



The Denver

# OBSERVER

*Newsletter of the Denver Astronomical Society*

One Mile Nearer the Stars

August, 2003

## President's Corner, August 2003

Many, many thanks are in order this month. Sincere thanks and gratitude to Sandy Shaw and Ron Pearson who treated us to a delicious picnic with spectacular scenery at the annual DAS picnic held at Pine Valley Ranch. Despite the rain and an impressive lightning show, that prevented us from viewing through the 6" Fecker refractor, we had a wonderful time socializing with friends. Yet, I'm still a little confused...why isn't it a good idea to be on top of a mountain, under a metal dome in a thunderstorm. Maybe someone can explain it to me at the next general meeting. Thanks to everyone who brought a dish and special thanks to the crew, Dennis Cochran, Ted Cox, Joe Gafford, Todd Hitch and Laurie Scholl.

Tremendous thanks are also in order to Wayne Green who has designed an on-line reservation system for our Public Night outreach program. This project has finally materialized after at least five years of fantasizing. Not only does this launch us into the 21<sup>st</sup> century, it saves the club a tremendous amount of money, allowing proceeds from Public Nights to be used for equipment and accessories. As we become more technologically astute, the sophisticated reservation system has tremendous capacity for increased usage and development. For the public who doesn't have access to the internet, they can still make a reservation by calling 303.871.5172. Thank you Wayne, you have made a dream come true!

Also, please join us for Mars Madness on August 27<sup>th</sup> and our regularly scheduled Open House on September 6<sup>th</sup>. We need a lot of volunteers to bring telescopes or binoculars and set up on the south lawn. If you are unable to bring your equipment, your help is always needed inside the observatory, talking with and guiding the public to activities.

Once again, thanks to Pat Ryan for taking over the reigns of *The Observer* this month! Clear skies and please no Martian dust storms.  
Carla Swartz

## Mars Midnight Madness

**August 27, 2003 10:00pm to midnight  
Chamberlin Observatory,  
Observatory Park,  
near University and Evans, Denver, CO**

This month brings us a long-anticipated special event: the Mars opposition with the closest approach of our neighbor planet in about 60,000 years! Mars will be at its brightest and biggest, and to celebrate this rare opportunity, the Denver Astronomical Society is sponsoring the Mars Midnight Madness open house at Chamberlin Observatory on the evening of Wednesday, August 27<sup>th</sup> from 10:00 p.m. to midnight. This is the night of closest approach when Mars will be at its biggest. The rain date is Saturday, September 6<sup>th</sup> on our regular Open House night.

To prepare for this special event, the DAS E-Board and the Mars Midnight Madness committee have been working to develop the best possible program, but need every one's help. You may have seen the four Channel 4 News pieces on this event done on Friday the 12<sup>th</sup>, and we expect substantial further public attention. It is possible that we will host unprecedented crowds at Chamberlin that night. This is why we need an extra effort by all members to be there with your scopes,

*(Continued on page 3)*

## ASTRO-TRIVIA!!

Q. Where is the tallest mountain in the solar system and who first named it?

*(Continued on page 7)*



The DAS Annual Potluck Picnic was a great success. So rousing and high-energy was the time had by all that President Carla Swartz hopped up on a table and tried to start a spontaneous clap-a-long.  
 Photo courtesy of Bill Ormsby



Here an unidentified goon tries the veggie burgers served up at the picnic. Dang! Them thangs is tasty! Photo courtesy of Bill Ormsby.

### **Yum! Soy-licious!**

Actually, those veggie-burgers weren't bad at all, except for the "aftereffects." Despite the time of the event (FRIDAY!?!? Have you completely flipped your wheels?!?!), we had a good attendance at this year's Potluck Picnic. Yeah, it got a little, shall we say... wet at the end, but I don't think that any of us were really complaining about that.

