Comet ISON, far right.

I imaged Comet ISON on November 1 around 5 a.m. to 6:15 MDT. I aligned the stars using median combine, aligned the comet’s head, and aligned it with median combine, then layered them together. The comet is moving much too fast for more than 6 minutes of tracking.

Equipment: AT102Ed f/7, SBIG ST8300M FW5 Autoguided with SBIG SG-4 and AT72ED f/6. Mount iOptron iEQ45. RGB 10:10:10 x 1 minute for total of 30 minutes. Software: CCDSoft V5, CCDStack V2, Photoshop Elements V9. Location: Home near Tijeras, NM.

—John Laning
President’s Message

Dark Breaking Early

WE LIVE on an amazing planet. We all know that each day after summer solstice, the sun will set a few minutes earlier. But then comes the day in November when the sun sets an hour earlier than the previous day. What nature takes a long time to do, the collective wits of our species can accomplish in one day. We know this as the end of daylight saving time. It is also the end of the warm season and the beginning of the dark period. However, for the active observer, it is the time for dark breaking early.

Beginning with the first day of the new time, the sky is dark when most of us arrive home after a day of work. This means we can go out early, observe the wonderful autumn sky, and still catch the summer triangle hanging low in the west. Shortly after supper, we can get one of the best views of our favorite galaxy, M 31 overhead, which is barely visible to the naked eye in less than an ideal dark location.

I especially enjoy the Pleiades rising in the east. I enjoy this group of faint stars because I am aware of how, through the ages, it has captured the attention of our species all over the planet. It truly has universal appeal with special meanings to different societies, but always, it is the precursor to everyone’s favorite constellation, Orion.

We now get into the time of year that my friends and acquaintances will start to ask me about those “three stars” in the east. They only see them because dark breaks early. Most of them will not look at the sky once they get settled in front of their particular screen for the evening. But, because dark breaks early, they will see Orion before they settle in.

So, dark breaking early is not all bad. The result is that many people will be aware of the night sky because it is presented to them before they retire for the evening. This is good and will always lead to more interesting questions from the public about the “strange” things they see there. TAAS continues to receive an assortment of questions about strange objects is the sky. Even though we make every effort to explain how bright stars low on the horizon will twinkle, pulsate and change color, there are the skeptics who just know they saw a UFO. That of course is a subject that is best left to the TAAS Chief Scientist and Astronomer Royal.

I especially enjoy the Pleiades rising in the east.

The Official Newsletter of The Albuquerque Astronomical Society

OBSERVE   EDUCATE   HAVE FUN

Autumn Public Star Party at Open Space Visitors Center
Saturday November 9
6:30 p.m. til 10:00 p.m.

by Lynne Olson

The City of Albuquerque and The Albuquerque Astronomical Society are pleased to co-host an autumn public star party at the Open Space Visitors Center, which will include all the following: a talk and demonstration on amateur astronomy; many types and sizes of TAAS telescopes on the large open patio for your viewing pleasure, accompanied by members eager to tell everybody all about the stars, planets, and galaxies visible for observing; a green-laser-guided constellation tour; and an astronomical activity in the lobby for the young and all star lovers.

The star party will begin at 6:30 p.m., as it will be dark by that time due to the end of daylight saving time, and observing will continue throughout the evening. The lecture by Barry Spletzer will be in the Kiva Room at 8:00 p.m. We will also give the latest updates on Comet ISON and information on Internet links you can go to daily to advance your knowledge of our universe.

Arrive early to park and become accustomed to the dark. Please use only red flashlights and headlamps to preserve night vision.

This event is free and open to public, so please join us to celebrate the beautiful skies of New Mexico.

Go to www.TAAS.org for details and a map to the Open Space Visitors Center (6500 Coors Blvd., NW, at the end of Bosque Meadows Rd., between Paseo del Norte and Montaño) and send questions to TAAS@TAAS.org; or go to www.cabq.gov/openspace, phone 505-897-8831.

TAAS is Looking for Officer Material

by Tom Graham

Calling for nominations for 2014 TAAS Officers. While it seems a long way off, we are fast approaching the expiration of our current officers’ terms. Dan Clark has agreed to remain as Treasurer.

We need nominations for President, Vice President, and Secretary.

If you are champing at the bit, throw your name in the hat. These jobs are important to our organization and we all need to thank each and every person who has served or is serving in any officer position or as a board member. It is very rewarding and you meet a lot of great people.

