

# OBSERVER

## Dog Days of Summer?



**CAT'S PAW NEBULA**

NGC 6334, the "Cat's Paw Nebula" in Scorpius. The nebula at the top left is NGC 6357, and NGC 6302, the "Bug Nebula," is the small red oval between the "Cat's Paw" and the lower right corner. Joe used an SBIG ST-2000XM CCD camera with an 110mm Mamiya RZ lens at f/5.6. 20 minute LRGB plus 25 minute Ha filtered exposures in 5 minute increments.

*Image copyright 2009 Joe Gafford*

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**Calendar**

4..... Full moon

11..... Last quarter moon

18.....New moon

22.....Autumnal equinox

25..... First quarter moon

## SEPTEMBER SKIES *by Dennis Cochran*

The sparse Aurigid meteor shower radiates from the charioteer on Tuesday, the first, just the thing for a cool, rainy early autumn night (which really means the morning hours of the next day). On the moon on that same night, look for Galileo's crater in Oceanus Procellarum, per *S&T*, Page 45, during lunar sunrise, which shines light directly on the sides of the crater.

The comet I mentioned last month is Kopff. It cruises through Aquarius, going generally west between Delta Aquarius and the Delta Capricornus, essentially on the ecliptic. Jupiter is on the ecliptic too, all night.

Sagittarius is well placed for observation this month. All of its nebulae are condensing out of the steam of the teapot's spout. Going up from the spout they include M8, 20, 17 & 16, all clouds of gas and dust, birthplaces of stars and planets. They might be the neon-lit downtowns of our galaxy, clumped

in a bulging spiral arm that could be thought of as the Front Range of the Milky Way. Rather like our own Front Range concealing the 14ers behind it, this spiral arm hides the true center of the galaxy that only infrared and radio telescopes can see.

M22, a large globular cluster, is just to the left of the Lambda star at the top of the teapot lid. As it is a glob instead of a gas cloud, it will not be wheeling around in a spiral arm, but diving right through the disk of the galaxy, to spend most of its time out on the fringe of intergalactic space. We've discovered 152 or more of these self-contained mini-galaxies buzzing around our Milky Way like a swarm of bees. What else is in this rich region?

*Continued on Page 3*

## PRESIDENT'S CORNER

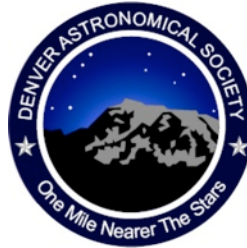
More than 70 members and guests attended the Society's annual picnic in July.

Noteworthy of the occasion was the celebration of the Denver Astronomical Society's (DAS) 60th anniversary, 1949-2009. As with any DAS function, there were many members who helped in making the event a success. In particular, Keith Pool for organizing and doing a lot of the legwork and Aaron Reid for, among other functions, staffing the grill.

It is news to a lot of us when we discover that the DAS originally started as an amateur telescope-making club operated out of the basement of Chamberlin Observatory. The articles of incorporation were filed April 19, 1954, officially adopting the DAS' current name. Special thanks to Wayne Green for the research into Colorado's Secretary of State website. Several of you may have seen a string of emails on the listserv discussing the need for a historian. Over the past decades, the DAS' history has been collected by individuals, similar to the way vertical binning in a CCD works, where pixels are collecting the photons. The next

step is the depositing of the data into a serial register, or, in our case, a historian to compile the information. The information would then be formed into a picture reflecting the Society's history. If you or anyone you know has an interest in helping to compile the history of DAS, please let me know.

I'll close this portion of the *Observer* from the University of Denver's Echo Lake Lab and the Meyer-Womble Observatory as we look forward to the start of Fall and the autumnal equinox on the 22nd.—*Ronald E. Mickle, President.*



### 2009 DAS ANNUAL PICNIC/POTLUCK

Ron Mickle, right (at the grill) was in charge of cooking up bodacious burgers for the annual picnic! More than 70 members attended.



