DAS observers taught visitors a lot about the sun. Meanwhile, at the DAS information table,



Eileen and John Barela and others pulled in passersby and stuffed them full of information about astronomy, local observing activities and the DAS. About twenty-one DAS volunteers participated at the DMNS, including:

*Event Photographer:* Ron Pearson

*Solar Viewing, Radio Telescope and Spectroscopy:* John & Judy Anderson

*Solar Viewing and Solar Facts:* Ted Cox, Todd Hitch, Wayne Kaaz, Timothy Pimentel, Keith Pool, and Jerry Self

*Space Odyssey Telescope Exhibit Interpreter:* John Flemming

*DAS Information Table:* Eileen & John Barela, Shannon Bray, Dennis Cochran, Darrell Dodge, Frank Mancini and Neil Pearson.

*DAS Speakers:* Wayne Green—"Amateur Astronomy Organizations," and Rodney Pinkney—"Choosing a Telescope."

Also seen pitching in where needed: Don Jones and David Shouldice.

**At S&S Optika**, telescope optics expert and noted astronomer Jack Eastman discussed the 400-year evolution of the telescope and demonstrated a replica of Johannes Kepler's 1613 refractor. Jack did a sterling job depicting Galileo in period costume during his presentation, discussing the parallel development of refractors and reflectors from Galileo, Kepler, and the achromatic lens makers, to Newton, Herschel, Rosse, and Hale. This presentation was video taped and produced into an excellent video by Robert Tamblyn.

Activities outside Denver were to include a full day and evening of observing at the **Brighton City Park**, conducted by the Brighton Astronomy Group. Again, weather prevented a full program.

Beginning at 6 P.M., we adjourned to the recently renovated **Chamberlin Observatory**. DAS members brought telescopes for evening observing, but were again confronted with cloudy skies that prevented the usual outdoor activities. Ron Mickle organized the events at Chamberlin. Inside, Bryan White set up

his stereo viewers with comets and northern lights slides, and we were treated to a gas-tube spectroscopy demonstration by John Anderson and George Hammond in the library. Dr. Robert Stencel showcased the newly renovated Director's office. John Moyles and DAS Public Night Team 7 conducted tours of the renovated facility, and visitors listened to talks about the history of the Observatory and the Alvin Clark-Saegmuller telescope.

This year's event was toned down, as we were unable to anticipate the state of affairs with Chamberlin Observatory and the renovation project. While renovation work was not quite completed, thanks to Aaron Reid and a few members we were able to bring visitors into a clean and inviting space!

All volunteers and participants stepped up to salvage what could have been just a sad weather situation and contributed greatly to a successful 2008 Colorado Astronomy Day. Thank you all very much.





# 2008 COLORADO ASTRONOMY



## 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 tradi-



tion 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 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 (found on the DAS website: [thedas.org](http://thedas.org)).

More information about the DAS, its activities and the special tax-deductible funds is available on the DAS website at [www.denverastro.org](http://www.denverastro.org).

# DAY IN PHOTOS

## ASTRONOMY EVERYWHERE

Thanks to all the photos from Ron Pearson!

**Previous page:** Neil Pearson looks on as a family checks out literature on astronomy day activities, the DAS, and Colorado astronomy.

**This page upper right:** Coronado PSTs were much in evidence during the solar viewing on the West Patio of the Denver Museum of Nature and Science.

**Center:** NASA astronaut Bruce McCandless gives one of his two presentations on his four hours of space walks

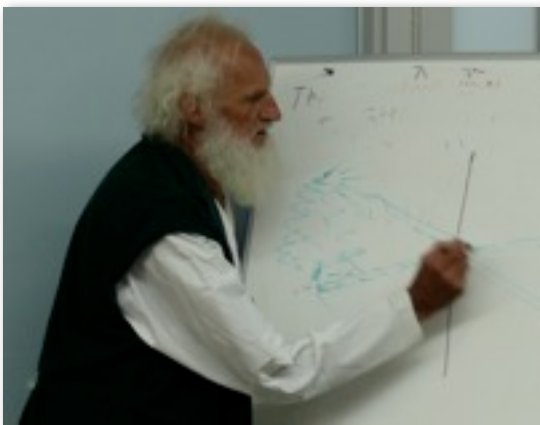


using Lockheed-Martin's Manned Maneuvering Unit (MMU).

**Lower left:** Jack Eastman in period dress as Galileo during his presentation at S&S Optika (Photo courtesy Cathie Havens).

**Lower right:** During one of the brighter interludes, visitors got a good view of a hazy sun. John Anderson and other volunteers filled in the lack of sunspots with lots of information about the solar minimum and solar dynamics and physics.

*Images copyright 2008 Ron Pearson*



## S&S OPTIKA HAS MOVED TO:

6579 SO. BROADWAY  
LITTLETON, CO. 80121  
(~1 1/2 blocks NORTH of  
Arapahoe Road on the  
WEST side of South  
Broadway)

**(303) 789-1089**  
[www.sandsoptika.com](http://www.sandsoptika.com)

## DAS SCHEDULE

### NOVEMBER

- 2 Daylight Savings Time ends
- 8 Open House at Chamberlin Observatory (Begins at 5:00 P.M.)
- 14 General Membership Meeting and "Show 'n Tell" at Olin Hall (Begins at 7:30 P.M.)
- 21 E-Board meeting at Chamberlin Observatory (Begins at 7:30 P.M.)
- 28-30 EGK Dark Sky weekend

### DECEMBER

- 6 Open House at Chamberlin Observatory (Begins at 5:00 P.M.)
- 13 DAS Holiday Potluck (Begins at 5:00 P.M.)
- 19 E-Board meeting at Chamberlin Observatory (Begins at 7:30 P.M.)
- 22 Hannukah Begins
- 25 Christmas Day—No Public Night
- 26-28 EGK Dark Sky weekend

*Public nights are held at Chamberlin Observatory 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.*

*Costs to non-members are: \$3.00 adults, \$2.00 children.*

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



The Denver Astronomical Society  
C/O Chamberlin Observatory  
2930 E. Warren Ave.  
Denver, Colorado 80210