

OBSERVER



SIZZLIN' STELLAR SIGHTS

SMOKIN' SUN

Our closest star was captured by Ron Pearson on March 10, 2012 about 10:45 A.M. at his CosmicRock Observatory—Sunspot AR1429 put out an M8 (almost X-Ray class) flare for over an hour. It looked like a river of white hot plasma flowing between two big sunspots. A smaller flare earlier in the week led to aurora and warnings about GPS outages over the northern U.S. Ron imaged this with a DBK 21AF0 imaging camera on a 60mm Hydrogen alpha S-Max on an ED80mm scope, then movie stacked, processed, cropped from full frame and rotated with AstrollDC and CS3 on a Macbook Pro.

Image © Ron Pearson

Calendar

- 6..... Full moon
- 13..... Last quarter moon
- 21..... New moon
- 29..... First quarter moon

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APRIL SKIES

by Dennis Cochran

Last month we mentioned the early April conjunction of Venus and the Pleiades on Tuesday the third—this is a Public Night at Chamberlin Observatory. That celestial grouping should make quite a sight in a telescope or binoculars. The Goddess of Beauty and the Seven Sisters will have some girl-talk to catch up on in addition to posing for photo ops. The days after the third should be good, too, if you can't make it that night or if the weather doesn't cooperate.

The Great Square of Pegasus has long since drowned in the west and Orion is now an evening-only object. East of that, scraping along the southern horizon are Puppis, Pyxis, Vela and Antlia the Pump. The latter is entirely above the horizon but still very low. The Gum Nebula was discovered by Colin Gum and is located on the Vela-Puppis bor-

der. It's 35 degrees wide, invisible to the human eye and is a supernova remnant powered by the Vela X pulsar. Antlia has a face-on spiral galaxy, NGC 2997, at about 31 degrees south and R.A. 9hr50' in the middle of a huge blank area on the S&T monthly chart. It shows up at left-center on Chart 37 in the 2nd Edition of the *Peterson Field Guides: Stars and Planets* (Peterson's). The latter shows this region is not so empty, although it contains nothing bright or well-known. A picture of NGC 2997 taken by the Anglo-Australian Telescope Board appears on Page 230 of *Peterson's*. It's quite a handsome spiral.

Go east at this altitude to the compact four-sided Corvus the Crow. Continue east to Spica in Virgo, then up a bit to Saturn. Ogle its rings whilst contemplating that they may be short-lived—we're

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PRESIDENT'S CORNER

by Ron Pearson

I hope everyone enjoyed our Annual Banquet! The weather was great, it was a full house with lots of good food, plenty of spirits to get in the spirit of the usually non-social science of astronomy, meet new friends and hold our groundhog day snowed-out election of officers. Astronaut Capt. Bruce McCandless told some funny inside stories of early space observatories on SkyLab and about the future we anticipate from the James Webb telescope. We also took some time to honor our outreach volunteers of 2011 with certificates and special pins from the NASA Night Sky Network. I hope you will read the article about our outreach volunteers again honored at the Annual Banquet and thank Chuck Hab-



nicht for his work with the NSN. And if you aren't on the list, I hope you'll participate this year. Thanks to VP Lisa Judd for organizing a great feast, and to Darrell Dodge and Lorraine Kreznar for hosting the DAS again at their church. We welcome new

board members, Naomi Pequette and Chuck Carlson, and say thanks to outgoing board members Ron Mickle, Tim Pimentel and Keith Pool! Thanks also to all the continuing officers and board members for sticking with me and the DAS for another year. If you haven't checked the Van Nattan Hansen Scholarship webpage lately, you'll notice Tim has taken over as chair person for the scholarship committee, and it has a new P.O. Box.

