Upcoming Oak Flat Public Star Party
Saturday, June 23rd
Oak Flat Picnic Grounds, 9 miles south of Tijeras via NM 337

Our next Oak Flat Star Party is scheduled for June 23rd at the Oak Flat Picnic Grounds. The last one, highly successful, was sited at the Yucca parking area with telescopes there and parking along the road leading to it, instead of the field we normally use, due to fire restrictions. Those restrictions and conditions may still apply for the June event, so check www.taas.org as the date approaches for further information or any changes.

In the meantime, enjoy the night skies of New Mexico!

—Lynne Olson

Oak Flat Public Star Party, June 2016
Photo by Martin Hilario

General Meeting News

Lynne Olson

TAAS General Meeting
May 26th - 7:00-9:00pm
NM Museum of Natural History & Science Planetarium
Free and open to the public

Our speaker for the May 26 General Meeting is Dr. Christopher C. Wilcox, an Electrical Engineer at the US Air Force Research Laboratory. His topic: "Adaptive Optics for Astronomy." (Note that this meeting will be in the Planetarium of the NMMNHS.)

Dr. Wilcox will present an overview of adaptive optics and optical interferometry for astronomy, and discuss related topics, like the Navy Precision Optical Interferometer (NPOI) and the planned upgrade to integrate adaptive optics at NPOI with meter-class telescopes.

TAAS Astronomy 101
Saturday, May 26th - 6:00pm
New Mexico Museum of Natural History & Science Planetarium
Free and open to the public

Before the TAAS General Meeting on May 26 at the NMMNHS Planetarium (note change of usual location), our Astronomy 101 speaker, John W. Briggs, will present his "Introduction to Celestial Navigation."

It's an amazing thing to know our exact position on Earth – and it's possible to learn your location by knowing the time, the mapped positions of several celestial objects, and the observed angular heights of the objects as seen in the sky. This is

continued on page 2...
There were no significant changes to the loan program inventory in the last month. 90% of the telescope packages were on loan, but members may feel free to ask for any telescope you want. Your name will be placed on the reserve list for that scope, or for any premium eyepiece, filter set, or other accessories. Check out the full list on the TAAS Website. Telescopes that are immediately available as of May 18, 2018, are:

- 10'' Discovery Dobsonian
- Celestron 80mm refractor
- Orion 12x63 Mini-Giant Binoculars (mirror mount)
- Meade Starfinder Dobsonian

### Loan Program Statistics

<table>
<thead>
<tr>
<th>Type</th>
<th># of Scopes</th>
<th># on Loan</th>
<th># Available</th>
<th>% on Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflectors</td>
<td>23</td>
<td>22</td>
<td>1</td>
<td>91%</td>
</tr>
<tr>
<td>Refractors</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>86%</td>
</tr>
<tr>
<td>Catadioptrics</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>92%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th># of Scopes</th>
<th># on Loan</th>
<th># Available</th>
<th>% on Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large (&gt;8&quot;)</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>92%</td>
</tr>
<tr>
<td>Medium (5&quot;-8&quot;)</td>
<td>17</td>
<td>16</td>
<td>1</td>
<td>94%</td>
</tr>
<tr>
<td>Small (&lt;5&quot;)</td>
<td>13</td>
<td>12</td>
<td>1</td>
<td>92%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tracking</th>
<th># of Scopes</th>
<th># on Loan</th>
<th># Available</th>
<th>% on Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual</td>
<td>26</td>
<td>25</td>
<td>1</td>
<td>96%</td>
</tr>
<tr>
<td>Push-To</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Go-To Tracking</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As of: 5/18/18

Adaptive optics is the term used for a class of techniques to deal with the correction of wavefront, or surfaces of equal phase in a wave of light, distortions in an optical system in real time. In telescopes, these distortions are caused by the Earth’s atmosphere and its varying indices of refraction from changing factors such as wind, water vapor, dust particles, etc. With adaptive optics, images that would have been distorted by the atmosphere are corrected and resolution is increased dramatically. With larger and larger telescopes coming online, adaptive optics becomes necessary as larger apertures magnify the effects from the atmosphere as well as the astronomical object of interest.

