**Perihelion Banquet News**

**TAAS PERIHELION BANQUET**
FOR MEMBERS AND GUESTS
SATURDAY, JANUARY 12, 2019, 6:00–10:30 PM
RAMADA HOTEL, 2020 Menaul Blvd. NE

We have left the old year behind and are launched on a new beginning for TAAS. Time to begin making new memories in 2019, and an excellent place to start is our annual Perihelion Banquet, renewing old friendships and making new ones at this social gathering for dining, honoring accomplishments by our members, enjoying the guest speaker, Mike Rice, and installing TAAS Officers for the year.

You will be welcomed to the ballroom at the Ramada (formerly the Eleganté, on Menaul just east of University Blvd.) by the smiling faces at the entry table, checked off the guest list, given a ticket for the prizes drawing and off you go to select a table with friends, perhaps visiting the cash bar.

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**THE DRAGONFLY ARRAY**

This exciting array is the subject of our Perihelion Banquet speaker, Mike Rice of New Mexico Skies.

See page 2.

**TAAS to Join NMMNH&S “Supermoon” Lunar Eclipse Event Jan. 20**

By Jim Greenhouse
TAAS member and Space Science Director,
New Mexico Museum of Natural History & Science

A TOTAL LUNAR ECLIPSE is coming to the skies of New Mexico on Jan. 20. The New Mexico Museum of Natural History & Science will sponsor a public viewing party from 8:30 to 11:30 p.m., weather permitting.

The next total lunar eclipse won’t occur until May 26, 2021, so this will be the last chance to experience this phenomenon for more than two

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As 2019 gets underway I want to bring a couple of items to your attention.

Pete Eschman is coordinating a group of us in participating in the Global Meteor Network (GMN). We have, or will soon have installed, meteor cameras at 18 locations in New Mexico which will be the largest concentration of meteor cameras in the world. The GMN is led by a group at the University of Western Ontario. Once the meteor camera is up and running it pretty much runs on its own and automatically sends its data to a server at the University of Western Ontario. You can monitor what your camera is seeing and reporting. The current focus of the project is polishing the code and expanding the community. They are introducing community building tools (the website, forum, mailing list) and have established a User Group on Groups.io.

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By the end of 2019 they plan to have real-time trajectory estimation and orbit publishing. This is an exciting project that is fairly easy to participate in. If you are interested in participating contact Pete Eschman.

Also, I have mentioned that TAAS will host the 2020 Astronomical League Conference (ALCON) on 15 to 18 July 2020. I am looking for someone to serve as the Co-Registrar of the conference (ALCON) on 15 to 18 July 2020. I am looking for someone to serve as the Co-Registrar starting this Spring and for someone to lead the Publicity effort. If you are interested in either of these positions or want to serve in some other capacity, please contact me.

This is a great opportunity for TAAS to shine and to show astronomers from all over the country how great it is to live in New Mexico and be able to observe under out dark night skies.

Have a great start to the New Year.

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**President’s Message**

Jim Fordice

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**TAAS Perihelion Banquet Speaker, Mike Rice, New Mexico Skies**

“**Dragonfly” Galaxy Observing!**

“Dragonfly” is an array of lenses used to examine very dim and complicated structure associated with galaxies. Commissioned in 2013 at Dunlap Institute and University of Toronto with only three lenses, the array is growing in size. This exciting astronomy tool is the subject of our Banquet speaker, Mike Rice of New Mexico Skies.

Mike relates the origins, present operations and future plans for this innovative approach to studying galaxies and learning more about the intricate nature of their existence. His talk will be accompanied by images illustrating what is now seen around the galaxies.

Mike Rice and Lynn Rice are proprietors of New Mexico Skies, which is part of the Dragonfly team headed by Roberto Abraham at University of Toronto (Professor of Astronomy and Head of Research) and Pieter van Dokkum (Chairman of the Department of Astronomy at Yale) as the two Principal Investigators.

Mike built Dragonfly, repairs it, modifies it and assists with the imaging. He and the New Mexico Skies staff are full technical partners with the academic colleagues, as NMS hosts the project and all are enthusiastic about what Dragonfly is accomplishing and its potential for the future.