With the new year I have also brought a new initiative to enhance the safety of persons, particularly children, who attend our Public Night (PN) and Open House events at Chamberlin. In cooperation

with Director Dr. Bob Stencel and Hugh Davidson, PN Team Leader, we have clarified and posted safety rules at Chamberlin and our website so that PN Operators and the public have clear guidance to reduce the risk of accidents when people are using the historic telescope and particularly the 117 year-old ladder-gantry in the dome room. While safety of the public or DAS members has never been neglected at Chamberlin, clear guidance and rules are now available to everyone. Late in 2011 we reviewed the existing guidance and operations after a couple of close calls in the dome room and less than desirable behavior allowed by parents of small children. Consequently, several board members and I have reviewed the issues related to our liability insurance to better understand the risks and legal position of the DAS and its Public Night teams in regards to its cooperation in the operation of Chamberlin's historic facilities. Everyone on PN teams or regular users of Chamberlin should review these new rules and be willing and able to communicate them to the public they meet. It is a privilege, not a right, for all of us to be able to use and operate this great telescope on a regular basis as few are able to do anywhere in the world! Do not take it for granted that bad things can't happen because they haven't happened, yet. While Chamberlin is just one venue that not all DAS members take advantage of, one misstep and the DAS with all that it offers, such as the EGKDSS, will cease to exist. This isn't fun astronomy as in searching for the 400 faint fuzzies, but I hope it will help us continue to do astronomy and outreach to children and adults at this historic observatory with its great telescope! That future is in your hands. You can find the safety info at:

<http://www.denverastro.org/DASADA.html>.

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DAS SCHEDULE

APRIL

- 6 DAS General Membership meeting at D.U.'s Olin Hall: Speaker: CU Associate Professor Dr. Jason Glenn—Recent Herschel Space Observatory Results (Begins at 7:30 P.M.)
- 7 Passover begins
- 8 Easter Sunday
- 13 E-Board Meeting at Chamberlin (Begins at 7:30 P.M.)
- 20-22 EGK Dark Sky weekend
- 28 Open House at Chamberlin Observatory (Begins at 8:00 P.M.)

Public nights are held at Chamberlin Observatory every Tuesday and Thursday evenings beginning at the following times:

March 15 - April 14 at 8:00 P.M.

April 15 - August 31 at 8:30 P.M.

September 1 - September 30 at 8:00 P.M.

October 1 - March 10 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) or call (303) 871-5172.

MAY

- 4 DAS General Membership meeting at D.U.'s Olin Hall: Speaker: TBD (Begins at 7:30 P.M.)
- 11 E-Board Meeting at Chamberlin (Begins at 7:30 P.M.)
- 18-20 EGK Dark Sky weekend
- 20 Open House at Chamberlin Observatory: Partial Annular Eclipse (Begins at 7:00 P.M.)
- 26 Open House at Chamberlin Observatory (Begins at 8:30 P.M.)

Society Directory

- President:**
Ron Pearson (303) 670-1299
president@denverastro.org
- Vice President:**
Lisa Judd (626) 487-8515
vp@denverastro.org
- Secretary:**
Dennis Cochran (720) 870-0465
- Treasurer:**
Brad Gilman (720) 488-1028

Executive Board Members

- Chuck Carlson Ron Hranac
Jack Eastman Naomi Pequette
Joe Gafford David Shouldice
Chuck Habenicht Dan Wray
President Emeritus, Larry Brooks

Committees

- Van Nattan-Hansen Scholarship Fund:**
Tim Pimental (Chair)
PO Box 100621
Denver, CO. 80250-0621
- EGK Dark Site Committee:**
Darrell Dodge, Interim Chair
Email: darksite@denverastro.org
- IDA Representative:**
Dr. Robert Stencel
Email: coloida@botmail.com

Volunteers or Appointed Representatives

- ALCor:**
Darrell Dodge (303) 932-1309
- Newsletter:**
Editor: Patti Kurtz (720) 217-5707
Email: p_kurtz@comcast.net
The Observer is available in color PDF format from the DAS website.

- Website:**
Darrell Dodge
Email: webmaster@denverastro.org
Chad Warwick, IT Specialist
- Librarian:**
Phil Klos
DAS Information Line: (303) 871-5172
- DAS Correspondence:**
Denver Astronomical Society
Chamberlin Observatory c/o Ron Pearson
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

APRIL SKIES (CONTINUED FROM PAGE 1)

lucky that we get to see them. From back above Corvus go straight up through sprawling Virgo the Maiden, to the “corner” asterism of Coma Berenices, the poetically named Bernice’s Hair. A bunch of galaxies lie under the right end of Coma Berenices’ horizontal westward stretch, with NGC 4565, a bright edge-on spiral, prominent on the east side of this bunch. Now let’s head up to the Big Dipper.