If you have some ideas or recommendations please let Lynne Olson or me know and we will talk with the person, fill them in, give them the TAAS unlimited charge card (just kidding), and outline the process.

November 2013
Dee Friesen
THE GNTO COMMITTEE met at GNTO on October 13. There was very good participation at this meeting with 11 out of 14 committee members present.

Area reports were received.

Ray Collins gave the Committee a firsthand ‘tour’ of the ongoing construction effort in the Cosmic Café.

Pete and Vance reported that the glide strips on the Imaging Dome slit had been replaced and the slit was operating better than in recent memory. Power strips and wiring have been reconfigured in the Imaging Dome to move them from underfoot. Vance further reported that he was troubleshooting the voltage step-up for the Losmandy EQ mount. Also, the darks/flats have been made, and several images using the C-14/ HyperStar have been published in the newsletter. The coming year should see the system ready for TAAS member use. Guiding hardware/software for longer focal ratio imaging will be a separate longer-term effort.

Will Ferrell is preparing activities for the November New Moon events: A scavenger hunt and a TAAS 200 marathon are proposed.

Mike Molitor presented a financial review of the café project, and for GNTO from April through August 2013. A budget for 2014 was presented and approved by the committee. Major items include: HAL computer hardware and software update, Isengard RA drive and clutch replacement, and finishing the café. The topic of a fundraiser for the café was raised and tabled for a future meeting.

A review of the GNTO systems infrastructure was led by Pete Eschman. The committee heard that there was clear need for documentation of the site electrical arrangement and electrical distribution network. Paul G., Pete E., and Vance L. will take a run at accomplishing this in 2014. We also need a long-range strategy with regard to storage capacity that is based on future site use. Pete E. will attend to the HAL hardware and OS update and the OS updates for the two backup laptop computers. The topic of site Wi-Fi was partially discussed, and it was agreed that we could reduce service to a lower-volume, cheaper package for now. However, a discussion of partitioning the site Wi-Fi and opening its use to more members was not completed. This will be addressed in future meetings. Discussion of the weather-monitoring system was tabled for a future meeting.

Discussion of committee internal communication and communication with the TAAS BoD was led by Lisa Wood. Recently there has been misunderstanding and unclear communication when using e-mail. Communication between the GNTO Committee, the GNTO Director, and the TAAS BoD needs to improve to avoid future misunderstanding.

Site policy for pier use and equipment use was again tabled for a future meeting. Pete E. will supply the current equipment use policy for future review.

In new business, AED (defibrillator) training, and periodic equipment calibration was raised. The AED is a TAAS item and needs to be handled at the TAAS BoD level. Having emergency oxygen on-site is an item that should be included when the AED is discussed. There is no medical oxygen presently on-site.

The next GNTO Committee meeting is scheduled for December 5, location t.b.d.

The GNTO New Moon Observing Events for the rest of the year are: November 30 and December 28. 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 running your observatory.

If you want to participate or have any questions about GNTO or GNTO Committee meetings, E-mail: gnto@TAAS.org. Or, contact the GNTO Director: Mike Molitor (518-225-7077) cell; (505-717-2601) land.
M33
the Triangulum Galaxy
captured on 10-05-2013 at GNTO.

OCCASIONALLY and incorrectly referred to as the pinwheel galaxy, M33 consists of approximately 40 billion stars located about three million light-years away.

Eighteen 10 min sub-frames were made using an SBIG 4000XCM camera mounted on an AT65 refractor. The mount was a Losmandy G11. Processing was done in DSS and Photoshop.

NGC 7293
the Helix Nebula
captured on 9-28-13 at GNTO.

A TOTAL OF 15 x 10 min. subs were made with an SBIG 4000XCM camera mounted on a Celestron-HD Edge 11” with focal reducer, operating at f/7 with a focal length of 1960 mm. The mount was a Losmandy G11. Processing was done in DSS and Photoshop.

The Helix is a large planetary nebula located in the constellation Aquarius. It is approximately 700 light years away from earth, close by astronomical standards. It is similar in appearance to the Ring Nebula (M 57), but appears to be much larger. The Ring Nebula subtends an angle of ~ 76 arc seconds and is approximately 2300 light years distant, while the Helix Nebula covers 16.3 arc minutes— more than half the diameter of the full Moon—and is about 700 light-years away.

Trigonometry fans will find the actual diameter of M57 as 0.85 light years and that of the Helix as 3.3 light years. The foregoing are based on diameters listed in Will Tirion’s DeepMap 600. Wikipedia lists a much larger diameter for M57 of 230 arc seconds and 25 arc minutes for the Helix. These larger values are probably more relevant to observations made using the Hubble Space Telescope.

