General Meeting News

Lynne Olson

TAAS GENERAL MEETING
Saturday, May 17, 7:00 P.M.

NEW VENUE!
New Mexico Museum of Natural History and Science Planetarium

Measuring Big G
The Newtonian Constant of Gravitation from 1775 to the Present

Dr. Harold V. Parks
Sandia National Laboratories

New venue! This meeting of TAAS members and visitors will be held at the New Mexico Museum of Natural History and Science Planetarium, which can be accessed by the south door facing Mountain Road (not the main entrance). Parking is in the regular lot or along Mountain Road.

Our speaker for this occasion will be Dr. Harold V. Parks who will enlighten the audience on "Measuring Big G: the Newtonian Constant of Gravitation from 1775 to the Present."

The Newtonian constant of gravitation, Lynne Olson

FIRST OF THE SEASON!

Oak Flat
Public Star Party
Saturday, May 24—Dusk Until Late

by Lynne Olson

THE FIRST Oak Flat Public Star Party of the season will be held on Saturday, May 24, at the Juniper Picnic Grounds section of Oak Flat, nine miles south of Tijeras on SR 337 (detailed map and directions here).

This highly anticipated event will begin with a solar observing session, followed by hours of night observing with an array of TAAS telescopes of all types and sizes and a green-laser guided constellation tour in the meadow with great open skies. Our members love to talk about their scopes and astronomy, so ask lots of questions!

Plan to arrive long before dusk (sunset about 8:15 p.m.) to park and get oriented. You might also like to bring a picnic and enjoy that before the viewing begins. Bring a red headlamp or flashlight (red cellophane or red balloon with rubber band works quite well) for the observing field to preserve night vision—and

continued on page 2...
THE NEXT SESSION of the TAAS Fabulous 50 will be held Saturday, May 24, 2014, at the TAAS Oak Flat Public Star Party. The session will begin at sunset. No telescope is required to participate. Experienced TAAS members will be present to assist with telescopes.

The TAAS Fabulous 50 is a list of 50 night-sky objects that a beginner to astronomy can locate with the naked eye. The objects showcase the night sky for an entire year. These are objects that the beginning observer will remember from one observing session to the next. All the details with a map to Oak Flat are on the TAAS Web site www.TAAS.org.

For more information contact Dee at taasdee@comcast.net.

DARK SKY NOTE: Dark Sky Week Observed in April

Created in 2003 by high-school student Jennifer Barlow, International Dark Sky Week has grown to become a worldwide event and a key component of Global Astronomy Month. Each year it is held in April around Earth Day and Astronomy Day. This year celebrations ran from Sunday, April 20 through Friday, April 26.
The GNTO Committee meeting on April 3 was attended by Larry Cash, Ray Collins, Pete Eschman, Jim Fordice, Vance Ley, Mike Molitor, and Dale Murray. Ray reported that the Café cabinets were at the cut-out stage, drywall taping and sanding continued to progress, and that the scope of work for the hired plumber will include all the propane runs and connections. Pete Eschman reported that one old PC can’t be upgraded, and its use is TBD. The length of the latching bars on the POD door have been trimmed a little to facilitate positive closure and latching. The Pellegrino scope’s mount is not serviceable and needs attention; Dale Murray agreed to look into refurbishment. The site Wi-Fi is enabled 24/7 and the login password is displayed in the lobby of the main dome. Vance Ley reported that the RA drive on the Hyperstar imaging scope was erratic at times, and he suspects that the worm and gear may need cleaning to resolve the issue.

The committee agreed on May 17 for AED training. The committee continued the discussion of how to engage more members and how to improve site access and make it usable to more members. To promote beginners, young and old, we agreed to have a StarBlast-type scope on site.

Regarding keyless access to the site and buildings, we agreed to continue the present practice of combination locks on the gate and outhouse only and develop a checklist for “access without keys”; Jim Fordice will draft. The development of a “mid-level” access will depend on membership desires and need, perhaps based on a membership survey.

In spite of threatening clouds, wind, and a few brief raindrops, nearly a dozen TAAS members attended the April 5 Training Day at GNTO. Instructed by Vance Ley, Skip Dearing and John Miller (?) worked on using the 14-inch Hyperstar imaging scope. In parallel, Dan Rossbach, Hooman Hedayati, Steve Kaufman, David Sanchez, Joan David, Darshan Khalsa, Vi Sanchez, Mike Fuge, and John Schuchardt, gathered to learn how to use the 16-inch Isengard telescope and dome.

