

The Denver OBSERVER

A Publication of the Denver Astronomical Society

May 2012

Joe Gafford took this image of an annular eclipse in 1994 off of Highway 180 in West Texas. He used an Olympus OM-1 film camera with Ektachrome 100 through a 60mm refractor plus a barlow and Thousand Oaks solar filter.

MAY SKIES

BY DENNIS COCHRAN

As you may know, Sunday the 20th of May brings an annular eclipse of the sun, visible in parts of the southwestern US. Here in Denver the spectacle will melt buildings and drive men MAD - Aieeah! Wait. No, it won't be that bad. But it still involves caution and preparation to see safely. The ring of fire of an annular sun is still very powerful. The unfiltered or unprojected sight of the annular sun can severely burn your eye, so be careful. Especially keep track of the kids who, while they're wrestling each other to get to the eyepiece, might knock the filter off your scope; and don't let them look at it with binoculars either! Naked eye observing is likewise out. If you don't have a solar filter perhaps a pinhole projection

... in Denver the spectacle will melt buildings and drive men MAD -- Aieeah!

can be fashioned. Punch a small hole in a piece of cardboard and hold another piece behind it to catch the sun's image. Try it out before eclipse day.

The eclipse path goes thru Nevada starting at 18:19 PDT in Carson City, moves through northern Arizona then Albuquerque makes first contact at 18:28 MDT, annularity starts 19:33; lasting 4.5 minutes. That timing should be close to Denver's time as well.

For the best view you'll want to be able to see the low western sky.

The DAS will support the eclipse watch on the west side of the Museum of Nature and Science where there is a really good view of the western horizon. We will support it with solar telescopes or solar-filtered scopes and possibly with a talk or

two inside the museum. If you prefer the mountains, the Falcon Peak Open Space mountain-top parking lot might work, tho there are trees at its west end. You can reach the lot via Parmalee Gulch from 285 or from Kittredge, then follow a number of small brown signs to the lot. There are a few picnic benches and a shelter on the slope below the west end of the lot, which are higher than the east end, these might afford better views.

An annular eclipse results in a ring-like sun not quite covered by the intervening moon. I saw one in the 70's at Devil's Postpile National Monument in the Mammoth area on the east side of the Sierra Nevada Mountains of California. The ranger had arranged his telescope to project the sun's image on a piece of

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DAS MAY MEETING

This month's featured talk at the Denver Astronomical Society is titled "*The Magnificent Yerkes Observatory of George Ellery Hale*", presented by **John W. Briggs**.



John is Astronomer in Residence at the HUT Observatory in Eagle, Colorado. His's present work includes solar system astrometry, CCD photometry, and educational projects involving schools, science centers, and related organizations. Recently a visiting scholar at Phillips Academy in Andover, Massachusetts, John served for many years as an instrumentation engineer based at the University of Chicago's Yerkes Observatory. Among projects during that

time were pioneering experiments with sodium laser "guide stars" now commonly used in adaptive optics; instrument commissioning for the Sloan Digital Sky Survey; field engineering for the Advanced Technology Solar Telescope Site Survey; and three visits to Antarctica, including a winter-over at South Pole Station for Chicago's Center for Astrophysical Research in Antarctica.

In earlier days John served as a parallax observer at Wesleyan's Van Vleck Observatory. In residence at Mount Wilson, he observed chromospherically active stars for the long-running HK Project, the results of which suggest that stars have solar-like Maunder minima in their magnetic activity cycles. John enjoys the history of astronomy and is a past-president of the Antique Telescope Society. He also served on the editorial staff of Sky & Telescope magazine in the 1980s.

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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

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cardboard so that everyone could stand around the scope and view it safely. As the sun dimmed, bears and bigfoot came out to rampage thru the crowd whilst giant squid thrashed in the nearby Middle Fork of the San Joaquin River! An exciting day to be sure. Okay, no Sasquatch, but we did lose one guy to the giant squid.