So anyway, here I am, forlornly typing away on my computer, as I'm missing the Weekend Under the Stars even as I tap on the keyboard. Hopefully things will have turned out well for those attending WUTS, what with a threatening forest fire and the spectre of thunderstorms.

There will be quite a lot happening in August and September. Unfortunately, the DAS having a star party campout is NOT one of those. In case you missed it from last issue, we will have no Kenosha Pass star party this year.

However, there are some consolations. August has the Mars Midnight Madness event, so do check that out. September will be hopping with the Antique Telescope Society's meeting, and the Okie-Tex Star Party. Both of these events have much more information attached to them than I could include here. For all about the ATS convention, check out; <http://www.webari.com/oldscope/atspages/conventn.htm>. For everything about the Okie-Tex Star Party, check out; [www.okie-tex.com](http://www.okie-tex.com).

**E** Also, you should probably start saving for the Annual Auction, to be held in October. I'm sure there will be loads of great stuff to be had there.

(Continued from page 1)

even though the hour will be late and it is midweek. Mars will rise only at 8:05 that night, and will not reach the meridian until 1:13 am. We have planned to go until midnight. There has been talk of light refreshments being available for volunteers, and names of members helping at this event will be entered in the next prize participation drawing.

DU has requested that we staff the 2<sup>nd</sup> floor of the observatory with at least 4 members to manage the flow of people and to assure the safety of the visitors. Brad Gilman is coordinating this effort. In addition, the first floor will also need to be staffed. Chuck Carlson and Steve Solon have volunteered to coordinate in this area. They will appreciate your ideas and support. We also have a good start on a web page (linked from [www.denverastrosociety.org](http://www.denverastrosociety.org)) oriented towards this special Mars opposition. Send in your best Mars image or favorite Mars links for inclusion.

Steve Solon is arranging programmatics inside including possible videos, slide shows, and/or other kinds of special presentations. He will welcome offers of help or contributions of presentation materials.

Bring your scope and join us on the lawn at Chamberlin for this historic event. We suggest having a light-weight tarp handy to protect your equipment in the event of a late night surprise from the sprinkler system.

For more details, to offer loans of posters or exhibits about Mars for temporary display, or to volunteer for specific tasks to help handle the anticipated crowds, please e-mail John Flemming, Team Leader for Mars Midnight Madness, at; [johncflemming@yahoo.com](mailto:johncflemming@yahoo.com) or call him at 303-978-0635. Help us celebrate this solar system block party!  
*Sandy Shaw*



## **FOR SALE**

12.5" solid-tube Dobsonian with Crayford focuser, Telrad, and 34mm. Eyepiece. This was a Discovery prototype. It is quite large and needs two small or one large person to set it up.

\$750 OBO

Contact Dennis Cochran  
720-870-0465 (home)  
303-677-4721 (work)

## **Directions to the E.G. Kline Dark Site**

*The DAS Edmund G. Kline Dark Site is about 60 miles east of the "mousetrap" in downtown Denver.*

Take I-70 east to the Deer Trail exit (exit 328), turn left at the end of the exit ramp, and turn left again on CR 217 (after the Texaco station). Take CR 217 just over 1/2 mile, and turn right (east) onto CR 34. Stay on CR 34 about 6 miles until you get to CR 241. Turn left (north) onto CR 241 and continue about 1.5 miles – you'll see a culvert with a wide gate on the right (east) side of the road.

*Directions to the site from Denver, arrival from the North (for after-dark arrivals):*

Take I-70 eastbound to exit 316 (Byers). Turn left at end of ramp which puts you on eastbound US-36. Take US-36 east 17.2 miles to CR 241. Turn right (south) onto CR 241 and continue for 6.2 miles. The DSS entrance is on the left between two tall posts.