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Lynne Olson

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**...Perihelion Banquet 2019**

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Serving from the buffet will begin at 6:45, and the Trivia Contest and drawing for door prizes will take place as you finish your dessert, all before guest speaker Mike Rice of New Mexico Skies begins his presentation. His topic: “Dragonfly,” is a multi-lens array designed for ultra-low surface brightness astronomy at visible wavelengths, which is proving capable of detecting extremely faint, complex structures around galaxies.

The event will continue with the annual Awards to TAAS members and the election of Officers, plus more time to socialize with your fellow members and guests – whom you may see in a bright light and dressed up for the first time, so reintroduce yourselves!

The sign-up and payment for the event ($30/person) is ready online at [www.taas.org/Banquet.html](http://www.taas.org/Banquet.html). If you have not registered and paid already, please contact Bob Shiple at secretary@taas.org for late arrangements.

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**...Supermoon Eclipse**

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years. Plus, on Jan. 20 the moon will be relatively close to the Earth while it’s full, which has recently become known as a Supermoon. The entire eclipse will be visible from New Mexico and the moon will be high in the sky, so there will be no need to seek a location with a view of the horizon.

For a closer look at the moon as it slides into the red shadow, telescopes provided by the Museum and TAAS astronomers will be set up around the Museum grounds and on the Observatory Deck. A live video stream will show the eclipse from other locations around the world.

Here are times for the stages of the eclipse:

- **Partial Eclipse Begins** – 8:34 p.m.
- **Total Eclipse Begins** – 9:41 p.m.
- **Maximum Eclipse** – 10:12 p.m.
- **Total Eclipse Ends** – 10:43 p.m.
- **Partial Eclipse Ends** – 11:50 p.m.

The observing part of this event will be canceled if the sky is cloudy. No reservations are required and admission is by donation. Dress warmly: it likely will be cold.

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Lynne Olson

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December 8 - New Moon Observing:
I was the Opener, assisted by Mark Goodman, who was learning how to open and close the site. We arrived at 3:30 PM, followed by Eric Edwards, Jim Kaminski, Tom Lilies, Alan Scott, and Viola Sanchez.

Eric arrived with modifications for the two fixed piers that add brackets for Losmandy Control Boxes (see picture, with Eric and Mark Goodman). They work great!

For me the focus for last night was to celebrate the 2nd First Light for Amy Estelle’s 12.5” Obsession Dobsonian. I purchased the telescope from her in November. We had hoped the Amy could join me for my first use of the telescope, but she was not able to travel to GNTO. The telescope is excellent. My first observation was of Mars. I enjoyed using its Argo Navis system to find and observe a number of deep sky objects. Thanks, Amy, for a great telescope!

Another first Jan. 8 was that both of the fixed piers were in use. Eric used the short pier with his mount and his Pentax 67 Medium Format Film camera. Mark used the tall pier with the AstroPhysics refractor.

Eric was taking a picture of the Milky Way in the Cygnus to Cassiopeia area. Alan was working the Binocular Double Star list with 10x30 Image Stabilized binoculars. Viola was observing nebulas with an Orion 10” Dobsonian. Jim Kaminski was observing Pegasus galaxies from a Sue French list published in Nov 2017 in Sky & Telescope. Jim K. reported a SQM reading of 21.5. Tom was using his DSLR with a 200mm lens to take pictures of the Pleiades. Mark used the AstroPhysics scope to observe a range of objects.

The skies were clear and the wind was light. Unfortunately, the humidity was about 75% and by 10 PM we started noticing dew. By 11 PM everyone had packed up and departed. Mark and I closed the site and departed at 11:30 PM.

All-in-all, a good night at GNTO.

Upcoming Events:
• Feb. 2: 3rd Quarter Moon Observing
• Feb. 9: New Moon Observing
• Mar. 2: 3rd Quarter Moon Observing
• Mar. 8-10: Messier Marathon

Don’t forget that the GNTO Observing Field is available for use by TAAS members anytime. Check the TAAS website for the procedure to follow. Contact me if you have any questions.

As always, check TAAS_Talk and the TAAS website for last-minute changes and updates. GNTO events are open to all TAAS members and their guests.