The other upcoming 'Big Deal' is the Venus transit on Sunday June 5th. The transit starts around 16:09 (4:09 pm) and ends around 22:49 (10:49 pm.) Of course in between those times the sun will set, so we won't be able to see the latter part of the transit. This will also be supported at DMNS and possibly will involve the big scope at Chamberlin. Some sources may have more precise timing than I do. It may even appear in the paper or on TV news. Since this event takes place against the full

disk of the sun it is extremely dangerous to observe without proper filtering.

This month's meteor shower is the Aquarids. They occur after the Venus transit on the 5th but will be competing with a full moon. This month two good planets will be Mars, south of Leo in the evening, and Saturn, which rises a bit later in Virgo.

Speaking of Virgo, the famous galaxy cluster there will be high on the south side of overhead in the evening, so give it a try. Look in the astro mags or your star chart for details of what's what within the cluster. The big elliptical galaxies M84, M86 & M87 are in the middle providing gravitational attraction for the rest of the cluster to gather 'round. You and your telescope can provide the attraction for your own crowd.

PRESIDENT'S CORNER

BY RON PEARSON

If you are really interested in the sciences of astronomy and call yourself an amateur or hobbyist, this is your time! Over the next few weeks we have two special and rare astronomical events that will attract the attention of the news media. These events may even cause "John Q. Public" to look up, briefly, from their texting and interrupt their daily routines for something going on in the sky. Since you may have a telescope and probably know more about what's going on you have a great opportunity to become an ambassador of science, answer their questions as best you can and give them a look through your telescope.

We will be setting up our solar filtered scopes at both Chamberlin and the Denver Museum of Nature and Science during both events. I hope you'll join us. Despite the fact that science and particularly the discoveries of astronomy, have built the foundation of our 21st century society, few truly realize that our Sun is a common star or that our moon can be seen in the daytime; because it orbit the Earth 24 hrs. a day, not just at night. And, very occasionally, its path in the sky intersects the Sun in daytime. It is still "common sense knowledge", expressed in our language, that the Sun rises and sets every day, as if it orbited the Earth!

While professional astronomers have

long since stopped measuring or even watching our moon pass in front of the Sun and governments of empires no longer set expeditions sailing around the globe to take measurements of a Transit of Venus, we amateurs are still fascinated to watch such events. That makes us ambassadors. We can take our less knowledgeable friends out into our solar system to witness the moon, and a planet as big as our earth, pass between Earth and the Sun! Just by watching an explaining what an Annular

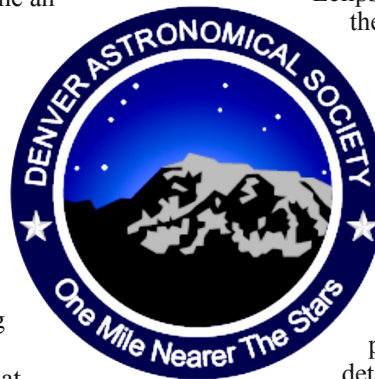
Eclipse is and why it happens, there is the possibility to

demonstrate that orbits of bodies in the solar system are not perfect circles as "common sense" might suggest, but weird ellipses! And there is just looking at the Sun itself.

With proper filters on a telescope we can demonstrate strange spots, prominences and all sort of details that up until Galileo

pointed his first telescope at the heavens, few suspected, but assumed the Sun must be an object of perfection. Today, you don't have to worry about being put under house arrest or your observatory defunded and you exiled for viewing and talking about these things. You do stand on the shoulders of giants like Tycho, Galileo, Kepler, Halley and many others. Enjoy the events and I hope you enjoy sharing these moments in the Sun as a member of DAS!

Clear skies and "Keep Looking Up!"