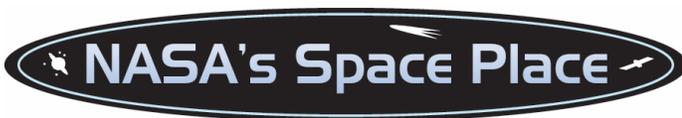
*Note: Travel distance from Denver using the North route is actually 3.9 miles shorter than the traditional route. The first 5 miles of CR 241 going south from US-36 is narrow and somewhat rough. Be careful.*

## **Chuck Carlson Honored for Pioneering Astro-Chair**

Members of the Colorado Springs Astronomical Society customarily conduct an ATM walk at Rocky Mountain Star Stare, their annual star party. This consists of a tour to inspect innovative or unusual projects brought to the star party by participants who are also amateur telescope makers. Certificates of merit in several categories are then awarded to outstanding projects. In past years, certificates have been awarded to several DAS members, including Dan Wray and David Shouldice. This year, DAS Treasurer Chuck Carlson was awarded a certificate for "Pioneering Design" for the observer's chair which he built several years ago, pictured to the left. The plans for this project were published in the second edition of Phil Harrington's *Star Ware* and have also turned up on internet sites.



L-1011 "Stargazer" takes off to carry Pegasus rocket on the first 39,000 feet of its climb to deliver a spacecraft to orbit.



## From the Belly of an Airplane: Galaxies

By Dr. Tony Phillips

On April 28th a NASA spacecraft named GALEX left Earth. Its mission: to learn how galaxies are born, how they grow, and how they die.

"GALEX-short for Galaxy Evolution Explorer-is like a time machine," says Caltech astronomer Peter Friedman. It can see galaxies as far away as 10 billion light years, which is like looking 10 billion years into the past. The key to the mission is GALEX's ultraviolet (UV) telescope. UV rays are a telltale sign of hot young stars, newly formed, and also of galaxies crashing together. By studying the ultraviolet light emitted by galaxies, Friedman and colleagues hope to trace their evolution spanning billions of years.

This kind of work can't be done from the ground because Earth's atmosphere absorbs the most energetic UV rays. GALEX would have to go to space. To get it there, mission planners turned to Orbital Science Corporation's Pegasus rocket.

"Pegasus rockets are unusual because of the way they're launched-from the belly of an airplane," says GALEX Project

Engineer Frank Surber of JPL.

It works like this: a modified L-1011 airliner nicknamed Stargazer carries the rocket to an altitude of 39,000 feet. The pilot pushes a button and the Pegasus drops free. For 5 seconds it plunges toward Earth, unpowered, which gives the Stargazer time to get away. Then the rocket ignites its engines and surges skyward. The travel time to space: only 11 minutes.

"The aircraft eliminates the need for a large first stage on the rocket," explains Surber. "Because Stargazer can be used for many missions, it becomes a re-useable first stage and makes the launch system cheaper in the long run." (To take advantage of this inexpensive launch system, GALEX designers had to make their spacecraft weigh less than 1000 lbs-the most a Pegasus can carry.)

A Pegasus has three stages--not counting the aircraft. "Its three solid rocket engines are similar to the black powder rockets used by amateurs. The main difference is that the fuel is cast into a solid chunk called a 'grain'-about the consistency of tire rubber. Like black powder rockets, once the grain is lit it burns to completion. There's no turning back."

In this case, turning back was not required. The rocket carried GALEX to Earth orbit and deployed the spacecraft flawlessly. On May 22nd, the UV telescope opened its cover and began observing galaxies-"first light" for GALEX and another success story for Pegasus.

For adults, find out more about the GALEX mission at <http://www.galex.caltech.edu/> . Kids can read and see a video about Pegasus at <http://spaceplace.nasa.gov/galex/pegasus.html>.



For Sale at the DAS auction on October 11th, 100% to club.