Optical interferometry uses multiple apertures to create one higher resolution instrument. The NPOI is an astronomical optical interferometer with an array of six apertures with the world’s longest baseline at 437 meters. This equates to an astronomical instrument of 437 meters in diameter and operates in the visible light spectrum.

**About the speaker:** Before joining the USAF Research Lab, Dr. Wilcox spent 15 years at the US Naval Research Laboratory. His research areas include optics, adaptive optics, mathematics, and hardware implementation and interfacing. He has a PhD in Engineering from UNM; his dissertation topic was a model for atmospheric turbulence. He holds several patents and has developed mobile applications for both Android and iOS smartphones. He also worked the National Radio Astronomy Observatory at the Karl G. Jansky Very Large Array west of Socorro.

—Lynne Olson
**April 14 - New Moon Observing:**
Will Ferrell was the Opener. He reported that the weather was nice for a change, if a little cool. It was especially nice not to have your papers blowing off your table heading toward the mesa east of the field.

A number of people worked on the TAAS 200 Spring scavenger hunt. Will thought it went well. Later in the evening, Omega Centauri made an appearance as a naked eye object on the southern horizon.

Attending were Viola Sanchez, Eric Edwards and his uncle Mike, Clara (Nena) Iriarte, Paul Pulaski, Hy Tran, Vance Ley, Kurt Sandquist, Alan Scott, Jim Kaminski, Jim Roucis, George Friedman, Greg Parkhurst, Fernando Torres, and Bridget de Saint Phalle. At least five people stayed all night. The sky after 3 a.m. was spectacular, though Will had had a busy day and watched from the warmth of his sleeping bag.

Jim Roucis reported that it was a great evening and morning at GNTO with very good conditions. Although he did not participate in the scavenger hunt, he saw many objects -- mostly groupings of galaxies -- placed nicely in the springtime sky.

Paul Pulaski reported that he and Nena had a wonderful evening and a great time was had by all! After the smoky haze dissipated early in the evening, the skies cleared with excellent transparency and average to good seeing. They spent some time going through the Scavenger list and were able to observe about half of the objects on the list, then continued with the Messier list that was cut short due poor conditions during the Messier Marathon. One of the most fascinating objects was NGC 3242 (Ghost of Jupiter). This planetary nebula in the constellation Hydra appeared in the 12” loaner Dobsonian as a Jupiter-sized orb with beautiful sky-blue color (this was on the Scavenger list).

They spent the night into the morning observing all the gems in the skies and enjoying the breathtaking views of the Milky Way after about 2:00 a.m. Paul’s Canon 10x30 IS binoculars allowed him to scan the entire sky and find a plethora of new objects that he had not seen before. This included the “false comet” in Scorpius that looks like a comet to the naked eye but is actually a string of open clusters that looked incredible in the binoculars and the scope. Thanks to Jim Kaminski for pointing this out for us to enjoy!

May 8 - Special Observing Session:
Simon Arnet organized the Special Observing Session. Bridget de Saint Phalle, Jim Roucis, Vance Ley, Bob Fugate, and Martin Hilario joined him. Simon opened the site at about 6:00 p.m. to some of the bluest skies he’d ever seen and seeing was largely good throughout the night. Simon left around 2 a.m., Martin stayed until about 3 a.m., and a few others even later with Vance staying the entire night.

Jim Roucis reported that conditions were wonderful. Temperatures were mild, the skies were cloudless, very clear and dark, and the seeing varied between good and very good. He had a blast hunting globular clusters, galaxies, and planetary nebulae with his 17.5” Dobsonian. He also enjoyed hanging out with the other enthusiasts in attendance.

Jim K reported a fine observing session, hunting those faint fuzzies in the sky. In reviewing his observing notes, temperatures started in the mid-40s and only got as low as the high 30s, probably because of the smoky air. During his observing he was seeing magnitude 15 galaxies, but with erratic difficulty, and after the Milky Way rose he saw it was a bit “washed out.” So, it was a fine night, but not fantastic, considering transparency.