AL-CORNER: RECENT DAS AL OBSERVING PROGRAM ACTIVITIES

Because most DAS deep sky observers seem to be shy about being acknowledged for their accomplishments, you may not have realized just how many Astronomical League Observing programs have been completed by DAS members lately. Just as important is the fact that many members are now working on programs such as the Herschel 400, Arp Peculiar Galaxies, and the various star clusters and nebulae programs. All of these programs offer a chance to reinvigorate your astronomical observing, increase your skills, and introduce you to sights you've never seen before, like the row of edge-on galaxies that Bernie Poskus and Jon DeJong discovered at the last Dark Sky Weekend.

Here's a list of the awards listed for DAS members since 2010. The number in parentheses is the overall AL sequence number for the award.

Lunar Program:

Paul M. Scheele (712) 2010-12-03
Karen Tobo (748) 2011-11-24

Binocular Messier Program:

Al Frawley (914) 2011-06-16

Messier Program:

Bryan Fry
(honorary - 2479) 2010-01-30
Neil Pearson (2491) 2010-01-30
Bernard A. Poskus
(honorary - 2536) 2011-02-10
Paul M. Scheele
(honorary - 2537) 2011-02-10
David Delassus
(honorary - 2565) 2011-09-30

Caldwell Program:

Brian Fry silver (148) 2010-01-29
David Delassus silver
(185) 2011-08-16
("silver" signifies observing
at least 70 of the 109 Caldwell
Catalog Objects)

Globular Cluster Program:

Glenn Frank (172) 2010-09-29

Herschel 400 Program:

Glenn Frank (461) 2011-07-16
David Delassus (465) 2011-08-17

BY DARRELL DODGE, DAS ALCOR

Solar System Program:
Glenn Frank (69) 2011-07-23

Deep Sky Binocular Program:
Glenn Frank (319) 2011-07-30

In addition, Mike Hotka, whose awards are listed under his Longmont

Astronomical Society membership, has completed 7 observing club programs since 2010, including Galaxy Groups and Clusters, Dark Sky Advocate, Carbon Star, Binocular Double Star, Dark Nebula, Flat Galaxies, and Southern Arp Peculiar Galaxies.

Congratulations to all of these observers. Completing an

AL observing program requires dedication and a measure of creativity. The AL provides helpful and inexpensive guidebooks for most programs which can be purchased from the AL online store. And there are programs for every astronomical interest, every skill and experience level, virtually every telescope, and every type of observing site.

For those interested in participating in the Observing programs, there are complete instructions for each of the dozens of clubs on the Astronomical League Web site at:
www.astroleague.org/observing.html.

If you're interested in exploring the long list of DAS observing program awards, just type "Award Search" under "Observing Programs."



Over the years, eight DAS members have earned the Herschel 400 Club pin, including current EBoard member Chuck Carlson.

DAS Events

May 2012 Events

General Meeting,
DU's Olin Hall - John Briggs
Experiences at Yerkes
7:30 p.m..... 4

E-Board Meeting, Chamberlin Obs.
7:30 p.m..... 11

Dark Sky Weekend
EGK Dark Site / Brooks Obs..... 18-20

Open House
Partial Annular Eclipse at Chamberlin
Obs. (in park only) and DMNS
6:00 to 8:00 p.m..... 20

Open House
Chamberlin Observatory,
8:00 p.m..... 26

June 2012 Events

General Meeting
DU's Olin Hall, 7:30 p.m..... 1

Transit of Venus at Chamberlin Obs.
and DMNS
4:00 to 8:00 p.m..... 5

E-Board Meeting Chamberlin Obs.
7:30 p.m..... 8

Rocky Mountain Star Stare..... 13-17

Dark Sky Weekend..... 16-18

Father's Day..... 17

Grand Canyon Star Party,
South Rim..... 16-23

Open House Chamberlin Obs.
8:00 p.m..... 23

*Public nights are held at Chamberlin
Observatory Tue and Thur evenings
beginning at the following times:*

3/15 - 4/14 at 8:00 p.m.;
4/15 - 8/31 at 8:30 p.m.;
9/1 - 9/30 at 8:00 p.m.;
10/1 - 3/10 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.*

DAS PLANS FOR PARTIAL SOLAR ECLIPSE MAY 20, 2012

BY RON PEARSON, PRESIDENT, DAS

DAS members who don't head to the centerline of the annular eclipse this May will have two places where they can set up their solar filtered telescopes; in Denver the partial solar eclipse will be late on Sunday May 20th, 2012.