36 in. convex meteor observatory. Rugged heated box for unattended use. Will deliver in the Denver metro area.  
Frank Miller

**"Rocky Mountain High"  
2003 Antique Telescope Society  
Convention  
Friday, September 26 through  
Monday, September 29, 2003**

**For all info & schedule, visit: <http://www.webari.com/oldscope/atspages/conventn.htm>**

On September 26 through 29, 2003, the Antique Telescope Society will hold its 12th annual convention at historic Chamberlin Observatory, Denver University in Denver, CO. A program is planned including talks and exhibits, and a banquet featuring a Keynote Address by Professor Robert Stencel of Chamberlin Observatory. In addition to an open house at Chamberlin Observatory, plans call for a visit to Fiske Planetarium and the Sommers-Baush Observatory in Boulder and to the Denver University Observatory on the summit of Mt. Evans. We look forward to welcoming as many ATS members as possible in Denver. Please join us.

John Briggs, Convention Chairman  
Peter Abrahams, President and Paper Sessions Chairman  
Walter H. Breyer, Executive Secretary

***The Oklahoma City Astronomy Club Is Pleased To Announce...  
The 20th Annual Okie-Tex Star Party***

**September 21th - 28th**

Located in the Panhandle of Oklahoma near the town of Kenton

Camp Billy Joe - 36 deg 53.87' N, 102 deg 57.12' W

2003 Okie-Tex Brochure now available !  
Just go online to;

**WWW.OKIE-TEX.COM**

**Special Paper Sessions Planned for ATS Convention**

At our 12th annual meeting, we are having a session on restoration of telescopes. The papers will be practical discussions on techniques and materials. The ethics & aesthetics of restoration can also be presented. If you have experience in this area, please consider sharing it.

Also at our Denver meeting in Sept. 2003 will be a special session on:  
'Telescopes and observation in the era of visual astronomy.'

Speakers will include Brad Schaefer and Tom Dobbins. Several other authors who have published on this subject have been invited.  
Roger Gordon will contribute a poster paper.

Topics can include:  
Large refractors, limits & advantages.  
Observing through speculum reflectors.  
Planetary observation: Martian canals, Martian craters. Features on Mercury & Venus.  
Historic personalities involved with these questions: Mellish, Lowell, etc.  
Transit of Venus- Black Drop Effect.  
Observations of Messier.  
Use of the transit, personal equation.  
Telescopic limiting magnitudes.

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We want to maintain our focus on telescopes, widening it to include historical observations & the instruments used; but not including accounts of personal observations using historic instruments ('I used the Clark to observe Mars & this is what I saw...').

This could be an important & useful session, and proposals for presentations are solicited. Deadline is the first week of September.

Peter Abrahams

email: [telscope@europa.com](mailto:telscope@europa.com)

### **Warming Hut Rules:**

The last people on the site must turn off the lights and the heat.

A microwave will be provided for warming food. Please clean up after yourself.

No pots and pans, appliances, or other supplies are to be left in the shed.

No personal supplies are to be left in the shed overnight.

Do not donate furniture or other things unless you clear it with the D.S.S. committee first.

No food left overnight in the shed.

No sleeping overnight in the shed.

Quick naps are permitted if you feel you might fall asleep on the way home. We would prefer you get your nap rather than falling asleep on the road. However, we don't want it to become a tent for camping.

Clean up after yourself before you leave the site.

Please clean up all food that drops or is spilled, otherwise it will attract mice and insects.

### **Dark Sky Site Courtesy**

Please remember that white light disrupts the eye's dark adaptation and can ruin astrophotography. Following these simple guidelines will improve the experience for all:

- Upon arrival at the site, check to see if sign in has been instituted at the warming hut. We hope this will help alleviate problems members may be experiencing in trying to find a place to set up.
- Drive carefully on the road, there are blind spots in the low area and you will find cattle on the road at times.
- Try to arrive before dark.
- If you have to arrive after dark, turn off headlights when turning into site.
- Turn off all dome and trunk lights. If a light can't be turned off, pull the fuse, use layered red brake light tape or just duct tape over it.
- When you drive in, position your car so you can drive out directly instead of using your back up lights.
- Use only dim red flashlights. Never shine a flashlight in someone's face or on their scope.
- Please wipe your feet carefully before using the warming hut.
- Please chip in and do some cleaning up in the hut or at the observing sites. It is the responsibility of all users to keep the place nice.

