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APRIL 2020

Austin Astronomical Society

SIDEREAL TIMES

keeping astronomy weird since 1969

MONTHLY MEETING

Shelter in Place Remote General Assembly Meeting

Friday, April 10, 2020
7:30 PM

You should have received a link via email to join the ZOOM virtual meeting.

If you have not received the Zoom meeting email, contact president@austinastro.org for access information prior to the meeting
or
call Dawn (512-663-2249) or Tim (512-577-8340) at the start of the meeting for help connecting.

President's Notes

By Jim Spigelmire

Greetings. I hope this installment of "President's Notes" find you all safe and well. Things have certainly changed a lot since I sat down to write my March message. Unfortunately, the way COVID-19 has spread, it's likely that most of you are either personally impacted or know someone that has been. Also, as I'm sure you're aware, we had to cancel our March public and member-only star parties as well as the GA meeting due to the need to keep our members and the public safe. Looking ahead, we will continue to put off public and member-only star parties until such a time as it's deemed safe to resume those activities.

This is not true however for our GA meeting. Starting this month on April 10, we will conduct our first "Shelter in Place Remote General Assembly Meeting". The Executive Committee and I have decided to use an application called "Zoom" to facilitate our meeting. We've conducted a few practice sessions (including our April EC meeting), and we think we're ready to make it work. Each of you will be able to join from wherever you are by smart phone or computer. Hopefully, you've already received the email with the information you need to attend. If you want to prepare in advance to attend on your smart phone, you can go to the App Store on either your iPhone or Android device and download the free Zoom app from there.

It's also important to note that the officer elections traditionally held at

Banner: March 2020 Image of the Month: Rathijit Banerjee, Widefield M78

Austin Astronomical Society

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http://www.austinastro.org/

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the GA meeting in the month of April will NOT be held this month. The EC is exploring options for the election since we're not able to gather in person. There are still positions that have no candidate (including President and Members at Large), so please reach out to Joyce Lynch if you're interested in helping out.

We're also exploring the idea of conducting a series of remote workshops to help all of us stay connected to our passion for astronomy and to AAS. Stay tuned for more on this from our Member Services Chair, Tim Brown.

On a positive note, we finally received a draft agreement from our friends at Texas Parks and Wildlife for our relationship at Pedernales Falls State Park. The Executive Committee has reviewed the document, and TPWD stayed true to all our discussions. This means we're ready to sign the agreement and formalize how our two organizations will work together in helping to nurture the love others have for the sky. In summary the agreement states that AAS will facilitate 10 public star parties at Pedernales Falls each year (something we are already doing). In return, AAS will be provided a spot for our storage container and the ability to schedule as many as 4 private events at the Pedernales Falls observing field. This has been in the works for the better part of a year, so we're very excited to finally have it in place!

Clear Skies, and Don't Touch Your Face!

Jim

Inside This Issue

AAS Affiliations

http://darksky.org/

https://nightsky.jpl.nasa.gov

https://www.astroleague.org/

http://www.tsgc.utexas.edu/

REVISED ELECTION PROCEDURE FOR 2020-21 OFFICERS

The annual election of officers for the AAS Executive Committee is usually held in April, in accordance with the bylaws. Since there is no longer a provision in the bylaws for absentee balloting, voting should take place in person.

However, this year is different from every previous one in the 50 years AAS has been in existence. With the schedule for future in-person general meetings up in the air, the current EC has come up with a plan to go ahead and choose new officers for the officer year beginning June 1.

Our bylaws say that if there is only one candidate for an office, a vote is not necessary, but instead the person is automatically elected. At this point we have no contested races. The EC is proposing that if there is little objection, we will declare that the nominees currently in place are elected.

You can find a list of those nominees at http://austinastro.org/index.php/2019-aas-election/

If you object to this method, please send an email to president@austinastro.org

Even though we hope this will be a one-time occurrence, the EC will be working to establish procedures for voting in elections and for other required votes by the General Assembly when in-person voting is not feasible.

THE **ALCOR**NER

Your Astronomical League Update

By Dawn Davies, AAS Astronomical League Correspondent (ALCOR)

These are trying times we are in for the obvious reasons and because though we may be near our observing gear, constantly, the skies have not been too accommodating. That being said, there are still things you can do with your time indoors.

Take this time to:

- Catch up on reading the Astronomical League's quarterly publication, The Reflector. Current and past issues can also be found on the AL's website.
- Complete those observing program logs you keep saying you are going to finish.
- Submit a proposal for a new observing program, details and instructions here.
- If you are working on your Herschel II, click here to read about upgrades to the list.