### Society Directory

**President:**  
Ron Mickle (303) 229-6868  
*president@denverastro.org*

**Vice President:**  
Keith Pool (303) 718-7273  
*vp@denverastro.org*

**Secretary:**  
Ron Pearson (303) 670-1299

**Treasurer:**  
Brad Gilman (720) 488-1028

### Executive Board Members

Jack Eastman  
Joe Gafford  
Ginny Kramer  
Frank Mancini  
Wayne Green, Past President  
President Emeritus, Larry Brooks

David Shouldice  
Tim Pimentel  
Steve Solon  
Dan Wray

### Committees

**Van Nattan-Hansen Scholarship Fund:**  
Ron Pearson (Chair)  
P.O. Box 150743  
Lakewood, Colorado 80215-0743

**EGK Dark Site Committee:**  
*Email: darksite@denverastro.org*

**IDA Representative:**  
Dr. Robert Stencel  
*Email: coloida@hotmail.com.*  
*Public Outreach Committee:*  
Ron Mickle (Chair)  
*Student Astronomy Chair:*  
Naomi Pequette (Chair)  
*Finance Committee:*  
Frank Mancini (303) 663-5263

### Volunteers or Appointed Representatives

**ALCor:**  
Darrell Dodge (303) 932-1309

**Newsletter:**  
Editor: Patti Kurtz (720) 217-5707  
*Email: p\_kurtz@comcast.net.*  
Proofreader: Steve Solon  
The *Observer* is available in color PDF format from the DAS website.

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

**Librarian:**  
Phil Klos  
DAS Information Line: (303) 871-5172

**DAS Correspondence:**  
Denver Astronomical Society  
Chamberlin Observatory c/o Ron Mickle  
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](http://www.denverastro.org)

# DAS MEMBER AARON REID TO SPEAK AT THE OCTOBER GENERAL MEETING

by Keith Pool

October's General Meeting guest speaker is Aaron Reid (photo at right), who will detail the restoration of Historic Chamberlin Observatory. Most of us know Aaron as a long time DAS member who is very active in many club functions. He's also the Chamberlin University Building Coordinator.

Aaron was bitten by the astronomy "bug" as a high school student, living in Fruita, CO. His teacher gave some impromptu astronomy quizzes in class one day, and Aaron had most of the answers. Earth Science class was the center of all things astronomical in high school, but unfortunately only a few weeks of the class were actually devoted to astronomy and the space sciences, far too little time in Aaron's mind, so he was directed to the local astronomy club and the rest is history. From black holes to the lack of black at night, you will find Aaron doing things far and wide that foster the education of astronomy.

Some of Aaron's other interests include building and working with light pollution control devices, such as light shields, etc. (he is very active in the International Dark Sky Association), mentoring students at local schools in the field of astronomy, and using his electrical and machining skills to guide students in the US FIRST robotics program. When he isn't doing all that, he stays busy making bio-diesel fuel for his vehicles and remodeling his house (I sometimes wonder if he's using leftover pieces/parts from Chamberlin?)

Educationally speaking, Aaron is currently seeking his EE Degree from DU towards working directly to eradicate light pollution.

Aaron was an integral part of the restoration process Chamberlin Observatory underwent last year and worked closely with every aspect of the work from the very start to finish. The beautiful results that we all have enjoyed this past year are the direct result of Aaron's hard work and dedication

As always, October's General Meeting will be held in room 105 of Olin Hall on the DU campus, followed by refreshments and, weather permitting, views through the 20-inch refractor at the newly remodeled Historic Chamberlin Observatory.



## SEPTEMBER SKIES (CONTINUED FROM PAGE 1)



### OF FIREFLIES AND SCORPIONS

As one of 150 or so globular clusters that orbit about our home galaxy, M4 (NGC 6121) has the distinction of being one of the closest to us at ~7200 light-years. Were it not for obscuring dust and interstellar matter, M4 would surely rank as one of the finest visible clusters in the heavens. Kodak Gold 400 film, Celestron CG-11, 45-minute exposure taken at Kiowa, CO, 1997.