M33
the Triangulum Galaxy
captured on 10-05-2013 at GNTO.

Astrophotos from GNTO
by Vance Ley
The TAAS Imaging Gallery Debuts

by Vance Ley

In April of this year Dee Friesen approached me about establishing an on-line gallery of astro-images created by TAAS members. Following a meeting with a number of experienced TAAS astro-imagers, I developed a scheme for accomplishing this. The new TAAS Image Galleries are: http://www.flickr.com/photos/95384963@N04/galleries.

I’ve arranged the galleries by season and object type so that someone interested in seeing images of nebulae to observe in the fall would look in the gallery titled “Fall Nebula.” Similar galleries have been, or will be, created for galaxies and nebulae for each season. Each gallery can hold up to eighteen images at a time. Once the limit of eighteen has been reached for a particular gallery, older images will be deleted to make room for newer and, presumably, better images.

TAAS members wishing to submit images to the galleries can e-mail JPEGs to TAASImageSubmissions@gmail.com. Images should be no larger than 1000 pixels on the largest side and must have the following information:

- Object name
- Location where the image was made
- Optical equipment used (scope size, model)
- Camera
- Mount
- Number and duration of subframes
- Processing details such as software used

Alternatively, if a member has a personal Flicker account that contains the image they would like to have in a gallery, they can send a link to the same address. However, the image caption in the flicker account must contain the aforementioned information.

Dee also asked me to create a set of annotated constellation images that would guide novice observers to significant targets. I’ve made a start on this at: http://www.flickr.com/photos/95384963@N04/. This is a work-in-progress. Anyone wishing to help is welcome to submit constellation images, annotated or not, to the submission e-mail site listed above. These will become a permanent part of the site. I welcome opinions and suggestions about the site. Please send feedback to the e-mail address listed above. Thanks.
Upcoming Events

Upcoming Events

SEVERAL TAAS members are planning to attend the New Zealand annual star party Stardate 2014 presented by the Phoenix Astronomical Society of Wellington. The dates are January 3–5, 2014. If you are interested, contact Dee at TAAS@TAAS.org. More information on the star party is at http://groupspaces.com/Phoenix-AstronomicalSociety/item/389650.

Annual Dark-Sky Meeting to Mark 25 Years

AT THE International Dark-Sky Association’s annual general meeting in Tucson, Arizona, on Friday November 15, the organization will celebrate its twenty-fifth anniversary.

The agenda includes a talk by Paul Bogard about his new book The End of Night; a presentation by the U.S. National Park Service Night Sky Team on surveying the night sky in national parks; and a report from IDA on its new project assessing outdoor lighting for sea turtle conservation.

Astronomy enthusiasts are welcome to stay through the weekend and enjoy the 2nd Annual Arizona Science and Astronomy Expo on Saturday and Sunday.

Visit the IDA website for more information and to register.

New Mexico State Star Party

The New Mexico statewide star party planned for Sevilleta National Wildlife Refuge is postponed until the spring of 2014. As soon as a new date is selected, we will post the information on TAAS.org. Continue to watch the star party website for the latest information, www.nmstarparty2013.net.

Dr. Marc Price, retired University of New Mexico astronomer, will be the keynote speaker at the TAAS 2014 Perihelion Banquet on Saturday January 18, 2014. Dr. Price has studied the distribution of galaxies and clusters of galaxies in the local universe extensively. He is a wonderful speaker who after retirement purchased an old fire truck to “have fun with.”

Members Plan to Attend New Zealand’s Stardate 2014

Members Plan to Attend New Zealand’s Stardate 2014

Graphic courtesy http://www.diboonsmith.com
TAAS at the Girl Scout STEM Event by Lynne Olson

TAAS was very pleased to be invited to participate in this program to encourage girls in Science, Technology, Engineering, and Math (STEM)! The clicker hanging from the Hydrogen-alpha scope read 511 visitors when Amy Estelle, Roger, and Linda Kennedy broke down the TAAS site at the Girl Scout STEM Camporee on the afternoon of Saturday October 19 in Bernalillo.

Between noon and 5:00 p.m., they had a stunning blue sky and excited Girl Scouts, little brothers and sisters, parents, and troop leaders viewing the Sun through the two H-alpha scopes and two white-light scopes (several contributed by Dr. Dan Klinglesmith).