As most of you may know, the Astronomical League Convention in Albuquerque has been cancelled. And while we were unable to hold our Messer Marathon last month, rest assured that the first chance for us to meet in person and observe together again at Bad Wolf Ranch will be a night to celebrate.
Until then consider working on one of the AL observing programs that does not need clear and dark skies:

- Analemma
- Astronomy Before the Scope
- Citizen Science
- Constellation Hunter – Northern Skies
- Dark Sky Advocate
- Hydrogen-Alpha Solar
- Lunar and Lunar II
- Radio Astronomy
- Spectroscopy
- Sunspotters

Feel free to reach out if you have any questions about all things AL related, and even those that are not.
Stay healthy, be well, and as always…

Clear Skies,

Dawn

Hubble at 30: Three Decades of Cosmic Discovery

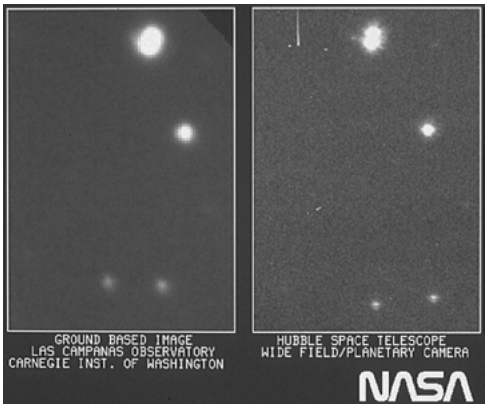
By David Prosper

The Hubble Space Telescope celebrates its 30th birthday in orbit around Earth this month! It's hard to believe how much this telescope has changed the face of astronomy in just three decades. It had a rough start -- an 8-foot mirror just slightly out of focus in the most famous case of spherical aberration of all time. But subsequent repairs and upgrades by space shuttle astronauts made Hubble a symbol of the ingenuity of human spaceflight and one of the most important scientific instruments ever created. Beginning as a twinkle in the eye of the late Nancy Grace Roman, the Hubble Space Telescope's work over the past thirty years changed the way we view the universe, and more is yet to come!

We've all seen the amazing images created by Hubble and its team of scientists, but have you seen Hubble yourself? You actually can! Hubble's orbit – around 330 miles overhead -- is close enough to Earth that you can see it at night. The best times are within an hour after sunset or before sunrise, when its solar panels are angled best to reflect the light of the Sun back down to Earth. You can't see the structure of the telescope, but you can identify it as a bright star-like point, moving silently across the night sky. It's not as bright as the Space Station, which is much larger and whose orbit is closer to Earth (about 220 miles), but it's still very noticeable as a single steady dot of light, speeding across the sky. Hubble's orbit brings it directly overhead for observers located near tropical latitudes; observers further north and south can see it closer to the horizon. You can find sighting opportunities using satellite tracking apps for your smartphone or tablet, and dedicated satellite tracking websites. These resources can also help you identify other satellites that you may see passing overhead during your stargazing sessions.

Image Credit: NASA

NASA has a dedicated site for Hubble's 30th's anniversary at bit.ly/NASAHubble30. The



Caption: Hubble's "first light" image. Even with the not-yet-corrected imperfections in its mirror, its images were generally sharper compared to photos taken by ground-based telescopes at the time. Image Credit: NASA

Night Sky Network's "Why Do We Put Telescopes in Space?" activity can help you and your audiences discover why we launch telescopes into orbit, high above the interference of Earth's atmosphere, at bit.ly/TelescopesInSpace. Amateur astronomers may especially enjoy Hubble's images of the beautiful objects found in both the Caldwell and Messier catalogs, at bit.ly/HubbleCaldwell and bit.ly/HubbleMessier. As we celebrate Hubble's legacy, we look forward to the future, as there is another telescope ramping up that promises to further revolutionize our understanding of the early universe: the James Webb Space Telescope!