*Photo copyright Steve Solon*

Let's look at it again from another angle. Rather than the spout with its steam, start from the large open cluster, M11, hanging just west of the arrow point of Aquila the Eagle, the Delta star that we discussed last month. One could continue from there to cascade southwest down into the Realm of the Nebulae (excuse me, Edwin Hubble), by then ducking almost south through Scutum to find cluster M26 just southeast of Alpha Scutum. Southwest of that, towards M16, is the nebula-clad cluster IC1287. When you skid down to M16 & 17, the Eagle and Omega Nebulae, you'll discover several open-cluster M-objects in the same region. M18 is just below 17, and bit below 18 is

M24; to its east is cluster M25, and to its west M23. It seems that star clusters and nebulae occur in the same parts of the galaxy, in the spiral arms—not surprising when you think about it, because a star-forming nebula will create a star cluster, and indeed you often see them superimposed. Clusters without nebular surroundings have had their cloudy nurseries dispersed by the hot breaths of their giant O & B blue-white stars.

Yet another Messier twenty-something cluster is farther southwest, M21. It's just above M20, the Trifid Nebula, which is above M8, the Lagoon. So we are back where we started, in the steam of the teapot. Below M8 and even below the edge of the spout are faint globs that Sue French describes on p.59 of S&T, while others are over in the teapot lid-M22 region. Here's a brilliant proposal: that our corps of imagers create a Gallery of Sagittarius Globular Clusters to display at Chamberlin! That is the only way that most of us will ever see these faint NGC objects. And speaking of steam, we can get steamed up about our late-in-the-month Open House on Saturday the 26th. Maybe this time we'll get a clear sky.

# THE WESTERN AMATEUR ASTRONOMERS, A BRIEF HISTORY

by F. Jack Eastman



**JACK EASTMAN,  
DAS CHIEF OBSERVER**

*Photo by Joe Gafford*

The Denver Astronomical Society is a member of a number of organizations related to our interests. The Astronomical League (AL) needs no introduction. They are an organization of societies nationwide that offer a wide range of programs and activities to their member societies and publishes its quarterly news magazine, *The Reflector*, which we all receive as members of the DAS.

The Antique Telescope Society (ATS) is dedicated to the restoration, preservation and history of telescopes and related instruments. They held their 2003 convention here in Denver, with considerable interest in Historic Chamberlin Observatory. The DAS has a complete collection of their *Journal of the Antique Telescope Society* issues in the library at Chamberlin, containing a great deal of the history of various instruments and observatories.

The International Dark Sky Association (IDA) is dedicated to the preservation of darkness through education regarding sensible outdoor lighting.

Rounding out the list is the Western Amateur Astronomers. Although this last group was once a household word, at least

west of the Rocky Mountains, they seem to have sunk into near obscurity. The Western Amateur Astronomers (WAA) was founded in 1949 through the efforts of one Dr. Gilbert Bruce Blair, then of the University of Nevada at Reno. Dr. G. Bruce Blair was born September 13, 1879 in Blairsburg, Iowa and studied at both Tabor and Washburn Colleges in Kansas. He continued his graduate work at University of California, Chicago and Kansas majoring in Physics. At the time he also held a fellowship at Lick Observatory.

Dr. Blair taught astronomy at Washburn from 1907 to 1919, then moved westward, where he taught at the University of Nevada in Reno until his death in 1949. In 1936, he organized the Astronomical Society of the University of Nevada.

Dr. Blair envisioned a grand meeting, to be held once a year, which would bring amateur astronomers from the western states together to meet each other and exchange ideas. The first Western Amateur Astronomers conference was held at the University of Southern California in August 1949, with over 300 delegates from 23 organizations in attendance. It rained! A month later, Dr. Blair died of a heart ailment, his obituary running in the October, 1949 issue of *Sky & Telescope*.

In memoriam, the WAA is responsible for awarding the internationally recognized G. Bruce Blair Medal each year to a person recognized as an outstanding contributor to amateur astronomy. The first medal was awarded to Albert G. Ingalls, editor of the Amateur Telescope Making books, at the sixth WAA Convention held in August 1954 at the Josephine Randall Junior Museum in San Francisco.