Ursa Major (the constellation that harbors the Big Dipper), lies north of overhead with all of its attendant galaxies. M109 is a galaxy just below-left of γ (gamma) UMa, the star at the lower-left corner of the bowl of the Dipper. Below M109 is NGC 3953—these two objects are part of the UMa cluster of galaxies. Explore north to the faint tail-end of Draco, between the dipper parts of Ursa Major and Minor, and follow the dragon’s body northeast to the two stars ι (iota) and θ (theta) Dra where a big turn is being made to the north. South of ι (iota) Dra, the western of these two stars, is NGC 5907, one of the brighter members of the cluster. West of it a ways, back across the border of Ursa Major in

another galaxy group, is M101, perhaps the most beautiful cluster member. Back at the Big Dipper asterism, if we follow the east side of the dipper bowl downwards to the southern end of one of the bear’s legs we will find the ξ (xi) star of UMa, a binary only 26 light-years away with stars of magnitude 4.4 and 4.9.

In the event you’re having trouble finding it, ξ (xi) UMa is located right above the delta star in the hindquarters of Leo. From ξ (xi) UMa drift straight west thru Leo Minor above the body and head of Leo towards the Castor-Pollux pair. Just beyond the halfway point there is the



THE HORSE HEAD AND FLAME NEBULAE IN ORION

This beautiful image was made on December 26, 2011 at the DAS EGK Dark Site with a Honis-modified Canon 450D camera with a Baader UV/IR cut filter & Astronomik CLS clip filter on an AstroTech AT72ED (2.8-inch) f/6 refractor with AT2 field flattener. Darrell guided with SSAG and PHD through his home-made 50mm guidescope; Processed with Nebulosity & CS5; master darks.

Image © Darrell Dodge

slightly brighter alpha star of Lynx at the southern end of that long, snakelike constellation. Here one can look southwest to find the upper star, Iota, of the upside-down Y shape of Cancer the Crab. Now look in the area west of α (alpha) Lyn and north of ι (iota) Cnc to find NGC 2683, an edge-on galaxy. Peterson suggests sweeping around α (alpha) Lyn for other galaxies.

The Lyrid Meteors will enjoy a new moon dark sky on the 22nd of this month. The radiant in Lyra is not visible but it doesn’t matter. Meteors will be streaking across the entire sky; look anywhere and enjoy the view and think of how

much there is of nature that is not on this earth. Contemplating the sky is rather like sight-seeing waterfalls or rock-climbed cliffs or patterns of lichen. Don’t forget to look down now and then so you don’t trip!

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 Cham-

berlin 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 DAS-General Fund and the Edmund G. Kline Dark Site Fund.

More information about DAS activities and membership benefits is available on the DAS website at www.denverastro.org.



BEGINNERS BITS—LEARNING CONSTELLATIONS

by Lisa Judd

As with many tasks in life, the first step is often the longest and most tedious. To start right in this hobby, perseverance pays. Many like to stare at a starry sky and get lost in the vast expanse, which is neat for about 10 minutes and then gets boring. However, if you can divide the sky into several pictures, you might get a sense of organization that will help you navigate to the exciting stuff. Of course you're free to make up your own pictures, but to communicate with other astronomers it's best to learn the standard set; most from Greek mythology. You'll need a star map (See photos), with lines connecting the dots, and a red flashlight.