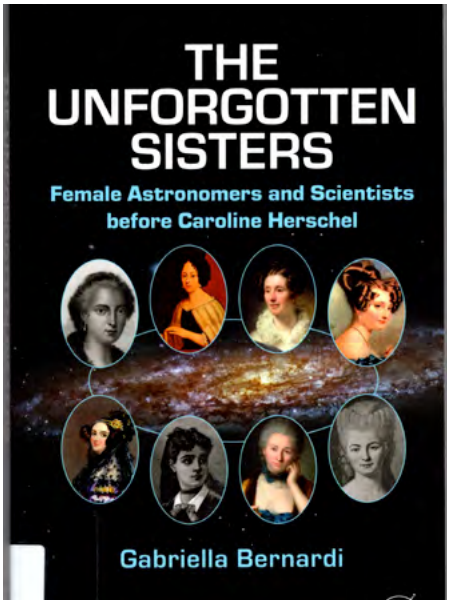
Discover more about the history and future of Hubble and space telescopes at nasa.gov.

This article is distributed by NASA Night Sky Network.
The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach.
Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Female Astronomers and a Self-Teaching Guide

Two Book Reviews By **Michael E. Marotta**

Here are 25 women who worked in astronomy before the modern era. Contrary to the title, Caroline Herschel herself is among the 25 astronomers whose lives are outlined. Caroline Herschel and Mary Somerville were both inducted as honorary members of the Royal Astronomical Society in 1836. Thus, Somerville (1780-1872), who also is chronicled here, was a younger contemporary rather than living "before" Herschel (1750 to 1848).



Caption: The Unforgotten Sisters: Female Astronomers and Scientists Before Caroline Herschel by Gabriella Bernardi (Springer Praxis, 2016, 179 pages, €67.59)

Each chapter includes a summary of achievements, commentaries about the woman and her work from her own society, and some "curious facts" though in one place the word is "curios." Other subheads appear as "Curiosity" without referring to an attribute of the astronomer herself. Writing about the sisters Christine Kirch and Margarethe Kirch, Bernardi calls Christine the eldest of the two. This thin book of 179 pages is replete with such blemishes. That reflects the fact that English was not the author's first language; and I suspect that German was her second. Springer's editors let a lot go by in order to bring these essential narratives to a large audience. Even so, the author introduces us to people we need to meet.

Most readers will recognize Hypatia of Alexandria and Hildegard von Bingen. En-Hedu-Anna of Babylon, Theano the Pythagorean, and Wang Zhenyi of 18th century China will likely be among the many newly met. Sophie Brahe and Elizabetha Hevelius will be known for their family names. Though have been eclipsed by the men in their lives, their own accomplishments shine apart. That is also true of Caroline Herschel. It depends on who writes the histories and how diligently the reader follows the threads of fact.

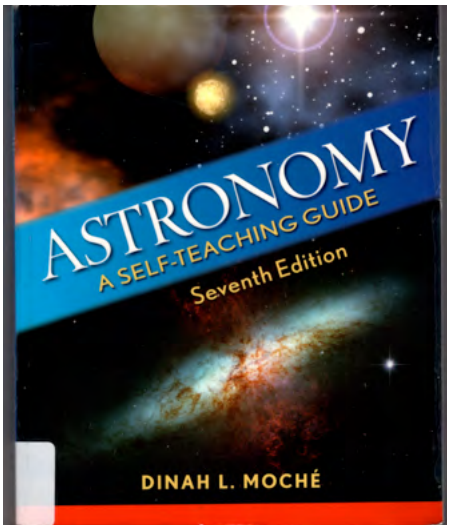
The author puts forward Christine Kirch as the first woman to be a professional astronomer. Starting in 1776, she was paid 400 thalers a year by the Berlin Academy of Prussia. Christine Kirch was the daughter of Gottried Kirch and Maria-Margaretha Winkelmann-Kirch. Winkelmann-Kirch has her own entry. She worked and socialized among astronomers, including Christoph Arnold Sommerfeld, before meeting Gottfried Kirch. She was his third wife and 30 years his junior. Their children were raised in the family business. Following the death of her husband, Winkelmann-Kirch was offered a post in Saint Petersburg after showing sunspots and other phenomena to the Tsar, but she refused because her son, Christfried, accepted a post at the Berlin Observatory. She died three years later.

According to the publisher's website, the title of the book is a turn on a line from a poem by Siv Cedering. The poem is an imaginary letter from Caroline Herschel; and you can find it on the Space Telescope Science Institute website under the tab for "STScI Research" which will take you to their Caroline Herschel Visitor Program. The program brings scientists to "act as mentors to junior scientists at the institute, especially women and other underrepresented groups." I found the website to have been newly rebuilt.

The URL http://www.stsci.edu/institute/smo/visitor-programs/caroline-herschel/poem is more direct.