GNTO Director: GNTO@TAAS.org or 505-803-3640.
Meteor in Orion  I caught this very bright meteor streaking through the constellation Orion on Dec. 2, 2018. Other objects in the frame include the Great Nebula in Orion lower left, the Horse Head Nebula, the Flame Nebula, and the 3 bright stars in the belt of Orion in the center of the frame, and part of Barnard’s Loop, a region of glowing hydrogen making an arc around the constellation. There are also at least 6 short streaks in the lower part of the image, trails left by geosynchronous satellites. The satellites are stationary in the sky but since the camera is on a sky tracking mount they appear to move. The image is cropped and is only about 30% of the area of the whole frame.

The streak left by the meteor is unusual because of the asymmetry of the emissions perpendicular to the direction of travel. At the midpoint of the streak there is a yellowish glow to the right of the streak and a much brighter vortex-like pattern to the left of the streak. These are possibly due to emissions from sodium atoms released by the intense heat. The green part at the top end of the streak could be from magnesium and usually is present at the beginning of the streak, making the direction of travel from top to bottom. The direction of travel is very consistent with an early Geminid meteor.

This is a single exposure of 30 seconds (and hence loaded with noise and light pollution) but the meteor flash was only a small fraction of a second. The image was made with a 105 mm F1.4 Sigma Art lens on a Nikon D850 camera, and a Sky Watcher Star Adventurer tracking mount on a Gitzo carbon fiber tripod. The Sigma is a beast of a lens but the Star Adventurer easily handles it and the D850 with a counterweight. It was shot at ISO 64 and made in my backyard in Albuquerque’s Northeast Heights.

—Bob Fugate
On Dec. 15 it was my honor to represent TAAS in presenting to long-time Society member and astronomy activist Amy Estelle a newly created club honor: the Polaris Award.

Amy — who as many readers will know has been ailing — was pleasantly surprised and most appreciative of the well-deserved honor.

We all laughed and cried and had a great time with our dear friend.

Along with a photo of the presentation, here is a photo of the award. The wording on the plaque says it all.

My thanks to Shane for the photos. Also a big thanks to the TAAS Board of Directors for supporting the creation of this award, and to Mark Goodman for getting the plaque for the event.

— Dee Friesen
Comet 46p Wirtanen was about 6.5 apparent magnitude about 5' in size located about halfway between Eta Auriga and Capella on Dec. 22, 2018, just after dark. I estimated it was moving at 15' an hour towards the Northeast. Wikipedia states it was at perihelion on Dec. 12 and closest to Earth on Dec. 16, about 0.08 AU or about 7.4 million miles distant. It was discovered in 1948 so it has been going around the Sun for at least 12 times. It has a diameter of about one kilometer.

Equipment: ES ED127CF f/7.5, iOptron CEM60 mount, SBIG ST8300M & FW5 CCD camera, guider SBIG SG-4 on AT72ED f/6. Software: CCDSoft V5.210, ImagesPlus V5.75a, Photoshop Elements V9. Exposure: RGB 10 x 1 minute for total of 30 minutes, Alignment on both comet and stars using two identical data sets. Merged the stars with the comet in PS Elements and erased faint images of comet not at correct position.

Location: 3 miles North of Oak Flat on my backyard patio.  

—John Laning
The TAAS Fabulous Plus (+)

This new program, the TAAS Fabulous Plus, is the next step that persons new to astronomy can take after attending a regular FAB 50 program.

It will be an informal session for several hours during which participants can use their Skymap from the previous FAB 50 session and cell phones and tablets to view the night sky. Emphasis will be placed on the objects from past FAB 50 event. It will always be scheduled one month after the regular FAB 50 event.

Events will occur at the Valle de Oro National Wildlife Refuge located at 7851 2nd St SW, Albuquerque, NM. The website is https://www.fws.gov/refuge/valle_de_oro/.

The first session will be in February 2019 on a date to be announced soon. All TAAS members are encouraged to attend and be part of the teaching and sharing team. Together we will: OBSERVE EDUCATE HAVE FUN.

—Dee Friesen

Questions? Email taasdee@comcast.net or call 505-681-6094.

TAAS Perihelion Banquet

Saturday, January 12
Ramada Midtown Hotel 6:00 P.M.

Mike Rice,
New Mexico Skies, speaker
“Dragonfly” Galaxy Observing
Buffet Cash Bar

Make Reservations at www.TAAS.org, $30

Need help with your Telescope?