DAS members can support safe public viewing of the eclipse from both DU Historic Chamberlin Observatory and the Denver Museum of Nature and Science. Due to the circumstances of the eclipse and trees, only a portion will be viewable from Observatory Park at Chamberlin Observatory. The Chamberlin Observatory 20-inch Clark-Saegmuller telescope will be open but the public will not be able to look through it during the event due to the low position of the Sun during the eclipse. Images of the eclipse will be shown from the DAS Stellacam on the companion Grubb telescope monitors in the dome room and downstairs on the projection projection screen. DAS members with solar filtered telescopes may set up on the south lawn in the park. Viewing from the east side of the park will provide the best views. From the observatory dome, the sun will disappear behind the trees around 7:00 p.m.

Chamberlin Director, Dr. Bob Stencel adds, "assuming the weather cooperates, we could use all the help possible with portable solar viewing equipment out in the park, in order to share the view with

interested public. Given that the eclipse (for us) runs ~6:30 p.m. to sunset (8:00 p.m.), we're announcing that safe solar viewing will be conducted at Observatory Park on Sun May 20th, SIX TO EIGHT



Simulated view of partially eclipsed Sun almost due west, 12 degrees up @ 7pm May 20th, 2012 created with Starry Night Pro 6.4.3 15 x 9 deg. FOV

PM, weather permitting. The Venus transit is a bit more favorable, starting at FOUR PM on Tues June 5th, and ending for us at sunset (mid-transit). For that date, we are announcing FOUR TO EIGHT PM for the public, weather permitting. Again, any/all DAS help will be appreciated by the public/media who stop by, and by yours truly."

DAS members with solar telescopes can also volunteer to set up at the Denver Museum of Nature and Science to share their views with the public from the DMNS west patio and possibly the Sky Terrace. At DMNS there is a very open

horizon to the west and most of the eclipse will be visible as the partially eclipsed sun sets over the Denver skyline. If you want to volunteer for this event you will need to contact me at president@denverastro.org.

Exact times for set up for the event at DMNS are not yet determined as of this writing, but watch our website and yahoo group for announcements. There may be a limit on the number of telescope volunteers for DMNS depending on space for set up allowed.

There are similar plans and circumstances for observing the upcoming Transit of Venus on June 5th, 2012. Watch for coming details.

Source:

<http://eclipse.gsfc.nasa.gov/JSEX/JSEX-NA.html>

Location: Chamberlin Observatory, Denver, CO.

Latitude: 39° 40' 34" N

Longitude: 104° 57' 11" W

Altitude: 1651 m

Time Zone: 06:00 W

Partial Eclipse Begins: 6:22:59 MDT Sun at 19 deg. altitude

Sun goes behind trees from Chamberlin dome approx. 7:00 pm MDT

Max. Eclipse at: 7:29:53 MDT Sun at 7 deg. altitude, Azimuth 291 deg.

Partial Eclipse Ends: 8:09 p.m. MDT
Sunset at 8:12 p.m. MDT

FOR CLOUDY NIGHTS

BY LISA JUDD

Cryptoquip:

Hint: C=H

"R'K MYYHSF TSWRSIS RH BH CYHSMA ZBHNS

ACBH R QYVWK RH MAYHSM UFYL ACS MNZ."