The poem begins:

"William is away, and I am minding
the heavens. I have discovered
eight new comets and three nebulae
never before seen by man…"

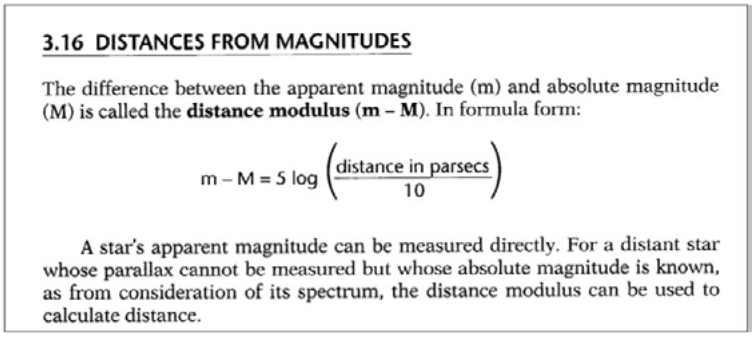


Caption: TAstronomy: A Self-Teaching Guide (Seventh Edition) by Dinah Moché, John Wiley & Sons, 1978-2009; 363 pages; $19.95.

This book went into an eighth edition in 2015, but is now out of print. I found the seventh edition at the Austin Public Library. After earning her BA at Harvard and doctorate at Princeton, Dinah L. Moché (1936-2018) taught at the Queensborough Community College of the City University of New York. She wrote 18 books, many of them on science topics for children. This could be used by a child, say a 10 or 12-year old maybe 5th or 6th grader, but is targeted to adults. This is an introductory survey textbook, suitable for a community college learner.

Historically, when not being lectured to, we read. Reading is largely passive. You can make notes, either in theh margins or in a notebook, but you are on your own. The delivery here is as interactive as a book can be. The presentations typically run one to three paragraphs and each ends with a short pop-quiz. The answers to those are right there under the questions. At the end of each section is a larger self-test. The answers there are on the pages following the quiz. All of that is enough to make you stop and think about what you read, recalling facts, and drawing conclusions.

The content is narrative with very little mathematics required of the reader. Numbers abound, but you are not required to find their square roots or logarithms to answer the questions. Those do appear in the narrative as necessary.



3.16 DISTANCES FROM MAGNITUDES

The difference between the apparent magnitude (m) and absolute magnitude (M) is called the **distance modulus (m – M)**. In formula form:

$$m - M = 5 \log \left(\frac{\text{distance in parsecs}}{10} \right)$$

A star's apparent magnitude can be measured directly. For a distant star whose parallax cannot be measured but whose absolute magnitude is known, as from consideration of its spectrum, the distance modulus can be used to calculate distance.

Chapter 3: The Stars; Page 82

In the two self-quizzes for this section, you can find the answers by taking the differences between m and M, which are given.

This book also takes a new direction in the order of presentation. Traditionally, after some discussion of coordinate systems for talking about the sky, most books start with the Sun or Moon, go on to the planets in order away from the Sun and then engage the warp drive. This book starts with deep space after two chapters on orientation to the sky and how telescopes work. Chapter 8 is Exploring the Solar System. Chapter 9 covers the planets. The Moon is Chapter 10. As authoritative and reliable as this book (or any textbook) is, the methodology of science begins with the axiom that there's a lot we don't know. "The manner and place of birth of the Moon remain a mystery." (page 282) Dr. Moché then presents the impact-ejection hypothesis as the most popular. It so happened that just a couple of days before I had been reading about theories on how the Moon formed. So, as authoritative and reliable as this learning guide is, the reader can and should stop to follow up with the most recent publications. All sciences are about exploration and discovery. Final answers seem elusive.

I got this book for myself. Then, I thought about the fact that outreach is one of the three mission goals of the Austin Astronomical Society. Something like this could be a foundation for an online interactive presentation hosted by the AAS on our website or a different platform. The current Covid-19 outbreak is not just here for the present and near-future. It could change much about how we interact with each other in a global information-driven society.

Observing Targets March 2020

By Brian Cuthbertson

As the saying goes, March comes in like a lion and goes out like a lamb. Astronomically speaking, we do have a lion in our night skies this time of year, two in fact: Leo and Leo Minor. But a lamb? Sorry, I guess the ancients were unaware of the adage when they named the springtime constellations. But there are of course stars designated Lambda, based on Bayer's catalog. Since Lambda is the 11th letter in the Greek alphabet, these stars would typically be the 11th brightest in the constellation, as perceived by Bayer. For example Lambda Leo is just 4th magnitude. Since most constellations north of the equator have a star designated Lambda (I count 65), there are many more Lambdas than Leos. So astronomically, perhaps we can say that March comes in like a Leo and goes out like a Lambda. Or maybe not. But as always, enjoy!