The G. Bruce Blair Medal is the highest honor the Western Amateur Astronomers can bestow upon an individual. It is considered by many to be the "Nobel Prize" of amateur astronomy and is awarded to a living professional or amateur astronomer who has made im-

portant contributions to amateur astronomy.

My involvement with this organization began in 1952, when they had their annual convention in the Los Angeles area, I believe at UCLA. Thereafter, they alternated their conventions between southern and northern California, usually at the end of August, when their gatherings would bring upwards of 500 to 600 people. Meetings would consist of paper sessions, evening observing, sometimes at a local observatory, and best of all, tours of major astronomical and aerospace facilities; there was no shortage of these in California.

The large meetings continued pretty much through the 1990s, but began to decline in attendance. The WAA then opted to combine their meetings with the Riverside Telescope Maker's Conference (RTMC) and now mainly presents the G. Bruce Blair Medal at the RTMC each year. They hold their midwinter board meeting in Northern California in February and the summer board meeting at RTMC. It is their hope to eventually bring back annual meetings as they had been in the past and to offer guidance and encouragement to their member societies, especially to those just starting up. In those earlier years they provided me with a great deal of inspiration and, perhaps best of all, the opportunity to meet more people of like interests. Many of those "kids" I ran across at the conferences have become lifelong friends.



**THE G. BRUCE BLAIR MEDAL**



# IYA2009 ASTROPHOTOGRAPHY OPPORTUNITIES

## **The Earth and Sky Photo Contest on Dark Skies Importance**

[www.darkskiesawareness.org](http://www.darkskiesawareness.org) deadline September 21, 2009

This photography contest is open to any amateur photographer of any age, anywhere in the world. The theme of this contest is "Dark Skies Importance." Photos must combine some elements of the night sky (e.g., stars, planets, the Moon or celestial events) set against the backdrop of a beautiful, historic, or notable location or landmark somewhere in the world.

Photographs must be taken during 2009, the International Year of Astronomy, and submitted by September 21, 2009. Winners will be announced on October 31, 2009. Details on this program, including the site to submit photos, can be found at [www.darkskiesawareness.org](http://www.darkskiesawareness.org).

## **Capture the Colorful Cosmos with MicroObservatory Robotic Telescopes**

[www.universeforum.org/iyacocosmos/](http://www.universeforum.org/iyacocosmos/) July - September 2009

The Harvard-Smithsonian Center for Astrophysics (CfA), NASA, and the Association of Science-Technology Centers (ASTC) are collaborating on the "Capture the Colorful Cosmos" astrophotography project. This program will give the public online access to the CfA's MicroObservatory robotic telescopes, to take photographs of astronomical objects, and use image processing tools the same way that professional astronomers do.

Participating museums, nature centers, libraries, and other informal education organizations will run public workshops that result in exhibitions of original visitor-created astrophotography displays. These images and displays will be featured not only at the participating institutions, but also on ASTC, IYA, and NASA websites.

For Informal Educators: ASTC will host an online workshop in July 2009 about how to implement Capture the Colorful Cosmos. See details at: [www.universeforum.org/iyacocosmos/](http://www.universeforum.org/iyacocosmos/)

## **Galileoscope Images**

<http://www.flickr.com/groups/galileoscope/> ongoing, no deadline

Everyone is invited to post images taken through their Galileoscopes at this Flickr site. To learn more about the IYA2009 Galileoscope cornerstone project -- to create good-quality telescopes at an affordable price -- visit [www.galileoscope.org](http://www.galileoscope.org)

## **Astronomy Photographer of the Year**

[www.nmm.ac.uk/visit/exhibitions/astronomy-photographer-of-the-year/](http://www.nmm.ac.uk/visit/exhibitions/astronomy-photographer-of-the-year/)

This annual contest presented by the Royal Observatory, Greenwich, England is a free competition and exhibition for anyone who loves the night sky. Entries for 2009 are now closed, but

you can visit the website to see an exhibition of the 2009 winners, as well as all of the photos submitted. Watch the site for details about their upcoming 2010 contest.