The three TAAS members performed a ballet between the scopes and displays—the TAAS banner fronted display tables with stellar solar presentations and a “Women in Astronomy” board. Each Scout’s Passport was checked off with a silver star sticker from the TAAS booth.

2013 Placitas Public Star Party Draws Over 200

A star party, free and open to the public, took place at the Placitas Community Library on Saturday October 26, beginning at dusk and continuing into the night. This event, organized by TAAS’ Steve Snider, was sponsored by The Albuquerque Astronomical Society, Rio Rancho Astronomical Society, Las Placitas Association, and the Placitas Community Library.

Visitors began arriving early and added up to about 200 over the course of the cool evening, enjoying the stars and target objects of late autumn through the more than 16 telescopes on the field, and conversation with their operators. The Placitas Library provided cookies and hot cider for the astronomers and visitors—and even made sure the bathrooms were red-lit to preserve everyone’s night vision!

Our thanks again to all sponsors for another successful star party in a fine dark-sky site and to the TAAS members who brought their telescopes to share the universe.
### November 2013

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**EDUCATION**  
**Navajo Elementary School Star Party**  
_by Tom Graham_

WOW! We finally had a night where light entered the big end of our telescopes, and the crowd went wild with excitement. The eyes of the children explain it all when they look up, then look through the telescopes to see Venus, the Moon, various nebulae, or a double star. They truly appreciate the opportunity to learn and view things they may have heard about but never really seen other than in a book . . . if they are lucky. Navajo school parents came out in force and supported the sciences.

John Laning was in good form as always showing a variety of objects. Tom Grzybowski was at the comet station sizzling the crowd. Bob Hufnagel brought his brother Ken, who was visiting. Thank you for your dedication. Jim Fordice, a staple of our group, is always impressive when explaining things to children and adults.

Gary Bodman, bringing a teacher scope in his convertible, looked very cool arriving and departing. Roger Kennedy was first on scene wowing everyone with the Lunt solar scope and the impressive array of posters and pictures. Joanna Berman saved the day by having the planetarium ready to go and keeping it running while instructing me as a new guy. Please come join us for the next school star party at Bataan Military Charter School, Tuesday December 10.
Saturday November 14, 2013, 7:00 P.M.
Regener Hall
University of New Mexico
(See map, last page)

Comets!

TAAS Expert Astronomers
Dr. Barry Spletzer, Steve Reigel, Kevin McKeown

Notes
Hotline 505-254-TAAS (8227).
School Star Party
ATM = Amateur Telescope Making. Call Michael Pendley for information at 296-0549, or e-mail atm@TAAS.org.
GNTO = General Nathan Twining Observatory
GNTO Training = GNTO Observing and Training
GNTO NM = New Moon Premium Observing Night
NMMNH&S = New Mexico Museum of Natural History and Science
UNM = University of New Mexico Observatory.
Call the TAAS hotline at 254-8227, or the UNM hotline at 277-1446 to confirm, or e-mail unm_coordinator@TAAS.org.
P & A = UNM Physics and Astronomy Building, Corner of Lomas and Yale
SIG = Special Interest Group
TBA = To Be Announced
THIS IS MY FIRST try at narrowband color imaging. I used 9 x 5-minute Hydrogen Alpha for red and 18 x 5 minute Oxygen III (9 each for green and blue). The object needed a meridian flip so I had to crop a lot of the star field to match the red with blue and green.

Equipment: AT102ED f/7, SBIG ST8300M with FW5 on clear. 1.25” adapter with Lumicon OIII NB filter, and Shulter Ha NB filter. Auto-guided with AT72ED f/6 SBIG SG-4, Mount iOptron iEQ45.
Location: Tijeras, NM, October 22, 2013.

—John Laning
New E-Mail Address for Sidereal Times
The e-mail address for The Sidereal Times is now TAASeditor@gmail.com.

The New Mexico Science Teachers Association’s fall conference was held November 1–3 at the new multimillion-dollar Centennial High School in Las Cruces. Over 250 science teachers and related science professionals gathered for a Saturday full of sessions aimed at improving science education in New Mexico.

The TAAS Solar Outreach program provided a session on solar education and solar observing. We also made numerous contacts for additional outreach events at NM schools, colleges, and state facilities. With the Organ Mountains as a backdrop, I saw 256 visitors at our solar education setup. This event brought our 2013 solar outreach visitor total to over 6,200.