R Leonis rating EASY

Long period variable in Leo
RA 09h 47.5m Dec +11d 25.7' (2000)
Magnitude range 5-10

Located at the front feet of Leo about 5 degrees due west of Regulus in the same binocular field, R Leonis is an easy catch, especially when at its 5th-magnitude maximum.

R is a long-period variable star, one of the brightest of the type, and the fourth example discovered. Its variability was first recognized in 1782 by J.A. Koch, a physician-astronomer who observed its changes with his naked eye from Danzig, Germany. (Obviously Darin's clan has a long-standing interest in astronomy!) The only other 3 long-period variables known at the time were Omicron Ceti (Mira, the prototype of the class), Chi Cygni, and R Hydrae. Today thousands of these variables are cataloged. R Leo's period is roughly 10 months, varying from 307 to 318 days, and a 2.4-inch refractor is sufficient to monitor it throughout its cycle. A pulsating red giant, R rises to about 5th magnitude at maximum, and drops to 10th or below at minimum. At rare extremes, it has become as bright as 4.4 and dropped as faint as 11.1.

A great help in identifying R is its intense red color, sometimes described as rosy scarlet with a touchy of purple. In addition, R Leo inhabits an easily remembered binocular field at both maximum and minimum. At maximum it is comparable in brightness to nearby 6th-magnitude 19 Leo (9' NW), and 5th-magnitude 18 Leo (half a degree NW). In a dark sky the resulting field is strikingly colorful: 19 Leonis (spectrum A3) is a contrasting, sparkling white, while 18 Leonis (K4) is golden yellow. At minimum, R forms the eastern corner of an easy 5' triangle with two 9th magnitude stars to its west.

M109 rating MEDIUM

galaxy in Ursa Major
RA 11h 57.6m Dec +53d 22.3' (2000)
Magnitude 9.8

Located less than a degree ESE of 2nd-magnitude Gamma UMa (Phecda) in the bowl of the Big Dipper, M109 is a barred spiral galaxy that can be difficult for smaller scopes. It was discovered by Pierre M¦chain in 1781, and in 1783 cataloged by Charles Messier as his 109th object. Even so, until the 1950s, Messier objects over 103 were not considered official. But this changed by the 1970s, and today M109 and all Messier objects through M110 are commonly accepted by astronomers.

One of the faintest Messier objects, M109 usually needs a 3-inch or larger telescope to be seen. A 4-inch scope at 100x shows a very faint, oval halo aligned ENE to WSW surrounding a brighter core. Viewing can be improved by using a power high enough to keep nearby Phecda out of the field of view.

M109 is a "liner" galaxy, showing an emission-line spectrum over a large area of its central region. Unlike

Seyfert galaxies and quasars, the dominant "liner" emission region is not confined to a tiny nuclear spot, but often involves a sizable fraction of the galaxy's central bulge.

M109 has at least 3 satellite galaxies (UGC 6923, 6940 and 6969). And it is the brightest member of the M109 galaxy group, also known as the Ursa Major I group, which consists as many as 50 galaxies, generally located about 55 million light years away.

NGC 3132 rating HARD

planetary in Vela
RA 10h 07.0m Dec -40d 25.6' (2000)
Magnitude 9.4, dim 84x53"

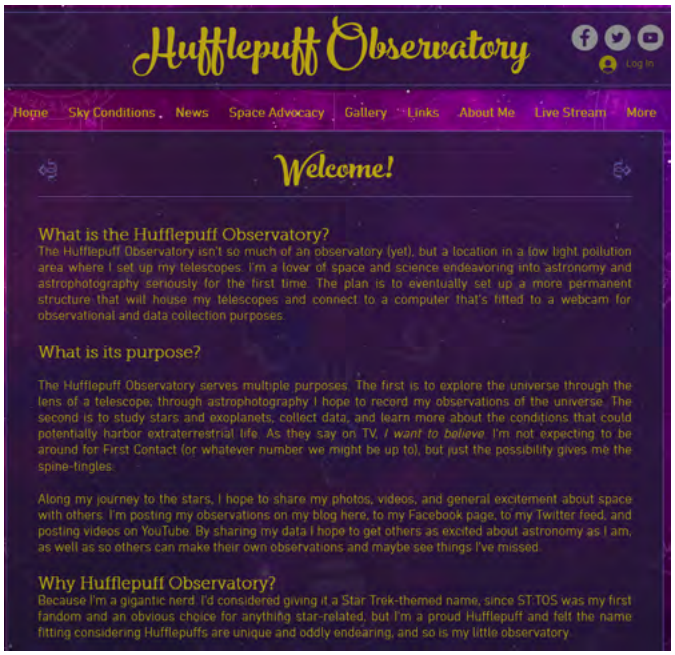
Nicknamed the "Eight Burst" planetary, NGC 3132 is a southern sky resident. You'll find it sitting squarely on the Vela-Antlia border, and included by some observing guides in Antlia instead of Vela. The nearest reasonably bright marker star is 4th magnitude SAO 221895, just over 2 degrees SE in Antlia.