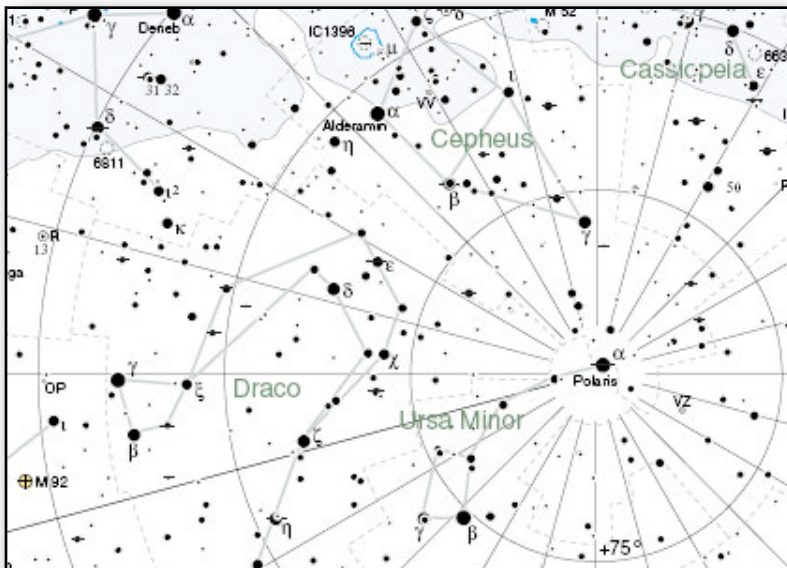
First, realize that constellations are seasonal. As the earth goes around the sun and rotates each night to face away from it, we look toward different directions depending on where the earth is in its orbit. Also, the earth's rotation will show us different views. With practice, you'll get a feel for what rises and sets for different times of the night at different times of the year. You can learn to recognize star patterns as harbingers of seasonal weather as they rise and set (just as the sun does, but four minutes earlier every night).

Next, it's important to recognize north, south, east and west by the stars, and to find the north star. Polaris isn't very bright, but it's important because earth's axis happens to point there—so as Earth rotates, the north star stays put, and all other stars appear to rotate around it. Stars close to Polaris are always up—they're called circumpolar—and stars farther away will rise and set. The size of the circle of stars that never sets is given by latitude, and there's an equally big circle of southern stars that never rise. To see the south celestial pole, you'll have to travel south of the equator.

So, how does one get into the business of learning all those pictures? There are 88 of them, but a few are too far south. If you're intimidated, start with "the big three"—Orion's out in wintertime, Scorpius the scorpion is out in summertime, and the Big Dipper's out all the time. Sometimes it's close to the horizon and hard to see, but there's another bright pattern on the other side of Polaris, the north star, just as far away: the W-shaped Cassiopeia. If you're having trouble finding the north star and the big dipper isn't readily visible, the W of Cassiopeia will be. The Big Dipper isn't really a constellation, but

I'll explain that in another article.

When you've found Orion and/or Scorpius, depending on your time of year, learn some of the constellations around them on all sides. When you're familiar with the neighborhoods around Orion and the Scorpion, you can expand farther until you reach the traditional spring and fall constellations. During this process you'll notice that some constellations are too dim to appreciate, which is okay; just confine yourself to the bright and medium-bright ones for now.



EDMUND MAG 6 STAR ATLAS

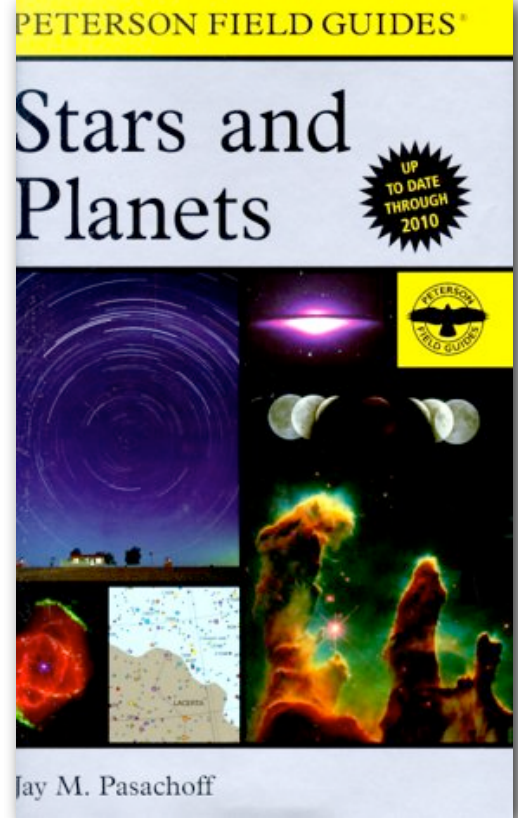
Numerous star charts are available for the amateur astronomer including various planetarium software programs for your personal computer.