May 8 - Special Observing Session:
Simon Arnet organized the Special Observing Session. Bridget de Saint Phalle, Jim Roucis, Vance Ley, Bob Fugate, and Martin Hilario joined him. Simon opened the site at about 6:00 p.m. to some of the bluest skies he’d ever seen and seeing was largely good throughout the night. Simon left around 2 a.m., Martin stayed until about 3 a.m., and a few others even later with Vance staying the entire night.

Jim Roucis reported that conditions were wonderful. Temperatures were mild, the skies were cloudless, very clear and dark, and the seeing varied between good and very good. He had a blast hunting globular clusters, galaxies, and planetary nebulae with his 17.5” Dobsonian. He also enjoyed hanging out with the other enthusiasts in attendance.

Many thanks to Simon and Vance for opening and closing the site.

continued on page 4 . . .
The 2018 Texas Star Party (TSP) and was a huge success. TSP is one of the premier star parties in the world, and my favorite in the spring months. TSP is held at the Prudef Ranch, just outside of Fort Davis, TX – an extremely dark site near the McDonald Observatory (we got a tour), and not too far north of Big Bend National Park.

I understand about 550 amateur astronomers were there, TAAS members attending, along with myself, were Shane & Becky Ramotowski, Jeff Boggs, Fernando Torres, Jim Kaminiski (that’s Jim K’s photo showing where most of us were set up) and Doug & Christina LeGrand. Weather this year was excellent and the night skies cooperated, with good observing from Sunday through Thursday. By Friday, we finally had a much-needed break (clouds). Saturday wasn’t looking too good, so I headed to White Sands about noon.

Next year TSP will be held April 28th through May 5th, which is perfect. Nights aren’t cold, nights aren’t too short, daytime temperatures aren’t deadly, and the monsoon should still be a month away. See you all at TSP 2019!

Upcoming Events:
- June 9: 3rd Quarter Moon Observing
- June 16: New Moon Observing
- July 7: 3rd Quarter Moon Observing
- July 14: New Moon Observing & Picnic

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.
Annual TAAS Picnic “one of the best”

The annual TAAS picnic and observing party took place on Saturday, May 19, at the General Nathan Twinning Observatory (GNTO), and organizer and head chef Larry Cash declared it "one of the best in recent years."

The daytime weather was lovely – 84 degrees, clear skies and 7-10 mph winds – and it remained comfortable, with moderate seeing and transparency, until well after midnight.

By GNTO Director Jim Fordice's count, 45 TAAS members, family and guests turned out for the event. Jim greeted arriving picnickers while Larry grilled hamburgers and hot dogs to accompany the wide range of pot-luck dishes provided by those attending.

Phil Fleming presented a class on the TAAS "Fab 50" night-sky objects in the Ortega building, Dale Murray (TAAS president) led a DSLR photography class, Vance Ley "worked his magic in the imaging dome" (as Larry put it) and Pete Eschman introduced the Isengard telescope to new members and visitors. Pete has put in long hours on the Isengard and the site’s weather station, leaving both in top-notch shape.

Larry extended special thanks to GNTO Facilities Director Jeff Boggs and the whole GNTO Committee for "many hours of painting, making and getting new benches, pulling weeds has made this a one of a kind facility." He also praised Mike Molitor for his work on the newly powered rotation of the main observatory dome.

Once darkness arrived after 9pm, observing began: a variety of Messier objects (galaxies M51 & M104, interacting galaxies M65/M66, globular clusters M3, M5 and M13) drew plenty of attention, as did Omega Centauri, brilliant Jupiter, as the shadow of Io moved across its swirling surface, and much more.

continued on page 6...
Kevin McKeown, Melissa Kirk, Nena In-iarte, Martin Hilario and others marveled at the appearance of many (Kevin saw more than 100) sprites – luminous electrical discharges – high above thunderstorms over West Texas. “There were the dendritic bar code sprites, tiny short flares appearing in mid air, wide, tall, red ‘curtains, and narrow flares,” Kevin reported, “almost always associated with high energy superbolts” of lightning below the eastern horizon. Kevin declared it “the greatest sprint display ever. Simply stunning.”

Nena says the long day ended around 2am, when strong winds hit GNTO. “Paul Pulaski, Kevin, Martin, Melissa and I had to pack up our telescopes and take refuge ... in La Cosina Galactica for a while and rested till dawn.”