## **Smithsonian Photography Initiative**

[click.si.edu](http://click.si.edu) ongoing; the June 2009 theme was "Seeing Other Worlds"

The Smithsonian Photography Initiative invites the public to contribute images and stories to click! photography changes everything ([click.si.edu](http://click.si.edu)), an online exhibit that explores how photography influences every aspect of people's lives. The June 2009 focus was "Seeing Other Worlds." How does micro- and macro-photography (e.g. from microscopic bacteria to galaxies far beyond the earth) change our perception of the world and our place in it?

You can submit your photo and story anytime to be considered for the click! website. SPI curators will review and feature new visitor-contributed text on a monthly basis, so yours could be next!

## **click! photography changes everything**

is about exploring and sharing ideas about the surprising ways photography impacts our lives. So, your photo (or one selected from the Smithsonian Flickr Commons) should be accompanied by an original story (of 500 words, or less) that describes how photography has changed or influenced your life.

Please share photos and stories with us that focus on the six click! themes: Photography Changes Who We Are, What We Do, What We See, Where We Go, What We Want, and What We Remember.

# COLORADO EXPLORADOME (DOME II)

by Craig Betzina

**A new observatory is available for member use and public outreach.**

The Denver Astronomical Society, in conjunction with **Colorado Exploradome**, has established a new observatory under dark skies for individual use by its members and for public outreach activities.

The observatory is located 10 miles north of I-70 at Strasburg, Colorado, 25 miles east of Denver. The site is on the property of Craig Betzina, a DAS member and owner of Colorado Exploradome. Also located at the site is Craig's personal observatory, which houses a Meade LX200R-14-inch SCT in an 8-foot Exploradome, with a 10 by 16 foot control room attached. Craig recently retired after 33 years with the Boeing Company and states, "I want to do astronomy 24/7 and as much public outreach as I can." His interests are deep sky visual and video assisted work.

The new observatory is a standard 8-foot Exploradome mounted on top of their standard 8-foot round building with a side extension bay. The DAS is providing a Meade LX200 10-inch SCT mounted on a permanent pier. Use rules will be minimal for anytime use by members and their families without supervision after initial checkout. The only basic requirement will be to call ahead, even short notice, and enter into the logbook appropriate information about your observing session.



## THE COLORADO EXPLORADOME

*Photos courtesy Craig Betzina*

Guidebooks, atlas, etc. will be provided along with a wide array of eyepieces.

So, why?

Colorado Exploradome is the stocking distributor/dealer for Exploradome products in a four-state area and has this dome set up for

display purposes to show prospective owners who might be in the market to "get in out of the weather." The evenings are unused and in keeping with the spirit of "Telescopes need to be used," it made sense to set this up.

Current status: The building and dome are assembled and operating. The pier is being completed and the telescope will be mounted and operational by September 1, 2009. Anyone wishing more information should feel free to contact Craig Betzina at the phone numbers and email listed below:

303-622-6210

303-408-1612 (Cell)

*llamaboy@ISP.com* (email)

This is a golden opportunity, especially for new members who want to gain experience using a modern telescope and hopefully make decisions on what kind of telescopes might be right for them. A checklist for operation, site rules, etc., will be provided upon request. School-age kids are especially encouraged to come and use the telescope (but must be accompanied by an adult.)



## NASA'S SPACE PLACE

## A PLANET NAMED EASTERBUNNY?

## A Space Place Partner Article

You know Uranus, Neptune, and Pluto. But how about their smaller cousins Eris, Ceres, Orcus, and Makemake? How about Easterbunny?

These are all names given to relatively large “planet-like” objects recently found in the outer reaches of our solar system. Some were just temporary nicknames, others are now official and permanent. Each has a unique story.

“The names we chose are important,” says Caltech astronomer Mike Brown, who had a hand in many of the discoveries. “These objects are a part of our solar system; they’re in our neighborhood. We ‘gravitate’ to them more if they have real names, instead of technical names like 2003 UB<sub>313</sub>.”