PRESIDENT'S CORNER (CONTINUED FROM PAGE 2)

Safety is never more important than in using telescopes to look at the sun. We have two big astronomical events this year that will be all about looking at and showing the public our G-class star. Solar activity is on the rise toward the maximum later this year and into 2013. The sun has been stirring and is already providing flares, sunspots, prominences and northern light alerts that are great viewing as well as generating a lot of heat and light in the media. We can expect this to build to the solar eclipse on May 20th and the transit of Venus on June 6th. This is a great opportunity for us to share our star and our hobby with folks who are always told to "never look

at the sun!" In the past couple of years we have expanded our cooperation in astronomy outreach with the Denver Museum of Nature & Science from one to two events per year. This year they are offering us many more opportunities for outreach and sharing our views during both the eclipse and transit but also other events—even in the dark! I'll be discussing these at upcoming monthly meetings and posting about them, so keep your solar filters clean and well-fit to your telescopes. There are going to be a lot of opportunities to pass tons of photons through them this year!

Keep looking up!



Jay M. Pasachoff

THE PETERSON FIELD GUIDE TO THE STARS AND PLANETS

A popular pocket-friendly guide to the night sky with charts, photos and pages of information for the novice and advanced astronomer in the field.

You may also come to observe how either Orion or Scorpius leave the sky before the other comes up; there's a great story from mythology to explain that, but that's also for another article.

One caution: If you see a bright thing that's not on your star map, it may be a planet moving through to confuse you. Stars twinkle and planets don't, and the word "planet" comes from the Greek word for "wanderer" because they move amongst the background pictures. A planet will usually be in a zodiacal constellation, so if you see something bright in a different part of the sky, wait and see if it's a plane flying towards you. You'd be lucky to witness a supernova, so assume atmospheric things first.

NASA NIGHT SKY NETWORK AWARDS

by Charles Habenicht

At this year's Annual Banquet, 48 members of the Denver Astronomical Society received awards from NASA's Night Sky Network for their public outreach efforts in astronomy. DAS members reached well over 6,000 individuals during their public outreach events in 2011.

NASA Night Sky Network Awards were presented to:

John Anderson
Judy Anderson
Evan Anderson
Eileen Barela
Johnny O. Barela
Dr. Charles Carlson
Dennis Cochran
Ted Cox

Hugh Davidson
Darrell Dodge
David Delassus
John Doran
Doug Dreher
Jack Eastman
William Flowers
Glenn Frank
Joe Gafford
Ivan Geisler
Brad Gilman
Chuck Habenicht
George Hammond
Theron Hampton
Ron Hranac
Stuart Hutchins
Lisa Judd
Richard Loper
Frank Mancini
Dena McClung

Alex Miller
John Moyles
Bill Ormsby
Ron Pearson
Tim Pimentel
Rod Pinkney
Keith Pool
Sarah Rock
Norm Rosling
Carl Schulz
Jerry Self
David Shouldice
Clifford Simpson
Thomas Todd
Dave Tondreau
Chadd Warwick
Burt Watson
Darwin Weber
Greg Wimpey
Dan Wray



UP AND COMING SPECIAL EVENTS

by Ron Pearson

For a number of years DAS members have participated in two outreach events at the Denver Museum of Nature & Science (DMNS)—Space Day in the spring and Colorado Astronomy Day in the fall. This year our friends at the DMNS Space Odyssey have asked the DAS to participate in more of their activities, and are offering us the opportunity to share our tele-

scopes with the public as well as give talks and astronomy education.

As those of you who have participated with us before know, we need to provide them with a list of our volunteers so they can provide security badges and lunch coupons for us. This is a list of all the events we have the chance to share with DMNS this year, and I hope everyone will find some event that they can participate in. I

will pass around sign-up sheets at our monthly meetings and put out more specific requests for speakers or other needs as we develop details for particular events through the spring and summer. We are also looking for new ideas for talks or other activities to offer during Space Day and Astronomy Day. As noted in President's Corner, the west patio of the museum and the Sky Terrace will provide excellent unobstructed views of the solar eclipse and transit of Venus, as well as Mars low in the west on the night of the Mars Science Lander's "Curiosity" landing on

Mars in August. The Space Day and Astronomy Day are all-day events, while the other events are late afternoon into the evening. The DMNS Astronomy Camp-Out is being held at the Jefferson County Mt. Evans Outdoor Laboratory and Observatory that is west of Evergreen, CO. You can participate for the evening, or camp at the site, or possibly stay in the bunk-dorm facilities that the students use. I can get more specific details on the camp-out for those that are interested. This is an event that was done regularly by the museum and DAS volunteers about 10 years ago, and the DMNS is re-newing this popular event. Mark your calendars and let me know what events you would like to participate in. You can also contact me at the president@denverastro.org email address.