Finally, here is a list of all who attended the picnic: Larry Cash, Jeff & Paula Boggs, Pete Eschman, Bob Hufnagel, Kevin McKeown, Charlie Fleckenstein, Bob Anderson, Neal & Lori Schneider, Dale & Dianne Murray, Boris Venet, Gordon Pegue, Alan Scott, Susan Evans, Sandra Walcutt, Vance Ley, Eric Dose, Bob Havlen, Carl & Kimiko Larsen, Marshall, Amy, & Liam Gatten, Bill Wallace, John Laning, Amy Estelle, Martin Hilario, Simon Arnet, Alan, Lynne, & Kent Pulsipher, Paul Pulaski, Clara Iriarte, Bridget de Saint Phalle, Phil & Sandy Fleming, Melissa Kirk, Fernando Torres, Rick Hill, Jeff Bender, Viola Sanchez, Kathy McLaughlin and Jim Fordice. (Thanks to Jim for compiling this list.)

Photos for Perihelion, Please!

I HAVE BEGUN COLLECTING PHOTOS of TAAS events and members for the slide show to be presented at our Perihelion Banquet on Jan. 12, 2019. This is a request for copies of your photos.

Part of the fun at our annual gathering is watching the slide show – so I’m looking for color photos (medium resolution) of members eating, socializing, and doing astronomy stuff. That means we need to take and collect pictures of members at virtually all of our many activities.

As you send me images (to: bobship10@gmail.com), I’ll build the show. You will receive credit for each picture I use. I plan to select between 100 and 150 pictures, depending on quality and number of the year’s events represented.

Each month’s activities are on our web site under the heading, Upcoming Events with date and location. With your contribution, we can look forward to seeing lots of smiling faces in the slide show at next year’s banquet.

—Bob Shipley, TAAS board secretary
**Lunar crater Clavius**, along with Blancanus (directly above) and Moretus (above left). The orientation is south by southeast pointing up. This image was captured on at approximately 0441 MDT on 05-05-2018 from my Albuquerque backyard using a C11 Edge on a Losmandy G11 mount. Seeing at that time was poor. I experienced difficulty viewing both Saturn and the moon visually at 187 X.

The camera used was an ASI120 mm equipped with a 742 nm IR pass filter. 2000 frames were captured as AVI video; the sharpest 200 frames were combined into this image using Auto Stakkert! 2 (AS!2) and further refined using the wavelet filters in Registax 6 (RS6).

The capture software, Fire Capture, calculated an effective focal length of 3020 mm based on the diameter of the image of Jupiter taken earlier in the evening with the same configuration. The native focal length of the C11 is 2800 mm. The additional magnification is due to the location of the camera behind the focal point of the optics due to the presence of the focuser and the filter wheel.

Planetary imagers generally prefer shorter exposure times in order to increase their chance of capturing images during rare instants of good seeing. However, the use of longer wavelength light appears to offer a sufficient advantage to offset the value of the shorter exposure. (For additional details on this photo, contact me at avley@msn.com.)

—from Vance Ley
The weather was with us on a beautiful clear night and the Bachechi Open Space volunteers led by their Director Colleen McRoberts set us up with a fine venue and facility. TAAS members with telescopes turned out in force and visitors came pouring in. It was a roaring success for *May The Fourth Be With You* – aka “Star Wars Day”! As the scopes were setting up outside, Barry Spletzer gave his usual excellent talk to the crowd inside on “How Do We Know?” – how scientists determine the distances to celestial objects.

By the end of Barry’s presentation, the twilight was darkening enough to show Venus, brilliant in the west, followed by one marvelous sight after another revealing themselves in the sky.

Special thanks to Barry Spletzer for everything he does, to Kevin McKeown and Melissa Kirk who put on the constellation tour, to Susan Evans, who worked the whole evening greeting visitors and putting out pathway lights, to Phil and Sandy Fleming who set up their binocular table – and who brought pizza for TAAS volunteers.