Although about the same size as its more famous cousin, the Ring Nebula in Lyra, NGC 3132 is actually more conspicuous than the Ring. This is due to its unusually bright central star (A0 star HD 87892), listed as either 9th or 10th magnitude in various catalogs. Both nebula and star are clearly visible in a 6-inch scope at 75x. When observing it, though, remember that the nebula is excited to shine, not by the bright central star you see, but instead by its 16th magnitude companion, whose surface temperature is 100,000 degrees Kelvin!

On deep images the nebula's disk is noticeably elliptical, with a structure suggesting the surface of several oval rings superimposed and tilted at different angles; hence its nickname. Also visible are a conspicuous horizontal girdle, as well as a thin dust lane that cross the planetary at a 60-degree angle on its western side. The whole complex has a slight bluish tint, and lies about 2800 light-years away.

Hufflepuff Observatory

Watch Live



I kid you not... Club member Deanna Rose Bressie has a website for her astronomy projects.

https://www.hufflepuffobservatory.space

She does live streamings, posts her photos, and so on. Deanna helped at our outreach at Akin Elementary last November. (See the December issue of Sidereal Times.) She brought two Celestron computer-guided telescopes and a power tank to run everything.

Outreach Report **April 2020**

By Joyce Lynch, Outreach Chair

Obviously, there hasn't been much outreach in the last month, and that will continue to be the case for a while. Our next event should be June 13 at Pedernales Falls State Park.

This break in activity gives you plenty of time to submit your information for the background check that both Pedernales Falls and Inks Lake State Parks are now requiring. Any volunteer 18 years old and above needs to have one. The process is taking longer than usual these days due to the shutdown of the TPWD headquarters, but we can hope there will be plenty of time between now and June 13 for the process to be complete.

To help facilitate AAS sign-up, TPWD has created a custom link for us on the Pedernales Falls website (this background check is good for volunteering at all state parks):

https://tpwd.samaritan.com/recruiter/1353/OppDetails/220624/Pedernales-Falls-State-Park-Austin-Astronomical-Society-AAS-Night-Sky-Volunteer/#.XlkqzahKiUk

If you have any questions, email outreach@austinastro.org

Other Up Coming Events

AGM
Mark your calendar for the November 12 -15, 2020 IDA Annual General Meeting (AGM) in San Antonio!

Texas Night Sky Festival® at McDonald Observatory
Get ready to enjoy a little West Texas on April 24 & 25, 2020 when McDonald Observatory runs the Texas Night Sky Festival®. They will be hosting events and trainings before and after the main event. Check their website for details.

Calendar of Events

10 Apr. 2020
General Assembly Meeting
7:30 PM
Zoom Video Meeting
@ Stay at Home

11 Apr. 2020
Public Star Party
7:30 PM - 10:00 PM
@ Inks Lake State Park
Canceled

18 Apr. 2020
Members Only Star Party
8:00 PM - 11:00 PM
@ Bad Wolf Ranch
Canceled

Image of the Month

April 2020

Congratulations to

Tim Kenyon

Comet C/2011 L4 (PanSTARRS) near the young crescent moon.

Tim Kenyon took this photo of Comet C/2011 L4 (PanSTARRS) near the young crescent moon in March 2013.

Canon 60Da, 135mm lens (F2.8), 1/2 sec. exp., ISO 1600, taken Mar 23, 2013 (evening twilight) near Hempstead, TX. Smoke from nearby agricultural fires caused the pastel colors along the horizon. I estimated the comet to be as bright as magnitude 0. It has been anticipated that Comet C/2019 Y4 (ATLAS) may be this bright in late May, however recent evidence indicates that C/2019 Y4 (ATLAS) is breaking apart and may not survive to perihelion.