- Serious astrophotographers may wish to use the South field since it is somewhat isolated from the rest of the area.
- If you are the last person to leave the site, turn off the lights and the heaters in the warming hut. Then, lock the warming hut and close the gate to the site.
- Members are responsible for educating their guests as to the rules.
- Prospective members, out of town astronomers, and others may be guests one time.
- Members can bring family any time and personal friends on a limited basis, but should not abuse the privilege.
- Groups of five or more guests must be cleared through the President or Vice President prior to visiting the Dark Sky Site.
- There is no sleeping in the warming shed overnight. However if you need to nap for a short period, you can use the shed. We would rather you fall asleep there rather than at the wheel on the way home.
- You may warm drinks in the microwave—it is not there for warming food and cooking since we have no water to clean up. If you spill, please clean up after yourself.

### **OTHER SUGGESTIONS:**

- Wear warm clothing. The nights can be extremely cold in the winter and surprisingly cold in the summer.
- Bring your own power such as a battery and/or an inverter since the power sites are limited. Also bring extension chords.
- Hot drinks can help you survive the night!
- When approaching the telescope of someone who does not know you, introduce yourself and ask before looking through the scope. Most members (with the exception of astrophotographers when they are taking pictures) will be happy to share their scopes.
- Bring your own toilet paper in case that in the porta-potty runs out.

## **OFFICERS AND E-BOARD of THE DENVER ASTRONOMICAL SOCIETY**

**The Executive Board** conducts the business of the DAS at 8 p.m. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.

### **OFFICERS**

***President Emeritus***

**Larry Brooks**

***President:***

**Carla Swartz (303) 246-6926**

***Csastrogirl@aol.com***

***Vice President:***

**Frank Mancini (303) 414-0300**

*Frank.mancini@jpl.com*

**Secretary:**

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

*Rpearson@ecentral.com*

**Treasurer:**

**Chuck Carlson (303) 744-7331**

*Chcarlo@du.edu*

## EXECUTIVE BOARD

**Jack Eastman**

**Bill Ormsby**

**Joe Gafford**

**Sandy Shaw**

**Ivan Geisler**

**David Shouldice**

**Ron Mickle**

**Steve Solon**

**ALCor: (Astronomical League Regional Correspondent)**

**Jerry Sherlin (303) 680-6894**

*sherlinj@aol.com*

**DAS INFORMATION LINE:**

(303) 281-9052

**DAS CORRESPONDENCE:**

Denver Astronomical Society

Chamberlin Observatory

C/O Carla Swartz

2930 East Warren Avenue

Denver, Colorado 80208

**VAN NATTAN SCHOLARSHIP FUND**

P.O. Box 150743

Lakewood, Colorado 80215-0743

**WEBMISTRESS & NEWSLETTER Editor:**

Patti Kurtz

*p\_kurtz@comcast.net*

**Temporary Newsletter Editor: Patrick Ryan**

**Denver Astronomical Society Website:**

**WWW.DENVERASTROSOCIETY.ORG**

## **SCHEDULE**

### **AUGUST**

**8** 8:00 PM E- Board meeting. CAD Planning

**9** Open House begins at 7:30 pm

**15** General Meeting at Olin Hall, DU, begins at 7:30. Speaker: Dr. Robert Stencel, DU Astronomy & Physics Dept. Topic: "Light Pollution And You--Human Impact And How

You Can Make A Difference."