--Thomas Jefferson, on meteorites

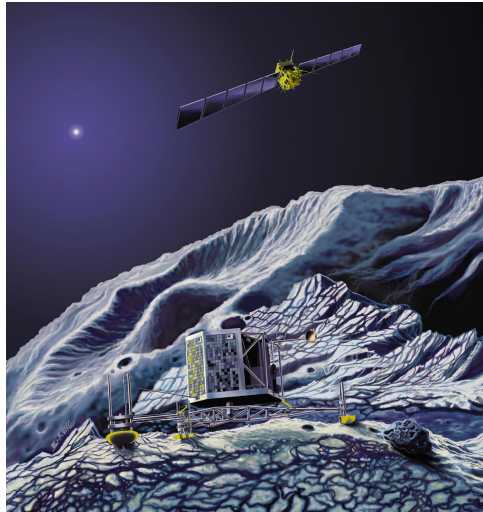
NASA HELPS EUROPE STUDY A COMET

BY DR. TONY PHILLIPS

Europe's Rosetta spacecraft is on its way to intercept comet 67P/Churyumov-Gerasimenko. Comets have been intercepted before, but this mission is different. Rosetta aims to make history by landing a probe on the comet's surface while the mother ship orbits overhead.

"Rosetta is the European equivalent of a NASA flagship mission," explains Claudia Alexander, project scientist for the U.S. Rosetta Project at NASA's Jet Propulsion Laboratory. "It will conduct the most comprehensive study of a comet ever performed."

Rosetta's payload contains 21 instruments (11 on the orbiter, 10 on the lander) designed to study almost every aspect of the comet's chemistry, structure, and dynamics. Three of the sensors were contributed by the U.S.: Alice (an ultraviolet spectrometer), IES (an ion and electron sensor), and MIRO (a microwave sounder).



Rosetta's lander Philae will eject from the spacecraft, touch down on the comet's nucleus, and immediately fire a harpoon into the surface to anchor itself so it won't drift off in the weak gravity.

The main event of the mission will likely be the landing. The 100-kg lander, which looks a bit like a cross between NASA's old Viking Mars landers and a modern microsatellite, will spend two weeks fastened to the comet's icy surface.

The European-built probe will collect samples for analysis by onboard microscopes and take stunning panoramic images from ground level.

"First the lander will study the surface from close range to establish a baseline before the comet becomes active," explains Alexander. "Then the orbiter will investigate the flow of gas and dust around the comet's active, venting nucleus."

Rosetta's sensors will perform the

experiments that reveal how the chemicals present interact with one another and with the solar wind. Alice and MIRO detect uncharged atoms and molecules, while IES detects the ions and electrons as the solar wind buffets the nucleus.

One problem that often vexes astronomers when they try to study comets is visibility. It's hard to see through the dusty veil of gas billowing away from the heated nucleus. The microwaves MIRO detects can penetrate the dust, so MIRO can see and measure its target molecules even when other instruments can't.

MIRO is one of several experiments focused on the comet's structural properties. It will determine the comet's dielectric constant, emissivity, and thermal conductivity to determine whether it is made of a powdery loose material, or is hard as rock.

"We want to find out whether comets have retained material from when the solar system formed," says Alexander. "If the ancient materials are still there, we can get an idea of what conditions were like at the dawn of the solar system."

Rosetta enters orbit in 2014. Stay tuned for updates!

Check out "Comet Quest," the new, free iPhone/iPad game that has you operating the Rosetta spacecraft yourself. Get the link at spaceplace.nasa.gov/comet-quest.

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

PUZZLERS

BY JACK EASTMAN

Perhaps something to entertain our readers (observers). I was thinking of these the other day --perhaps a dangerous thing for me! No high powered math needed, just a bunch of arithmetic --watch that decimal point! Maybe for the bug in the bottle use of logarithms (base 10) might be helpful. Here goes...

First, the paper cutting.

Get a real good sharp pair of scissors and a large sheet of paper. A very large sheet! Let's say the paper is 0.00419 inches thick.

(0.1021mm) Cut said sheet in half, place the halves on top of each other and cut that in half, repeat the process 100 times. How tall is the stack of pieces after that last cut?



Then the bottle of bugs.