NMSTA has four regional “Spring into Science” events March to April. We will do a solar outreach at Ruidoso March 15 with several area schools. Then we will follow up with another for Native American schools at Mescalero on March 29.

Next year, the annual conference will be hosted by Explora and The New Mexico Museum of Natural History and Science in Albuquerque. TAAS has been asked to return and provide a similar session.

As part of the Association of Science and Technology Centers conference in Albuquerque, TAAS participated in a Cosmic Carnival at Tiguex Park on October 22. Thanks go to Jim Seargeant, Luke Fields, Gordon Schaefering, Bob Havlen, Bob Hufnagel, Tom Grzybowski, Bob Amdahl, and Dave Ray.

A total of 409 visitors came to observe the Sun at the New Mexico Museum of Natural History and Science on October 13. Thanks to TAAS members Tom Graham, Luke Fields, Linda and Roger Kennedy for educating the public about all things solar.

TAAS Gets Out and About
by Roger Kennedy

NMSTA Conference

The TAAS Solar Education Array

Organ Mountains

Bob Amdahl, Jim Seargeant at Tiguex Park

Gordon Schaefering at Tiguex Park

Page 11
Welcome to New and Returning TAAS Members

Cate Hartmann
Jogn Rieznik
Bruce Stribling

Nominations Open for TAAS 2014 Officers

The TAAS Nominations Committee is soliciting nominations for the officer positions for the 2014 calendar year. The positions are president, vice president, secretary, and treasurer. All TAAS members are encouraged to submit their nominations to the Nominations Committee at TAAS@TAAS.org. Committee members are Tom Graham and Lynne Olson.

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

Membership Services

for:
• Membership Inquiries
• Events Information
• Volunteer Opportunities

Contact Bob Anderson at membership@TAAS.org

Contact Dan Clark at treasurer@TAAS.org

P.O. Box 50581
Albuquerque, NM 87181

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

Location, Location, Location

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

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

• UNM Campus Observatory
5180’ elevation
Latitude  Longitude
35˚ 5’ 29”N  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 Mike Molitor, GNTO Director, for GNTO information.

Monthly Membership Report

September 2013

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<tr>
<td>Total Members</td>
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</tr>
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Editor’s Note

The deadline for the next issue of The Sidereal Times is Friday November 29. 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.
## 2013 TAAS Board of Directors/Staff

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Dee Friesen</td>
<td><a href="mailto:president@TAAS.org">president@TAAS.org</a>, 505-856-1593</td>
</tr>
<tr>
<td>Vice President / General Meeting Coordinator</td>
<td>Dick Fate</td>
<td><a href="mailto:vp@TAAS.org">vp@TAAS.org</a></td>
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<td>Secretary</td>
<td>Pamela Wilson</td>
<td><a href="mailto:secretary@TAAS.org">secretary@TAAS.org</a></td>
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<tr>
<td>Treasurer</td>
<td>Dan Clark</td>
<td><a href="mailto:treasurer@TAAS.org">treasurer@TAAS.org</a>, 505-771-4346 (H)</td>
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<tr>
<td>Director / Membership Coordinator</td>
<td>Robert Anderson</td>
<td><a href="mailto:membership@TAAS.org">membership@TAAS.org</a>, 505-275-1916</td>
</tr>
<tr>
<td>Director / Volunteer Coordinator</td>
<td>Amy Estelle</td>
<td><a href="mailto:adestelle2000@yahoo.com">adestelle2000@yahoo.com</a>, 505-730-0025</td>
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<tr>
<td>Director</td>
<td>Bob Anderson</td>
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<tr>
<td>Director / Education Outreach Coordinator</td>
<td>Tom Graham</td>
<td><a href="mailto:education_coord@TAAS.org">education_coord@TAAS.org</a></td>
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<td>Mike Molitor</td>
<td><a href="mailto:gnto@TAAS.org">gnto@TAAS.org</a>, land: 505-717-2601, cell: 518-225-7077</td>
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<td>Director / Events Coordinator / Public Relations</td>
<td>Lynne Olson</td>
<td><a href="mailto:events_coordinator@TAAS.org">events_coordinator@TAAS.org</a>, <a href="mailto:pr@TAAS.org">pr@TAAS.org</a>, <a href="mailto:events_coordinator@TAAS.org">events_coordinator@TAAS.org</a>, 505-856-2537</td>
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<tr>
<td>Director</td>
<td>Gordon Pegue</td>
<td>gpegue at comcast dot net, 505-332-2523</td>
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