—Lynne Olson

*Photos by Clara (Nena) Iriarte and Lynne Olson*
**Explora Adult Night Star Party**

We had a wonderful time on Friday night, May 18, sharing the heavens with over 100 curious budding astronomers.

The Explora! staff and their guests never fail to appreciate our efforts to show them the wonders of the night sky.

Thanks to the following TAAS members who brought telescopes, binoculars, or just themselves to help make this another successful event: John Laning, Bob Hufnagel, Fernando, Steve Snider, Kevin McKeown, Martin Hilario, Mellissa Kirk, Ed Allison, Andy Rubey, Tom Graham and Trish Logan.

Also, special thanks to Jupiter and his moons for a wonderful show.

—Bob Hufnagel

---

**The TAAS “Fabulous 50” Spring Session** was held on Friday, April 20, 7:30pm, at the All Saints of North America Orthodox. Attendance was good, but fell short of a full house. Dense shifting clouds limited onsite viewing following the presentation, but the Spring checklist was provided to encourage follow-up on a clear night.

—Phil Fleming

---

**Spring Fab 50 Checklist**

- POLARIS (North Star)
- Ursa Major (Great Bear)
- Big Dipper
- Dube & Merak
- Virgo (Virgo)
- Spica
- Leo (Sag) Regulus
- Bootes (Herdman)
- Arcturus
- M44, Beehive (Open Cluster)
- M3 (Globular Cluster)
Leo Triplet, captured on May 12 using the GNTO Imaging Dome equipment. Jeff Boggs, Jim Fordice and Nena Iriarte participated in the data capture and the preliminary processing.

The Leo Triplet is a group of galaxies located about 35 million light years away in the direction of the constellation Leo. The group consists of M66 (upper left), M65 (lower left), and NGC 3628 (aka, The Hamburger galaxy, upper right). East is “up” in this image.

The data for this image was obtained during the training session at GNTO using the equipment in the imaging dome; a C14 with hyperstar operating at f/1.9 mounted on a Losmandy G11 and an SBIG STF 8300 camera. Only 27 x 2 minute subframes, plus 15 dark frames, were used to create this image. Processing was done using Deep Sky Stacker (DSS) and PinInsight. The “speed” of the f/1.9 hyperstar system allows users to capture deep images in a comparatively short period of time. This system is available for use by all club members. Members who desire training on the system should contact me at avley@msn.com.

— Vance Ley
Oak Flat Star Party
May 14th

This first Oak Flat Public Star Party of 2018 was smaller than usual, but succeeded on its own merits despite clouds and hours-long road closures.

There were nine TAAS telescopes, brought by Doug Legrand (our Opener/Closer), Trish Logan (who brought, Marc, our special Swiss guest), Martin Hilario, Becky & Shane Ramotowski, Fernando Torres, Lynne Olson, Bob Anderson, John Laning, Bruce Meyer and Dave Ray.

About twenty visitors found their way there, including several families, and came to see what might be visible— the skies kindly opened for us for about an hour and a half to reveal the Moon, Jupiter, several constellations and deep sky objects to thrill the observers.

—Lynne Olson
M63, the Sunflower Galaxy is about half the size of the Milky Way. The distance is uncertain – between 23 and 37 million light-years. It has a very active and bright core, with very dusty spiral arms; hence the nickname. This photo was taken on May 9, from my backyard patio, 3 miles north of Oak Flat.

Equipment: ES ED127CF f/7.5, iOptron CEM60 mount, SBIG ST8300M w/FW5 CCD camera, guided with SBIG SG-4 on a AT72ED f/6.

Software: CCDSoff V5.210, ImagesPlus V5.75a,Photoshop Elements V9. (Note: I tried new software – AstroArt V6 and PRiSM V1 on it, but did not see much improvement.)

Exposure: 8 x 5 minutes of Red:Green:Blue for a total of 2 hours. Due to the galaxy getting near zenith and transit I could only use 5 x 5 minutes of RGB for a total of one and a quarter hours because guiding was poor.