The two big Saturday events are:

- ★Space Day on April 28
- ★Astronomy Day on October 20

The afternoon-evening events are:

- ★Partial Solar Eclipse on May 20
- ★Venus Transit on June 5
- ★The Astronomy Camp-Out on June 23rd and 24th
- ★Mars Science Lander's "Curiosity" landing on August 5
- ★Science Lounge on May 17 "Mars and Margaritas" (DMNS Adult Programs department is organizing this, I'm not sure if they want telescopes).

WOW!

Attendants at a Colorado Astronomy Day ogle our sun at numerous scopes provided by the DAS in conjunction with the DMNS. More events are on the horizon for DAS members to share their passion with the public.

Photo copyright Steve Solon



NASA'S SPACE PLACE

THE PLANET IN THE MACHINE

A Space Place Partner Article

by Diane K. Fisher and Tony Phillips

The story goes that a butterfly flapping its wings in Brazil can, over time, cause a tornado in Kansas. The “butterfly effect” is a common term to evoke the complexity of interdependent variables affecting weather around the globe. It alludes to the notion that small changes in initial conditions can cause wildly varying outcomes.

Now imagine millions of butterflies flapping their wings. And flies and crickets and birds. Now you understand why weather is so complex.

All kidding aside, insects are not in control. The real “butterfly effect” is driven by, for example, global winds and ocean currents, polar ice (melting and freezing), clouds and rain, and blowing desert dust. All these things interact with one another in bewilderingly complicated ways.

And then there's the human race. If a butterfly can cause a tornado, what can humans cause

with their boundlessly reckless disturbances of initial conditions?

Understanding how it all fits together is a relatively new field called Earth system science. Earth system scientists work on building and fine-tuning mathematical models (computer programs) that describe the complex interrelationships of Earth's carbon, water, energy, and trace gases as they are exchanged between the terrestrial biosphere and the atmosphere. Ultimately, they hope to understand Earth as an integrated system, and model changes in climate over the next 50-100 years. The better the models, the more accurate and detailed will be the image in the crystal ball.

NASA's Earth System Science program provides real-world data for these models via a swarm of Earth-observing satellites. The satellites, which go by names like Terra and Aqua, keep an eye on Earth's land, biosphere, atmosphere, clouds, ice, and oceans. The data they collect are crucial to the modeling efforts.

Some models aim to predict short-term effects—in other words, weather. They may become part of severe weather warning systems and actually save lives. Other models aim to predict long-term effects—or climate. But, long-term predictions are much more difficult and much less likely to be believed by the general population, since only time can actually prove or disprove their validity. After all, small errors become large errors as the model is left to run into the future. However, as the models are further validated with near- and longer-term data, and as different models converge on a common scenario, they become more and more trustworthy to show us the future while we can still do something about it—we hope.