The variation of this one we usually hear is the business of a little bug (or maybe a lily pad in your backyard pool) that doubles once a day. The bottle is full after one year. The usual question is when is it half full? Jan. 1, 2011 one bug. Full Jan. 1, 2012. But a bigger (pun intended) question is, assuming our little bug to have a volume of one cubic micrometer (one trillion of the beasts/cubic centimeter) how big a bottle do we need to hold all of 'em? How many bugs after a year and how big does the bottle need to be to hold 'em all?

The quickie answers:

Perhaps a hint for the paper problem would be the Hubble Constant is 73(km/sec)/mpc.

The height of the stack? A cool 13.7 billion light years, just high enough to tickle the event horizon of our observable universe. That last couple of cuts would really be a bear!!

The other one came up truly mind boggling. I had Brad Scheafer and Mark Bottorff referee my answers, we all agree. First, (and I'm amazed how few get this!) When is the bottle half full? Think about it. They double once a day. The day before any given day, there's half as many. Yep, December 31, 2011, one day before a full bottle. Now the mind boggling part. How many bugs? somewhere in the vicinity of 1E110, that's approximately 1 followed by 110 zeroes! How big a bottle? Carrying the calculations to at least 3-digit precision, it comes up in the vicinity 8.24 trillion times the volume of the observable universe!!! Watch your calculator choke on that one --arithmetic overflow!

BEGINNER'S BIT: STAR COLORS

BY LISA JUDD

This subject can easily move into the field of stellar physics, and thus may be enjoyed by armchair astronomers and visual observers alike. A star's color tells us its temperature, with hotter ones being blue and cooler ones being red. But for sake of learning the constellations, there are surprisingly few maps or literary sources that display the colors as well as the brightnesses. If you're getting confused about which stars go with which pictures, it would be helpful if star maps provided this information.

Since they're usually pretty striking, we might as well start with the red ones. Unfortunately, their names are similar – Aldebaran, Antares, Achernar, Arcturus; and not to be confused with double Albireo or variable Algol. Achernar, only visible from the extreme southern United States, is actually white but it's so low on the horizon that it often looks red. Aldebaran is an orange foreground star imposed against the backdrop of the Hyades, and Arcturus at the base of Bootes is often confused as Mars. For some reason Arcturus doesn't twinkle much (planets don't), but it's not in the zodiac either.

Antares, the flaming heart of the scorpion, is a double system comprised of

a red supergiant and a green giant. The supergiant's glare washes out the green one, but sometimes you may see a greenish flare to one side. The name means "Rival of Mars", and since it's near the ecliptic, Mars can come very close to it. Legend has it that when they came close they would fight, and the victor gets to continue moving along the ecliptic (Mars always wins). Zeus also placed it so it would never fight with Orion.

Antares is also opposite in the sky from winter's Betelgeuse, which is the bright shoulder of Orion. Both of these are enormous stars – if you put them where the sun is they would engulf all the planets out to Saturn. Other red stars include Kochab, along the bottom of the bowl of the little dipper; Mirach on the way to the Andromeda Galaxy, and to a lesser extent Dubhe, at the lip of the big dipper. Warming up, we come to the yellow stars, both of which are in winter – Capella is "the Goat Star", supposedly the goat that nursed Zeus, and Pollux is the dimmer of the two heads of the twins.

Most of the bright stars in the sky are white. Castor, the other of the two heads of the twins, is actually a 6-star system, but we're lucky to see just two in scopes.

Others include Polaris the north star, Regulus the heart of Leo and Denebola the tail, Spica (the only bright star in Virgo), summer triangle stars Vega and Altair, Mirfak in Perseus, Orion's belt stars (alnitak, Alnitam and Mintaka), lonely Procyon (between the twins and Sirius), and even lonelier Fomalhaut in fall's southern sky. The rest of the big dipper's stars and those in Cassiopeia are also all white.