The late afternoon storm clouds and wind quickly dissipated as the sun set, and we had good sky conditions for the training. Jupiter, the Moon, and M42 were early evening targets. Practice slewing of the Isengard was halted early because of a glitch in the motor servo control. Subsequent investigation did not identify a root cause, but the symptom appears to be intermittent and there are no restrictions on using the telescope at this time. Ray Collins was working on the Café when we arrived, and Dale Murray stopped by to pick up the Pellegrino scope to refurbish the mount and hang around until closing.

April 26th observing was once again foiled by weather. Jim Fordice and Dan Rossbach reported that the 15–20 mph wind never completely let up, but did trail off a bit nearer 11:00 p.m. The south was completely obscured. Overhead and east to west was a bit fuzzy. North was acceptable, but M81 and M82 were both barely visible with a 31-mm Nagler in an 18-inch Obsession. Jupiter was clear with moons in a line, Pollux and Castor above them. Ursa Major was clearest with Arcturus a bit fuzzy at high magnification. Mars was visible most of the night. It wasn’t a great night for observing while fighting the wind. We left about 11:30 p.m. and grabbed a milkshake at the diner on the way out.

Yesterday, Karen Keese phoned and informed me that the GNTO site had been broken into and some damage has been sustained. As I write this column in Chicago (Friday, May 2) committee members Ray Collins and Pete Eschman are traveling to the site to document the damage. The first report from Karen indicated that the gate lock was shot off and that one window in the Cosmic Café was broken and one in the ROOst. We are continually grateful to Karen and Carl for the watchful eye they keep on this wonderful TAAS asset.

The next GNTO New Moon observing events are: May 31 and June 28. Remember, these dates are for Saturdays. With the new policy of floating the event between Friday or Saturday, whichever has the better weather forecast, the actual event could be held on the Friday one day before these dates. We will post which day the event will be held on Thursday.

Sky conditions are changeable, and it is difficult to obtain accurate sky predictions 30 to 60 hours in advance. We have been making the decision to hold or cancel an event on Thursday, in order to give members 24 hours notice. If this much advance notice is not required, we can be more precise about holding or canceling an event. Let us know if you have an opinion on how much advance notice you need.

Longer range, we have plans for a GNTO picnic and Fabulous 50 viewing on August 23.

continued on page 6 . . .
I MADE A CONTACT SHEET of all the images I took of the total lunar eclipse on April 14–15. I included the time of each image in yellow. Location backyard patio 3 miles north of Oak Flat.

Equipment: Canon EOS 60D, Canon 200-mm f/2.8L lens, Kenko 2X multiplier lens f/5.6, iOptron iEQ45 mount. Exposure: 1/2000 second ISO 100 Full Moon; 1 sec ISO 3200 Total Eclipse. Some of the file names include these settings. The Canon lens was piggybacked on my AT102ED.


—John Laning
## May 2014

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<td>31 CHACO CANYON REPLACED BY DEDICATION EVENT 4/24-26 GNTO NM Observing</td>
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### TAAS General Meeting

**Saturday, May 17, 2014, 7:00 P.M.**

New Mexico Museum of Natural History and Science Planetarium

**Measuring Big G**

The Newtonian Constant of Gravitation from 1775 to the Present

**Dr. Harold V. Parks**

Sandia National Laboratories

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*Attend the ATM meeting and receive assistance.*

First and third Wednesday of the month.

Manzano Mesa Multi-Gen Center

501 Elizabeth St SE, Albuquerque, NM

map is available at [www.TAAS.org](http://www.TAAS.org)
### June 2014

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#### Notes

The next GNTO Committee meeting is Thursday, June 5, at The County Line, 9600 Tramway NE, at 7:00 p.m.

As always, check TAAS_Talk and the TAAS website for last-minute changes and updates.

GNTO is open to all TAAS members and their guests. TAAS members are encouraged to become involved in using and running your observatory. Contact me or speak with one of the Committee members.

GNTO Director e-mail: gnto@TAAS.org. Or,
The Loan Ranger Writes Again
by Barry Spletzer

GOOD NEWS, photon phans, the Loan Ranger is now more “loanly” than ever. Our population of nice short-tube refractors in the already extensive loaner program has just doubled, thanks to a donation from Sylvia Davis. She donated an Astro-Tech AT80. It’s an 80-mm f/6 refractor complete with custom padded case, 2-inch star diagonal, Stellarvue M1 Deluxe alt-az mount, Manfrotto 3021BPRO tripod, and a cute little finder unlike any I’ve seen. In short, it’s a little gem of a scope.