**27** 10:00 pm, Mars Midnight Madness. Chamberlin Observatory. See pages 1 and 3.

**28** Mars largest in scopes.

**30-31** Dark Sky Site Weekend.

## **SEPTEMBER**

**5** 8:00 PM E- Board meeting - Calendar, potluck, and banquet locations

**6** Open House at Chamberlin Observatory; begins at 7:30. Mars opposition.

**12** General Meeting at Olin Hall, DU, begins at 7:30. Speaker: Dr. Clark Chapman- Southwest Research Institute. Topic: "Craters on Mars: Implications for Water and Life."

**21-28** Okie-Tex Star Party. See page 5.

**26-29** Antique Telescope Society Convention.

**27-28** Dark Sky Site Weekend.

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## **Astro-Trivia Answers**

A. Towering 25 kilometers (15 miles) above the surface of Mars, Olympus Mons is the tallest mountain in the solar system. Giovanni Schiaparelli, observing Mars at its 1879 opposition, saw the mountain as a white patch only half an arc second across and poetically named it Nix Olympica (Snows of Olympus). When Mariner 9 imaged Mars in 1971, the mountain proved to be a caldera capping an enormous shield volcano measuring 800 kilometers (480 miles) at its base and it was renamed Olympus Mons. In comparison, Mauna Loa, the most spectacular shield volcano on Earth, rises 9 kilometers (5 miles) from the ocean floor and measures 120 kilometers (70 miles) at its base. On August 28th, Mars will reach its most favorable opposition for the next 284 years; it will come within 34.7 million miles to the Earth and present a disk 25.1 arc seconds in diameter, the maximum possible. DAS is sponsoring "Mars Midnight Madness" on August 27th, the date of closest approach. Watch the DAS website and see articles elsewhere in this Denver Observer for details.

*AstroTrivia is contributed by Sandy Shaw.*

## About the Denver Astronomical Society

The DAS is a group of amateur and professional astronomers that share a mutual interest in the heavens. The DAS operates the University of Denver's Chamberlin Observatory, along with its prized 1894 Alvan Clark 20-inch refracting telescope. Our members have been involved with the first public planetarium at the Denver Museum of Science and Nature and the Smithsonian Astrophysics Observatory's "Moon Watch" program. The DAS successfully petitioned to have the Chamberlin Observatory listed on the National Register of Historic Places.

Our Credo is to provide members a forum for increasing and sharing their knowledge, to promote and educate the public about astronomy, and to preserve the historic telescope and observatory in cooperation with the University of Denver. To these ends we have established three tax deductible funds: the Van Nattan Scholarship Fund, the Chamberlin Restoration Fund, and the DAS Dark Sky Site Fund. This last fund was established in order to construct and maintain observing facilities near Deer Trail in eastern Colorado.

Please call our Info Line at (303) 871-5172 and drop by the General Membership meetings. Become a member and enjoy speakers, facilities, events, and our monthly newsletter, *The Denver Observer*.

## 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: \_\_\_\_\_

(Associates Only) School: Grade: \_\_\_\_\_

Do you want to download the newsletter in PDF format from our web-site 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: \$30 Associate: \$10 (Age 22 and younger)

\*\*\*\*\*\$ \_\_\_\_\_

Astronomy Magazine/\$29

Sky & Telescope Magazine/\$29.95

\*\*\*\*\*\$ \_\_\_\_\_

Van Nattan Scholarship Fund \*\*\*\*\*\$ \_\_\_\_\_

Chamberlin Restoration Fund \*\*\*\*\*\$ \_\_\_\_\_

Total Amount Paid \*\*\*\*\*\$ \_\_\_\_\_

Please mail Dark Sky Site donations to: DAS Treasurer, Chuck Carlson, at the address below. (Make checks payable to the Dark Sky Site Fund).

***Please complete this form, or a copy, and mail it with your check or money order payable to:***

**The Denver Astronomical Society: DAS Treasurer, Chuck Carlson; 1521 So. Vine St.; Denver, CO 80210**



## Denver Astronomical Society

C/o Chamberlin Observatory

2930 East Warren Avenue

Denver, CO 80208