Members' Gallery

by Rathijit Banerjee
Bok Globules in Rosette Nebula

Imaging telescope: Celestron EdgeHD 1100 with 0.7x Reducer
Imaging camera: ZWO ASI1600MM-Pro
Mount: Astro-Physics 1100GTO-AE
> Astrodon Ha 36mm 5nm: 24x300" (gain: 100.00) -10C bin 1x1
> Astrodon Oiii 36mm 3nm: 20x300" (gain: 100.00) -10C bin 1x1
> Astrodon SII 36mm 3nm: 6x300" (gain: 100.00) -10C bin 1x1
Total Integration: 4.2 hours

by Tim Kenyon
TKenyon Kitt Peak 4M-1

Iconic view of the dome that houses the 158 inch (4 meter) telescope on Kitt Peak in Arizona.

by Tom Campbell
M81 & M82

LRGB image 960 seconds each RGB, 3600 seconds Luminousity. Combined in AstroPixelProcessor, finished in Photoshop CC. ZenithStar 61, ZWOasi183mm.

by Tom Campbell
IC443

IC443 supernova remnant: combined image in H alpha and Oiii. 15 each 300 second subs, ZenithStar 61, ZWO 183mm from my backyard.

Treasurer's Report March 2020

By John Cassidy, Treasurer

Treasurer's Report 3/31/2020						
Checking Account						
	3/31/20	0.050% APY Earned 0.05%	$0.38	$8,388.74	Interest	
	3/26/20	Life Storage #390 0698727956	($75.00)	$8,388.36	Storage Unit	
	3/16/20	Deposit	$28.00	$8,463.36	Membership	
	3/13/20	CHECK #2227 Terry Phillips	($593.96)	$8,435.36	Outreach	
	3/12/20	ITE SERVICES 800-4770854 FL 0	($177.93)	$9,029.32	Portapotties	
	3/11/20	CHECK #2225 Brian Lippincott	($119.06)	$9,207.25	Equipment	
	3/9/20	CHECK #2226 Joyce Lynch	($64.96)	$9,326.31	Outreach	
Donations Account						
	3/31/20	APY Earned 0.25%	$1.37	$2,211.24	Interest	
	3/16/20	Deposit	$10.00	$2,209.87	Donation	
Scholarsip Account		No Activity	$2.60			
CD #1	3/31/20	1.982% APY Earned 2.00%	$10.04	$5,972.98	Interest	
CD #2	3/31/20	1.490% APY Earned 1.50%	$7.50	$5,930.73	Interest	
PayPal Account						
			Gross	**Fee**	**Net**	**Balance**
	3/28/20	Carl Phillips	$40.00	-$1.18	$38.82	$1,168.72
	3/17/20	Robert Snyder	$40.00	-$1.18	$38.82	$1,129.90
	3/15/20	Nancy Chitrit	$40.00	-$1.18	$38.82	$1,091.08
	3/14/20	Eric Howard	$25.00	-$0.85	$24.15	$1,052.26
	3/13/20	Steven Bingham	$25.00	-$0.85	$24.15	$1,028.11
	3/5/20	Tony Sanders	$40.00	-$1.18	$38.82	$1,003.96
	3/4/20	Matthew Oster	$40.00	-$1.18	$38.82	$965.14
3/31/2020 Balances						
		Checking Account	**$8,388.74**			
		Donations Account	**$2,211.24**			
		CD No.1	**$5,972.98**			

EC Minutes **February 2020**

By Terry Phillips, Secretary

Attending: Jim Spigelmire, Brian Lippincott, Joyce Lynch, Greg Rohde, Michael Marotta, Terry Phillips, Tim Brown, Domingo Rochin, Dawn Davies, Gordon Schaefering

Call to order at 7:00 PM.

There were no December EC minutes to approve.

Treasurer – John Cassidy

1. Our bank balance stands at $24,527.00. No other items open for discussion currently.

Equipment – Brian Lippincott

1. Seven members under Brian's direction worked on cactus removal on the observing field at Bad Wolf Ranch (BWR). Using a variety of techniques, mostly burning and grubbing, the team were able to clear an impressive portion of the field. Most of the area designated for observing has been cleared as well as around the observatory dome.
2. Property owner, AAS member Alan Carruth reminded us that he wants us to keep a fairly tight lid on disclosing the exact coordinates of the site going forward.
3. The CONEX storage unit has been purchased, but the vendor is keeping the unit on their site while we wait for Pedernales Falls State Park (PFSP) to ready the landing footprint at the park.
4. All DOB loaner scopes are currently out. At least two are coming due for return in February.