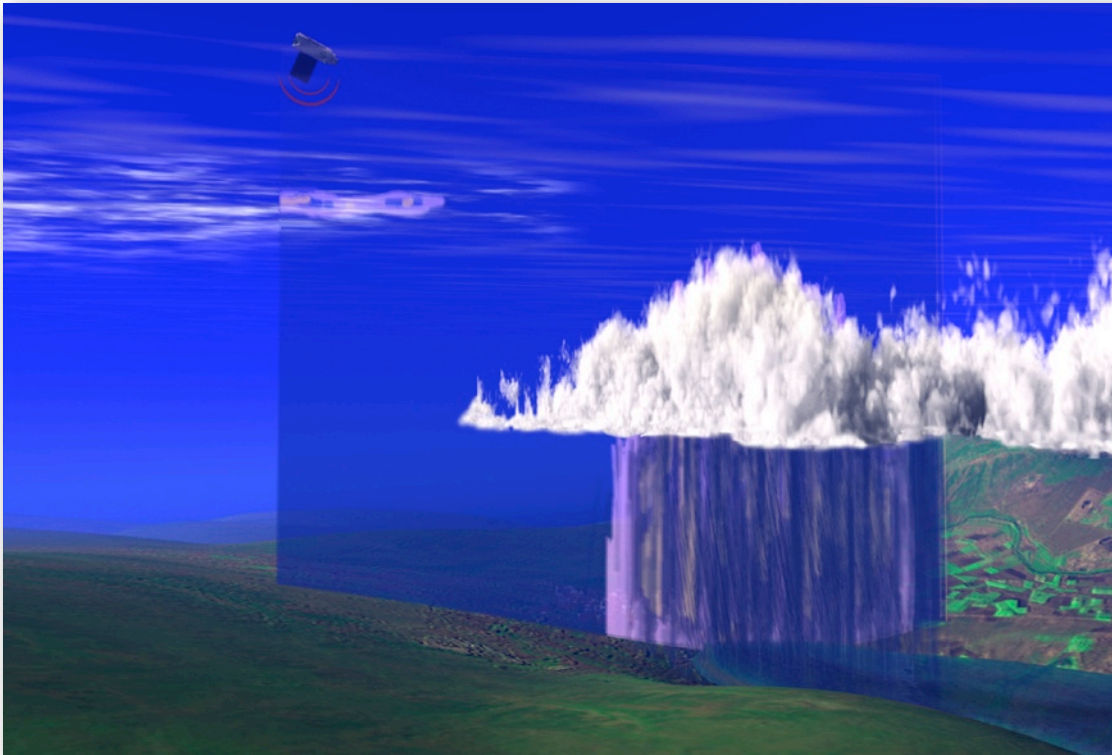
For a listing and more information on each of NASA's (and their partners') Earth data-gathering missions, visit

<http://science.nasa.gov/earth-science/missions/>. Kids can get an easy introduction to Earth

system science and play Earthy word games at

<http://spaceplace.nasa.gov/ecosphere>.

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



CLOUDSAT

CloudSat is one of the Earth-observing satellites collecting data that will help develop and refine atmospheric circulation models and other types of weather and climate models. CloudSat's unique radar system reads the vertical structure of clouds, including liquid water and ice content, and how clouds affect the distribution of the Sun's energy in the atmosphere.

See animation of this data simulation at

www.nasa.gov/mission_pages/calipso/multimedia/cloud_calip_mm.html.

Illustration courtesy: JPL/NASA

Welcome New DAS Members for February through March 2012

Kevin Bedard
Emily Bennett
Jeff Black
Michael Castleberry
Koko Herman
James Kane
Jennifer Kobilan
Thomas Kubly
Denise & Mike Moore
Dirk Pasterkamp
Shashane Pasupuleti
Wes Price
Ashley Ross
Leon Roybal
Eric Thrasher
Douglas Triggs

DAS INTRODUCES: THE JOB JAR

by Lisa Judd

As all of our meeting-goers and dark-sky site users may know, there are a whole lot of small jobs that keep our club rocking along. One of the pleasures of a big club is that these small responsibilities are spread over a variety of volunteers, rather than being concentrated in the officerships to do everything. Here is a sample of our dedicated members that collectively do so much for our club:

-All the members on the dark site committee: chair Darrell Dodge, Ted Cox, David Delassus, Glenn Frank, Joe Gafford, Stuart Hutchins, Ron Pearson, Dan Wray

-Grumpy Chuck for our Night Sky Network coordination

-Hugh Davidson for coordinating our Chamberlin scope operator volunteers

-Chuck Carlson, Ivan Geisler and Dennis Cochran for ticketing at Open House

-Joe Gafford for doing the calendar every year and making our nametags

-Theron Hampton for collecting names at Open House for the quarterly Participation Prize drawing

-A large plethora of people that volunteer as Chamberlin telescope operators, once or twice a month or more; some folks are there every Tuesday or such, some give talks

-Aaron Reid for handling parking passes at meetings and coordinating with DU

-Keith Pool for doing our external outreach coordination outside Chamberlin

-Patti Kurtz as the editor of our newsletter

-Greg Marino for administering our list server

-Tim Pimentel for the Van Nattan-Hansen scholarship fund

-Chadd Warwick and David Shouldice for IT on our laptops at Chamberlin

-Bill Ormsby for running our Telescope Loaner Program

-Darrell Dodge for being our Webmaster, maintaining the annual roster, acting as our ALCOR, sending out Constant Contact notices, and mailing membership renewals

-Anyone else I missed, and I'm sure there are plenty!