Nearby planets such as Venus and Mars have been known since antiquity and were named by the ancient Romans after their gods. In modern times, though, who gets to name newly discovered dwarf planets and other important solar-system bodies?

In short, whoever finds it names it. For example, a few days after Easter 2005, Brown and his colleagues discovered a bright dwarf planet orbiting in the Kuiper belt. The team’s informal nickname for this new object quickly became Easterbunny.

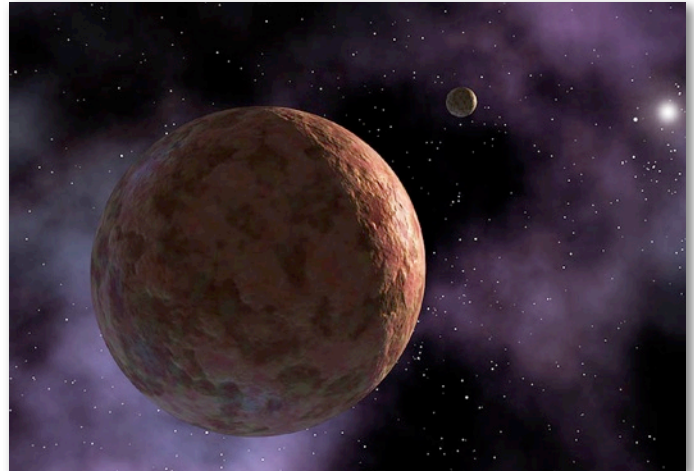
However, ever since its formation in 1919, the International Astronomical Union (IAU) ultimately decides whether to accept or reject the name suggested by an object’s discoverers. “Easterbunny” probably wouldn’t be approved.

According to IAU guidelines, comets are named after whoever discovered them—such as comet Hale-Bopp, named after its discoverers Alan Hale and Thomas Bopp. Asteroids can be named almost anything. IAU rules state that objects in the Kuiper belt should be given mythological names related to creation.

So Brown’s team started brainstorming. They considered several Easter-esque names: Eostre, the pagan mythological figure that may be Easter’s namesake; Manabozho, the Algonquin rabbit trickster god.

In the end, they settled on Makemake (pronounced MAH-kay MAH-kay), the creator of humanity in the mythology of Easter Island, so named because Europeans first arrived there on Easter 1722.

Other names have other rationales. The dwarf planet discovered in 2005 that triggered a fierce debate over Pluto’s status was named Eris, for



PLANET MAKEMAKE

Artist’s rendering of dwarf planet MakeMake, discovered around Easter 2005. Unlikely to gain acceptance for their nickname Easterbunny, the discoverers named it for the god of humanity in the mythology of Easter Island.

the Greek goddess of strife and discord. Another dwarf planet with an orbit that mirrors Pluto’s was dubbed Orcus, a god in Etruscan mythology that, like Pluto, ruled the underworld.

Brown says he takes “this naming business” very seriously and probably spends too much time on it. “But I enjoy it.” More tales of discovery and naming may be found in Brown’s blog *MikeBrownsPlanets.com*.

Constellations have also been named after ancient gods, human figures, and animals. Kids can start to learn their constellations by making a Star Finder for this month at [spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinders.shtml](http://spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinders.shtml). There you will also find a handy explanation of why astrology has no place in science.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*

## 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’ 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).

## 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

### SEPTEMBER

- No General Meeting this month
- 11 E-Board meeting at Chamberlin Observatory (Begins at 7:30 P.M.)
- 13-20 Okie-Tex Starparty
- 18-19 EGK Dark Sky weekend
- 26 DAS Open House (Begins at 7:00 P.M.)

### OCTOBER

- 2 General Meeting at D.U.'s Olin Hall (Begins at 7:30 P.M.)
- 3 Annual DAS Auction (Setup begins at 11:00 A.M. and Bidding begins at 1:00 P.M.)
- 9 E-Board meeting at Chamberlin Observatory (Begins at 7:30 P.M.)
- 16-17 EGK Dark Sky weekend
- 24 Colorado Astronomy Day Open House (Begins at 5:00 P.M.)

*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