The hottest stars are blue. In the summer triangle, Deneb has an incredible light output; it's only slightly dimmer than Vega, but is 1500 light years away as opposed to Vega's 26. Rigel is the other bright star in Orion, on the knee. The bluest one, Sirius – only 8 light years away – is the brightest star in the sky. If you live in the southern United States, you might glimpse Canopus in the far south whenever Sirius is high overhead; this is the second brightest star and has a bluish tinge. Alpha and Beta Centauri, and the stars of the Southern Cross, are also bright but they're too far south to discuss here.

As with anything I contribute, addenda, questions, comments and corrections are welcome. My email address is lm_judd@hotmail.com.

NASA WANTS AMATEURS TO TARGET ASTEROIDS

NASA RELEASE 12-121

WASHINGTON -- A new NASA outreach project will enlist the help of amateur astronomers to discover near-Earth objects (NEOs) and study their characteristics. NEOs are asteroids with orbits that occasionally bring them close to the Earth.

Starting today, a new citizen science project called "Target Asteroids!" will support NASA's Origins Spectral Interpretation Resource Identification Security - Regolith Explorer (OSIRIS-REx) mission objectives to improve basic scientific understanding of NEOs. OSIRIS-Rex is scheduled for launch in 2016 and will study material from an asteroid.

Amateur astronomers will help better characterize the population of NEOs, including their position, motion, rotation and changes in the intensity of light they emit. Professional astronomers will use this information to refine theoretical models of asteroids, improving their understanding about asteroids similar to the one OSIRIS-Rex will encounter in 2019, designated 1999 RQ36.

OSIRIS-Rex will map the asteroid's

global properties, measure non-gravitational forces and provide observations that can be compared with data obtained by telescope observations from Earth. In 2023, OSIRIS-REx will return back to Earth at least 2.11 ounces (60 grams) of surface material from the asteroid.

Target Asteroids! data will be useful for comparisons with actual mission data. The project team plans to expand participants in 2014 to students and teachers.

"Although few amateur astronomers have the capability to observe 1999 RQ36 itself, they do have the capability to observe other targets," said Jason Dworkin, OSIRIS-REx project scientist at NASA's Goddard Space Flight Center in Greenbelt, Md.

Previous observations indicate 1999 RQ36 is made of primitive materials. OSIRIS-REx will supply a wealth of information about the asteroid's composition and structure. Data also will provide new insights into the nature of the early solar system and its evolution, orbits of NEOs and their impact risks, and the building blocks that led to life on Earth.

Amateur astronomers long have provided NEO tracking observations in support of NASA's NEO Observation Program. A better understanding of NEOs is a critically important precursor in the selection and targeting of future asteroid missions.

NASA's Goddard Space Flight Center in Greenbelt, Md., will provide overall mission management, systems engineering and safety and mission assurance for OSIRIS-REx. Dante Lauretta is the mission's principal investigator at the University of Arizona. Lockheed Martin Space Systems in Denver will build the spacecraft. OSIRIS-REx is the third mission in NASA's New Frontiers Program. NASA's Marshall Space Flight Center in Huntsville, Ala., manages New Frontiers for the agency's Science Mission Directorate in Washington.

For more information about NASA, visit: <http://www.nasa.gov>

For more information on Target Asteroids! and OSIRIS-REx, visit: <http://osiris-rex.lpl.arizona.edu>

DAS ACTIVITIES AND POSITIONS

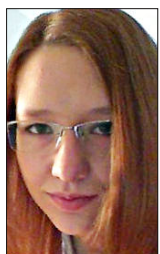
BY LISA JUDD

I'm happy to report that we have our first reponses for our new job jar! In fact, the biggest positions got takers right away. Here they are:



Ron Hranac is our new Facebook administrator. You may recognize Ron as the guy that does meteorite displays and education at Open Houses and DMNS events, and as one of our board members. For those that didn't know we have a Facebook page, we should

expect that it'll be used by more of our new volunteers and increase participation by young members.



One of our newest members, Amanda Perry, is not only replacing Keith as our newest Outreach Coordinator, but also found us looking to resurrect the Student Coordinator job. Amanda is a graduate student in Physics and has a

background in marketing. She also found us a great discount on printing the rosters, with stapling services included.