— John Laning
## Donations to TAAS

Steve Welch

Francis J. O’Reilly

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

**April 2018**

<table>
<thead>
<tr>
<th>Membership</th>
<th>Current Month</th>
<th>Past Month</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>257</td>
<td>248</td>
<td>9</td>
</tr>
<tr>
<td>Family</td>
<td>154</td>
<td>142</td>
<td>12</td>
</tr>
<tr>
<td>Educator</td>
<td>19</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>Student</td>
<td>21</td>
<td>27</td>
<td>-6</td>
</tr>
<tr>
<td>Military</td>
<td>0</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>Honorary</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Total Members</td>
<td>456</td>
<td>442</td>
<td>14</td>
</tr>
</tbody>
</table>

**Editor’s Note**

The deadline for the next issue of *Sidereal Times* is **Friday, June 13**. The newsletter editors’ e-mail address is [editor@TAAS.org](mailto:editor@TAAS.org).

---

## Welcome to New or Returning TAAS Members

- Anirudh Bissa
- Bhawana Bissa
- Varun Bissa
- Wayne Ciddio
- Aspen Edwards
- Gregory Edwards
- Diego Faccio
- Dr. Gordon Hager
- Brendan Johnson
- Kieran Johnson
- Kit Johnson
- Michael Johnson
- Walter Johnson
- Brittany Steffens
- Larry Steffens
- Megan Steffens
- Nancy Steffens
- Barbara Stewart
- Julianne Turley-Plotner
- Aidan Wood
- Mary Young

## Location, Location, Location

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

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

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

## 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 in 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.

---

## Membership Services

- 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

---
### 2018 TAAS Board of Directors/Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dale Murray</td>
<td>President</td>
<td><a href="mailto:president@TAAS.org">president@TAAS.org</a></td>
</tr>
<tr>
<td>Bob Shipley</td>
<td>Secretary</td>
<td><a href="mailto:secretary@TAAS.org">secretary@TAAS.org</a> 505-872-8366</td>
</tr>
<tr>
<td>Martin Hilario</td>
<td>Vice President</td>
<td><a href="mailto:vp@TAAS.org">vp@TAAS.org</a> 213-999-2582</td>
</tr>
<tr>
<td>Doug LeGrand</td>
<td>Treasurer</td>
<td><a href="mailto:treasurer@TAAS.org">treasurer@TAAS.org</a> 505-559-0252</td>
</tr>
<tr>
<td>Robert Anderson</td>
<td>Director</td>
<td><a href="mailto:membership@TAAS.org">membership@TAAS.org</a> 505-275-1916</td>
</tr>
<tr>
<td>Jim Fordice</td>
<td>Director</td>
<td><a href="mailto:gnto@TAAS.org">gnto@TAAS.org</a> Telescope Loan Coordinator <a href="mailto:telescope_loans@TAAS.org">telescope_loans@TAAS.org</a> 505-803-3640</td>
</tr>
<tr>
<td>Tom GrzybowskI</td>
<td>Director</td>
<td><a href="mailto:education_coord@TAAS.org">education_coord@TAAS.org</a> 505-363-9427</td>
</tr>
<tr>
<td>Robert Anderson</td>
<td>Membership Coordinator</td>
<td><a href="mailto:membership@TAAS.org">membership@TAAS.org</a></td>
</tr>
<tr>
<td>Carl Larson</td>
<td>Director</td>
<td>gpeque at comcast dot net 505-332-2523</td>
</tr>
<tr>
<td>Boris Venet</td>
<td>Director</td>
<td><a href="mailto:venetb@sprintmail.com">venetb@sprintmail.com</a> 505-507-7838</td>
</tr>
<tr>
<td>Ray Collins</td>
<td>ATM Coordinator</td>
<td><a href="mailto:atm@TAAS.org">atm@TAAS.org</a></td>
</tr>
<tr>
<td>David Penasa</td>
<td>Dark Sky Coordinator</td>
<td><a href="mailto:darksky@TAAS.org">darksky@TAAS.org</a></td>
</tr>
<tr>
<td>Trish Logan</td>
<td>Education Outreach</td>
<td><a href="mailto:education_coord@TAAS.org">education_coord@TAAS.org</a></td>
</tr>
<tr>
<td>Lynne Olson</td>
<td>Events Coordinator</td>
<td><a href="mailto:events_coord@TAAS.org">events_coord@TAAS.org</a></td>
</tr>
<tr>
<td>Barry Spletzer</td>
<td>Grants Coordinator</td>
<td><a href="mailto:grants@TAAS.org">grants@TAAS.org</a></td>
</tr>
<tr>
<td>Bob Anderson</td>
<td>Membership Chair</td>
<td><a href="mailto:membership@TAAS.org">membership@TAAS.org</a></td>
</tr>
<tr>
<td>Bruce Meyer</td>
<td>Newsletter Co-Editor (Content)</td>
<td><a href="mailto:editor@TAAS.org">editor@TAAS.org</a></td>
</tr>
<tr>
<td>Gary Cooper</td>
<td>Newsletter Co-Editor (Design)</td>
<td><a href="mailto:gnto@TAAS.org">gnto@TAAS.org</a></td>
</tr>
<tr>
<td>Jim Fordice</td>
<td>Observatory Director</td>
<td><a href="mailto:pr@TAAS.org">pr@TAAS.org</a></td>
</tr>
<tr>
<td>Lynne Olson</td>
<td>Public Relations</td>
<td><a href="mailto:scout_coordinator@TAAS.org">scout_coordinator@TAAS.org</a></td>
</tr>
<tr>
<td>Chaz Jetty</td>
<td>Scout Coordinator</td>
<td><a href="mailto:rwkennedy45@gmail.com">rwkennedy45@gmail.com</a></td>
</tr>
<tr>
<td>Roger Kennedy</td>
<td>Solar Outreach Coordinator</td>
<td><a href="mailto:telescope_loans@TAAS.org">telescope_loans@TAAS.org</a></td>
</tr>
<tr>
<td>Jim Fordice</td>
<td>Telescope Loan Coordinator</td>
<td><a href="mailto:unm_coord@TAAS.org">unm_coord@TAAS.org</a></td>
</tr>
<tr>
<td>Fernando Torres</td>
<td>UNM Observatory Coordinator</td>
<td></td>
</tr>
<tr>
<td>Barry Spletzer</td>
<td>Volunteer Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Webmaster</td>
<td><a href="mailto:webmaster@TAAS.org">webmaster@TAAS.org</a></td>
</tr>
</tbody>
</table>