As you may expect, though, there's always a few of those little jobs left to do. The Job Jar is meant to identify those little outlying jobs, and to give all our members a chance to volunteer to help out in their own small way, using their own unique talents. After all, there are many ways to help a club you love without jumping straight into a large position like the board or an officer. The Job Jar isn't limited to people, either; should the need arise, we may just put out a call for equipment donations here too. It's already working, in fact – thanks to Ron Hranac as our new Facebook administrator!

If you're new to DAS, you shouldn't feel an immediate pressure to participate; we don't impose of course (especially in your first year), but also won't complain if you have a particular talent and would like to step up and use it. For all DAS' volunteers, the point of matching people to tasks is that participation in your club should be, above all, FUN! This means that if you take on one of our little jobs or propose a new one that you'd

like to do, it shouldn't feel like a chore; it should be compatible with your work hours, home life, family demands, financial situation, duty for other clubs or activities, and enjoyment of your own personal development in

JOB JAR

Outreach Coordinator

**Keith Pool is leaving us for the darker skies of Elizabeth, CO. Thanks so much Keith – we'll miss you and hope to still see you when we can!

The Outreach Coordinator is the contact point for schools and other organizations that request star parties. Although most of DAS outreach is done at Chamberlin, sometimes events can happen at other places around the city.

The Outreach Coordinator is responsible for maintaining a list of club members that can support these individual Star party requests based on where they live.

Optional: This person is welcome to also coordinate with the Denver Museum of Nature & Science for Colorado Astronomy Day, or other events at DMNS.

Calendar Notices Coordinator

This person submits notices for Open Houses to local newspapers, particularly the Denver Post's "Your Hub" feature. The notice person should be familiar with local papers and how to submit timely information about DAS to them. Attendance at the meetings, open houses or events advertized isn't required.

Dome help for Open House

We need 2 people to help with crowd control during Open House at the big telescope and gantry. Helpers should be able to attend every open house (within weather-controlled reason), but can't be out on the lawn with their own scopes, and must learn the safety standards we need to adhere to. Helpers may become scope operator apprentices through Dr. Bob if desired, but it's not required.

Roster stapler (a one-time or yearly task)

We need someone to make 350 copies of the roster, usually available each year at the banquet, and staple them lengthwise. Darrell can provide stapler and pdf.

astronomy. If you're mentioned above and would like to give up your position or trade it for one that's more compatible, it's my hope that the Job Jar will be the place to toss your hat, whether or not you'd like to grab a new one.

So, please take a moment to review the content here, and if you'd like to step up, you can email your grateful veep (preferred) at lm.judd@hotmail.com, or approach an officer. Board meetings are also open to the membership any time you'd like to drop in.

APRIL SPEAKER: JASON GLENN

EDITOR'S NOTE:

Thanks to all who contributed to this issue of the *Observer*!

I will be unable to produce at least the next two issues. Please e-mail me at p_kurtz@comcast.net or Lisa Judd at lm_judd@hotmail.com, if you'd like to try your hand at generating the newsletter.

Get creative if you like and have fun with it! Thank you so much.

—Patti Kurtz

Jason Glenn has a B.S. in physics from the University of New Mexico and a Ph.D. in astronomy from Steward Observatory at the University of Arizona. He was a postdoctoral scholar in physics in the Observational Cosmology group at Caltech before joining the faculty at the University of Colorado where he is an associate professor of astrophysics and fellow of the Center for Astrophysics and Space Astronomy. Prof. Glenn's work is focused in the submillimeter and millimeter part of the electromagnetic spectrum. He develops new technology and instrumentation to make observations to study galaxy formation and star formation processes. He is a Co-Investigator on the Herschel Space Observatory and the CCAT project scientist.



The Denver Astronomical Society
 c/o Chamberlin Observatory
 2930 E. Warren Ave.
 Denver, Colorado 80210