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
Donations to TAAS

- Alan Scott
- United Way
- Rick Vergas

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

Welcome to New or Returning TAAS Members

Michael Beasley
Marc Calderwood
Joel Falk
Arianna Mace
Dawn Mace
Allison Phillips
James Phillips
Mark Phillips
Hong Yan
Shifeng Yang
Yuling Zheng

Explanation of Dues and Membership Renewal Date

New memberships are registered immediately if you pay online. If you pay by check, your membership is registered when your check is received by the treasurer.

Renewal notices will be sent out via e-mail beginning 60 days before your membership expires. If your membership is renewed before it expires or with 90 days after it expires, your new expiration date will be advanced one year from the previous expiration date and your membership will be continuous.

If dues payment is received more than 90 days after the expiration date, you will be reinstated as a member with an expiration date set as one year from the receipt of payment.

Location, Location, Location

- Chaco Canyon
  6185’ elevation
  Latitude 36° 01’ 50”N  Longitude 107° 54’ 36”W
  36.03°  -107.91°
  36° 1.83’  -107° 54.60’

- Oak Flat
  7680’ elevation
  Latitude 34° 59’ 48”N  Longitude 106° 19’ 17”W
  34.99°  -106.32°
  34° 59.80’  -106° 19.28’

- UNM Campus Observatory
  5180’ elevation
  Latitude 35° 5’ 29”N  Longitude 106° 37’ 17”W
  35.09°  -106.62°
  35° 5.48’  -106° 37.29’

For security reasons, GNTO location is available by request only, so please contact Jim Fordice, GNTO Director, for GNTO information, e-mail GNTO@TAAS.org.

Monthly Membership Report December 2018

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<th>Membership</th>
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<th>Past Month</th>
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<td>Total Members</td>
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Editor’s Note

The deadline for the next issue of The Sidereal Times is Wednesday, February 6. The newsletter editors’ e-mail address is editor@TAAS.org.

Membership Services

for:
- Membership Inquiries
- Events Information
- Volunteer Opportunities

Contact Bob Anderson at membership@TAAS.org

for:
- Membership Dues
- Address/e-mail changes

Contact Doug LeGrand at treasurer@TAAS.org

TAAS
P.O. Box 50581
Albuquerque, NM 87181
MEMBERSHIP

You can join TAAS or renew your membership online. Just go to www.taas.org and select "Join Us!" or "Renew Your Membership" from the main menu on the left side. Annual dues are $30 for a regular membership, $15 for educators and active military, and $5 for students. Only regular members are eligible to vote in society matters. Our new member information packet can be viewed or downloaded from the same location on the website. You can pay your dues online through PayPal, by Visa, MasterCard, or American Express. To pay by check, mail your check to TAAS, P.O. Box 50581, Albuquerque, NM 87181-0581 or give it to the treasurer at one of our meetings.

ARTICLES/ADVERTISEMENTS

Articles, personal astronomical classified advertisements and advertisements for businesses related to astronomy must be submitted by the deadline shown on the Society calendar (generally the Friday near the new Moon). Rates for commercial ads (per issue) are $120 per page, $60 per half page, $30 per quarter page, $7 for business card size. The newsletter editor reserves the right to include and/or edit any article or advertisement. E-mail attachments in Microsoft Word or compatible word processor format; ASCII and RTF are acceptable. One space between paragraphs is preferred. One column is approximately 350 words. Contact the Newsletter Editor at editor@TAAS.org for more information.

Note that the Sidereal Times is no longer mailed. It is posted on the TAAS website, www.TAAS.org.

Send submissions or correspondence to editor@TAAS.org.

TAAS ONLINE

TAAS website: http://www.TAAS.org

The TAAS website includes:

- Programs . . .
- TAAS 200
- TAAS Fabulous Fifty
- Educational Outreach: School Star Parties, Solar Astronomy Outreach
- Equipment Trader
- Telescope Loaner Program
- Telescope Making and Maintenance . . . And more
- Online Sidereal Times
- Calendar of TAAS Events
- Members’ Guide
- Links to Astronomy Resources and Members’ Blogs

E-mail: TAAS@TAAS.org

Members’ Google Group: TAAS_talk@googlegroups.com

TAAS is honored to receive an “Editor’s Pick 2013 Best of the City” award from Albuquerque Magazine.

TAAS is honored to receive an “OUT-OF-THIS-WORLD” AWARD 2011 from Astronomy Magazine for Outstanding Public Programming.

BEST PLACE TO STARGAZE
CELESTIAL EDITION