---

**The Albuquerque Astronomical Society**

---

**Members Directory**

**ATM Coordinator**
- Ray Collins
  - 505-344-9686 (H)
  - atm@TAAS.org

**Dark Sky Coordinator**
- David Penasa
  - 505-269-8717(W)
  - darksky@TAAS.org

**Education Outreach**
- Trish Logan
  - 505-856-2537
  - education_coord@TAAS.org

**Events Coordinator**
- Lynne Olson
  - 505-228-4384(C)

**Grants Coordinator**
- Barry Spletzer
  - 505-275-1916
  - membership@TAAS.org

**Membership Chair**
- Bob Anderson
  - 917-449-0700(C)
  - editor@TAAS.org

**Newsletter Co-Editor (Content)**
- Bruce Meyer
  - 505-227-3974(C)

**Newsletter Co-Editor (Design)**
- Gary Cooper
  - 505-803-3640
  - gnto@TAAS.org

**Observatory Director**
- Jim Fordice
  - 505-856-2537
  - pr@TAAS.org

**Public Relations**
- Lynne Olson
  - 505-350-7949
  - scout_coordinator@TAAS.org

**Scout Coordinator**
- Chaz Jetty
  - 505-314-6273
  - rwkennedy45@gmail.com

**Solar Outreach Coordinator**
- Roger Kennedy
  - 505-803-3640
  - telescope_loans@TAAS.org

**Telescope Loan Coordinator**
- Jim Fordice
  - 505-856-2537
  - unm_coord@TAAS.org

**UNM Observatory Coordinator**
- Fernando Torres
  - 505-228-4384(C)

**Volunteer Coordinator**
- Barry Spletzer
  - 505-228-4384(C)

---

**The Official Newsletter of The Albuquerque Astronomical Society**

---

**Page 14**
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 on line 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.

MAGAZINES

TAAS no longer offers magazine subscriptions.

TAAS ONLINE

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

• 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