The scope, packed for travel, weighs in at only 10 pounds as does the mount/tripod. With the right eyepiece, you can get a 6° field of view putting 70 times as much sky in your telescope as the moon covers. As soon as I score a couple of eyepieces from some generous TAAS donors this scope will be available for your wide-angle, photon-catching pleasure.

In other Loan Ranger news, there’s an opening for Tonto. I’m looking for some help in running the loaner program. I’m even happy to be Tonto and let you be the Loan Ranger (mask not included). I intend to continue maintaining, building, and rebuilding the scopes and accessories and managing donations but would like someone to take over handling the equipment loans. This is a great way to meet new members and get more familiar with different kinds of scopes and equipment. Let me know if you’d like to help.

The Need for a New Planetarium for TAAS
by Tom Graham

FOR THE LAST few months you have heard me say how our planetarium has more or less met its useful life and has pretty much worn out. Our Chief Scientist has it in his hands more than a race car has pit stops at the Indy 500. Well, that is an exaggeration, but he has worked on it and fixed it time and again and we have made do in part due to his skills and the Chief Astronomer using all his knowledge and winging it with what is working at any given time. It has served us well but is not truly functional for learning or sharing the skies. It may be compared to watching a black-and-white TV instead of a Blu-ray disc, or operating with an early 1980s computer.

The membership at TAAS is, as they would say about older teachers, fairly “seasoned” and we need new vibrant members to carry on the workload and continue to make TAAS the premier organization it has become. As we present to over 10,000 people a year, our Education and Outreach programs need to be represented with first-rate equipment. I believe this may be a draw to new members. We have more patches and duct tape on our planetarium than a North Carolina quilt. Having a new planetarium that has HD quality video and audio explaining the heavens above would be used not only for educational outreach, but also for members at general meetings. Imagine, when interesting things are happening above, we can show you exactly where to look in the sky in real time and what the whole sky will look like.

They are expensive. We would need about $30,000.00 for a first-rate planetarium. TAAS currently has over $47,000.00 so it leaves a pretty good chunk of money in our accounts. The old planetarium would likely be traded in to lower our cost. GNTO has a guaranteed amount of money automatically diverted to it from our dues each year and so the planetarium would take no money away from anything earmarked for that. There is potential to request donations from attendees locally and perhaps throughout the state to help offset the cost.

I have asked the president and the board of directors for a special board meeting before the end of June so a formal presentation can be made, and I invite as many members as possible to attend so you can be informed and voice your opinion. We all have wants and needs. We want a lot of stuff and this money could be spent on a lot of things. We Need a new planetarium. There will be many opinions on this I am sure; please look for more information on the special meeting and let me, the president, or any board member know what you think. Please do so in writing so we can keep accurate records of who says what.

I look forward to clear skies and hearing how you feel and hopefully getting your support for a new planetarium for our society.
Chaco Canyon Designated Dark Sky Park

by Bruce Meyer

New Mexico’s magnificent, isolated Chaco Canyon – officially, the Chaco Culture National Historical Park – was formally designated an International Dark Sky Park by the International Dark-Sky Association (IDA) at a ceremony on Thursday, April 24.

This means that more than 99% of the park will be permanently preserved as a “natural darkness zone,” with artificial lighting banned – and of course its frequently crystal-clear night skies make it a superior place for observing the universe, with or without telescopes.

TAAS has a longstanding cooperative relationship with Chaco, co-sponsors a twice-yearly public star party at the park, and was instrumental in persuading the IDA to name it a permanent dark-sky site – just one of four federal parks so designated.

A TAAS group led by David Frizzell and Dee Friesen attended the ceremony, and Dee was the opening speaker.

“It was our privilege to nominate Chaco for the Dark Sky Park designation,” he told an audience of about 50, including park rangers, the TAAS contingent, state and IDA representatives and casual park visitors.

“Under the leadership of Chaco Park Ranger and TAAS member G.B. Cornucopia, we were partners in the creation of the Chaco Observatory. A significant contribution was made by TAAS member John Sefick, who donated several telescopes for the observatory.

“In the future we will continue to partner with Chaco in presenting the night sky to the New Mexico community.”

Ranger Cornucopia was honored for his work by being called forward to receive a wall plaque sanctioning Chaco’s dark-sky status from an IDA representative.

In addition, there was daytime solar observing (when, on occasion, the clouds parted) as well as lectures in the visitors center auditorium by David (“Astronomy and the Solar System”) and Dee (“Astronomy and the Deep Sky”).