Norm Rosling will be helping us in the dome during Open house. He served DAS well as the past Vice President, and is also a certified Chamberlin scope operator. We expect to have one other new person soon who may like to help with crowd control.



For the next couple of months Luis Uribe, a first year member, will be laying-out and editing our newsletter. Luis has just returned to amateur astronomy after a long absence with the purchase of a Orion XT8 and assorted peripherals. He is

currently the Director of Production for the Denver Business Journal and is very active in junior league soccer. Luis has Masters in Operations and Accounting/Finance from Regis University and interests in probabilistic logic, navigation, astrometry Esperanto and chess.

Many thanks to the following people, who have stepped up to volunteer for our club. Your help is greatly appreciated, and we'd love to see your work! We still need someone to post our presence in the

Denver Post's "Your Hub" feature, and of course we're perpetually looking for new Alvan Clark operator trainees. So, here's the next round:

JOB JAR

Calendar Notices Coordinator

This person submits notices for Open Houses to local papers and 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 isn't required.

Forum finder for "The City Dark" documentary

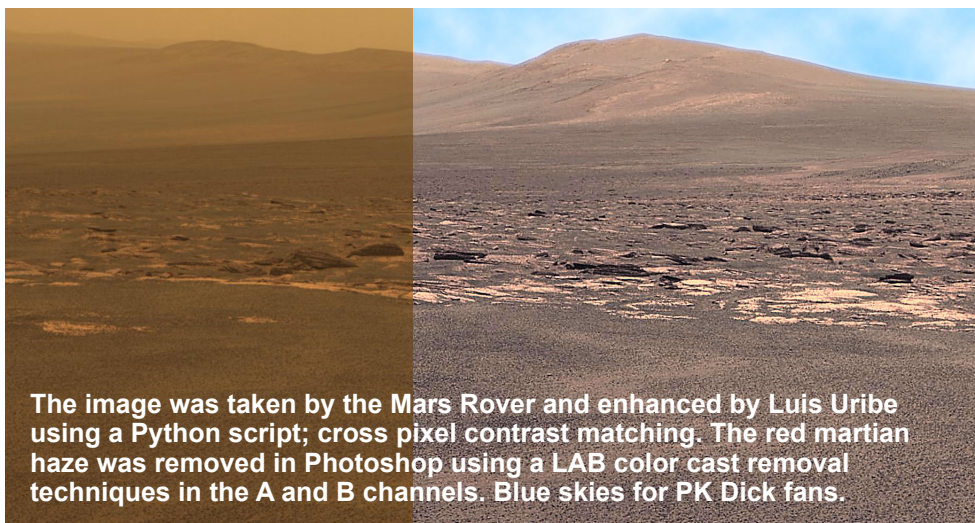
"The City Dark" is a new film offered on loan to organizations that submit venues to publicize and show it. Littleton may be dropping their lighting restrictions, we would like to show the DVD at Darrell's church where we had our banquet, and would also like to find other places to show the film around the city. If you're a venue scrounge, please consider this effort.

Roster Assistant Administrator

Darrell does a great job of keeping track of our member list, used for Constant Contact notices to inform us of meetings and newsletter, and for the Astronomical League to send out the Reflector. It's a time-consuming job, so we need someone to help with proofreading, updating email addresses, and sending member renewal notices. Requires familiarity with Microsoft Access.

Telescope Operator Trainees

Chamberlin observatory is open every Tuesday and Thursday night for the public. As operators come and go, we are always in need of a fresh crop of people to learn to run the scope. Contact any DAS officer or Dr. Bob to start your certification process – it's always fun and a wonderful privilege to have.



The image was taken by the Mars Rover and enhanced by Luis Uribe using a Python script; cross pixel contrast matching. The red martian haze was removed in Photoshop using a LAB color cast removal techniques in the A and B channels. Blue skies for PK Dick fans.



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