The day was mostly overcast, but (as promised by park rangers) by late afternoon the skies cleared and a successful star party began at 9 p.m. Few of those who took part got much sleep, but the observing was good.

Star parties continued for the following night, though with less favorable conditions – though Jim Kaminski noted that by the pre-dawn hours Saturday, things had improved:

“When I made my 4 a.m. ‘stroll’ I noticed the wind was calm and the Milky Way displayed an extensive 3-D effect that I remembered from days past. I almost felt like getting people up to observe, but the sleeping bag called to me instead.”

So it goes for skygazers. Clouds moved in to stay on Saturday, and the TAAS contingent headed home.
April Education Outreach

by Tom Graham, Education Outreach Coordinator

WE HAD TWO star parties this month and both were a success. It is like seeing the Grand Canyon for the first time in person—words cannot describe what it is like and while photos are great, they do not invoke the same awe as being there. As I was traveling when we had the Jimmy Carter party I will elaborate a bit about the Washington Middle School event held April 29.

We were serenaded by the school’s orchestra and had a mostly clear but slightly chilly night with a good crowd and excited kids wanting to learn about the universe. Jim Fordice explained a star’s life to a small group and Trish Logan, ever the believer in touch and feel with a telescope, worked a good crowd and explained the inner workings of a telescope while viewing Jupiter. John Schuchardt had a large crowd around his scope looking at Mars and Jupiter and talking to the crowd.

Jim Kaminski was able to show the teacher organizing the star party her first view of the Orion Nebula and she was wowed beyond belief. John Laning had M37 and everything else in view and he is the one we ask when we get stumped with a question. Little Paul, a first grader, was looking up and alerted the crowd that a satellite was passing overhead. I think we have a future member! Thank you all for a great night.

Great Star Party at Jimmy Carter Middle

by Trish Logan, Education Outreach Volunteer

WITH A FINE combination of TAAS volunteers, Jimmy Carter Middle School staff, and perfect weather, a wonderful time was had by students and their families on April 8. Bob Havlen and Trish Logan manned the planetarium for four shows, Bob Hufnagel did his Astronomically Large presentation, and Tom Grzybowski demonstrated All About Comets.

Roger and Linda Kennedy arrived early to show off our favorite star, the Sun, and stayed with a scope. Dee Friesen, John Laning, Jim Kaminski, Steve Riegel, Asis Carlos, and Ira Strong wowed everybody outside with the night sky. Sherry Mitchell, the school coordinator, sent me an e-mail expressing appreciation for our hard work and dedication to the kids.

Tom Grzybowski became ill towards the end of the evening, but is fine now, thank goodness. I hope we didn't work him too hard, because he is very popular at the star parties, and we want him back!
April 4—A total of 173 students and staff from Highland High School enjoyed working with TAAS members Anthony Martinez and Roger and Linda Kennedy during their Astro/Geo Day. The host teacher had the students draw chalk impressions of their experience on the quad sidewalk while she set up her new solar filtered scope.

April 8—At the TAAS Jimmy Carter Middle School star party, Linda, Steve Riegel, Ira Strong, and I set up in front. Ais Carlos, Dee Friesen, and Jim Kaminski (at least) had scopes out back. Some 263 visitors looked through our solar scopes. Steve and I set up scopes for observing the Moon and other sights while the rest of the crew was set up behind the school. Trish said 165 signed up inside, but we set up an hour earlier, and saw neighborhood folks as well as those at the athletic events. Great skies and a good, interested crowd.

April 9—Roger and Linda Kennedy visited the Isleta Pueblo Bureau of Indian Education Elementary School on Wednesday, April 9. Some 85 students and staff learned about the Sun, the size of the solar system, and how to observe the Sun safely.

April 11—New TAAS member Irais Olvera joined Roger and Linda Kennedy at the National Hispanic Cultural Center for their first STEM conference. Skies were very cloudy most of the afternoon, but 63 visitors did find the scopes and posters of interest.

April 17—Roger, Linda, and Timmy welcomed 383 visitors to learn about the Sun at the Albuquerque Botanic Garden. The sky was clear blue and the scenery was outstanding. All are invited to join us for weekly outreach events on Mondays noon to 4:00 p.m. in June and July.

April 18—TAAS members Anthony Martinez, Irais Olvera, and Linda and Roger Kennedy shared sunrise with 207 visitors at the Rock 94 benefit for the NMMNH&S Planetarium on Friday, April 18.

April Totals: 2,554 visitors at 13 events.

2014 Totals: 11,321 visitors at 65 events.
Jupiter and the four Galilean moons, something a bit different—for me at least—captured in my Albuquerque backyard on 3-9-14. The optical tube was a C11 Edge with a 2X Barlow, coupled with an SBIG ST4000XCM camera. 25 x 0.25-sec. subframes were created. These were combined in Registax 6. The resulting image was composited with an image made from 9 x 1-sec., which revealed the moons. The resulting image was further processed in Photoshop CS2.
—Vance Ley
A Galaxy Trio in Leo: M65, M66, and NGC 3628 (The “Hamburger Galaxy”)

Captured on 3-30-2014 (Messier Marathon night) at GNTO using the C14 HyperStar scope in the imaging dome. The camera was my SBIG ST4000XCM. 7 x 5-min. subframes were used to create this image—a total of 35 minutes of integration time. A similar image, created with my AT65 OTA required four hours and has less detail and much more noise. This image was made prior to the recollimation of the C14 during the Training Session held on April 5 and, consequently, has some star elongation. As we continue to work with the system, results will continue to improve.

Astro-Images From GNTO by Vance Ley

The “Whirlpool Galaxy,” M51.

24 x 10-min. subs taken with an SBIG 4000XCM camera mounted on a Celestron 11” HD OTA with a focal reducer operating at 1960-mm focal length and f/7. The camera’s 15.2-mm square chip yields a crop factor of 2.01, so that the effective focal length, compared with a 35-mm camera, is 3940 mm. The mount was a Losmandy G11. Processing was done in DSS and Photoshop CS2. The image was cropped for aesthetics. This image was captured at GNTO on 3-24-14.
Welcome to New and Returning TAAS Members

Brian Anderson
David Cardenas
Tim Crawford
Michael Juge
James Ledbetter
Paul McSherr

Donations to TAAS

GENERAL
Timothy Martinez
Rita Veix

EDUCATION
Chuck Wiggins

GNTO
Chuck Wiggins

DARK SKY
Bruce Meyer
David Penasa
Angie Richman

The Albuquerque Astronomical Society is a 501(c)(3) organization. Donations are deductible as charitable contributions on the donor’s federal income tax return.

Monthly Membership Report
March 2014

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Explanation of Dues and Membership Renewal Date

New memberships will be posted as beginning the first day of the month regardless of what day during that month the check is received. Notice of renewal will be sent out the month before the due date. You will have until the end of the month after your renewal date to send your membership check.

If you fail to pay and renew at that time, your membership will lapse. When you pay on a lapsed membership you will be reinstated in the month that the membership was originally due. (If dues were due in March and you did not renew until May or June or July, etc., the date of your renewal will be in March. If your dues are due in April and you pay in March, your membership will still be renewed in April.)

In a nutshell, if you pay late or early your membership date stays the same and your next year’s dues will be due on that date next year.

—Dan Clark

Location, Location, Location

Chaco Canyon
6185’ elevation
Latitude 60° 50’N
Longitude 107° 54’60’

Oak Flat
7680’ elevation
Latitude 34° 59’48”N
Longitude 106° 19’17”W

UNM Campus Observatory
5180’ elevation
Latitude 35° 5’29”N
Longitude 106° 37’17”W

For security reasons, GNTO location is available by request only, so please contact Mike Molitor, GNTO Director, for GNTO information.

Donations to TAAS

The Albuquerque Astronomical Society is a 501(c)(3) organization. Donations are deductible as charitable contributions on the donor’s federal income tax return.

Editor’s Note

The deadline for the next issue of The Sidereal Times is Friday, May 30. The newsletter editor’s e-mail address is TAASeditor@gmail.com.

Text: E-mail text as an attachment, preferably in Microsoft Word or compatible format.

Photos: Caption and credit needed. Attach photos or graphics in separate graphics files. Photos or graphics in Word files are no longer acceptable.

Membership Services

for:
• Membership Inquiries
• Events Information
• Volunteer Opportunities

Contact Bob Anderson at membership@TAAS.org

for:
• Membership Dues
• Magazine Subscriptions
• Address/e-mail changes

Contact Dan Clark at treasurer@TAAS.org

P.O. Box 50581
Albuquerque, NM 87181
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<td>David Frizzell</td>
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<td><a href="mailto:adestelle2000@yahoo.com">adestelle2000@yahoo.com</a></td>
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<tr>
<td>Director / Observatory Director</td>
<td>Mike Molitor</td>
<td><a href="mailto:gnto@TAAS.org">gnto@TAAS.org</a></td>
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