Outreach – Joyce Lynch

1. Over 110 visitors attended the public star party at PFSP on January 18th at the alternate observing field near the swimming area. We will return to the star theater for our next excursion to PFSP on February 15th.
2. Need volunteers for Park Crest Middle School on February 4th.
3. Need volunteers with solar scopes for Girl Start on the UT campus February 22nd. Brian and Terry to get the 90mm Coronado and the 40mm PST ready for this event.

Member Services – Tim Brown

1. No Mansfield Dam excursion this month.
2. GA meeting on the 14th Bill Ambrose for the main meeting. Dawn will provide the Practical Astronomy session on AL league observing programs and other things ALCON.
3. Tim and Alan will make a trip to BWR to photograph the sites for our website.

MAL – Greg Rhode

1. Just back from PF. The park reset the CONEX footprint slightly. Gravel in onsite and ready to be spread.
2. MOA should be ready to circulate for our approval within two weeks. PF may setup the CONEX foundation before the MOA is finalized.
3. Discussion on keeping Safety Box on the CONEX. PF is willing to let us keep it there.
4. An anonymous donor will be underwriting the A/C and generator units for the CONEX.
5. Overall CONEX expenses have increased, but still within our original budget.

MAL – Michael Marotta

1. Mike submitted a report with suggestions for enhancing our outreach program
2. Joyce to review Mikes' report and provide feedback to the EC.

ALCOR – Dawn Davies

1. Practical on AL Programs for February meeting
2. Held an involved discussion on the value to our club of the AL membership. Looks like we may not be getting as much bang for the buck as we' like. Only two awards given in the past year. More discussion is warranted.
3. Greg reiterated that we publish a what's up in the sky from the AL lists this month similar to Dallas Club.

Other Business

- Jim tried out the application for state park background check. Found a lot of boiler plate material to wade through. He urged us to check out the process and start signing up. PF will pay for the background check. In the volunteer form you agree to the check, and PF will execute it based off you driver license number and other identifying info.
- There was a discussion on AAS member who wanted to visit PF for the observing, but not interact with the public. PF said this was ok and mentioned that we could partition certain areas of the field for their use without having to have a background check.
- Messier Marathon is scheduled for BWR on March 21st
- Terry will host the February 14th GA meeting in Jim's absence
- Discussion on this year's nominating committee and the need to get candidates lined up by middle of March.
- A motion was made and approved to return the entirety of the 2019 Eldorado Star Party partners check for $978.50 to ESP to go toward the 2020 party.
- Gordon asked EC to review his recently completed 18 page Guide for New Astronomers and make comments and/or suggestions.

GA Minutes **February 2020**

By Terry Phillips, Secretary

Call to order: 7:30 pm at UT campus, ETC II 2.136
Secretary Terry Phillips presiding
Quorum was met.

There were no December minutes to be approved.

Treasurer – John Cassidy
Our bank balance stands at $24,507. We have 436 active members.

Outreach – Joyce Lynch
Upcoming public star party at Pedernales Falls State Park (PFSP) on February 15th.
Need volunteers for Girl Day at UT February 22nd.
Public star party at Inks Lake State Park on February 29th from 6:00-8:00PM
Hill Country Fair is April 4th. Joyce and Cindy Cassidy are working up the details

Equipment – Brian Lippincott
Our CONEX storage structure is still being held by our vendor while we determine if it should be delivered to Brian's or to PFSP. Looks like it will go to Brian's first for final mods to be made before delivery to PFSP.

Thanked volunteers for their service in the cactus eradication workday at Bad Wolf Ranch observatory (BWR).

A former member has contacted AAS to discuss donating his 20 inch Telekit Dobsonain with John Hall mirror. Brian accepted on behalf of AAS. Plans are under way to deliver the scope after we have setup the CONEX storage structure at PFSP.

Discussed status of club solar scope to make them ready to support Girl Day at UT.

Member Services – Tim Brown
Discussed details for holding Messier Marathon at BWR March 21st.

Old Business:
Discussed April elections for AAS officers and the need for nomination of several key positions.

ALCOR – Dawn Davies
Discussed navigating the mid-February night Sky
Discussed observing the current dimming of Betelgeuse.

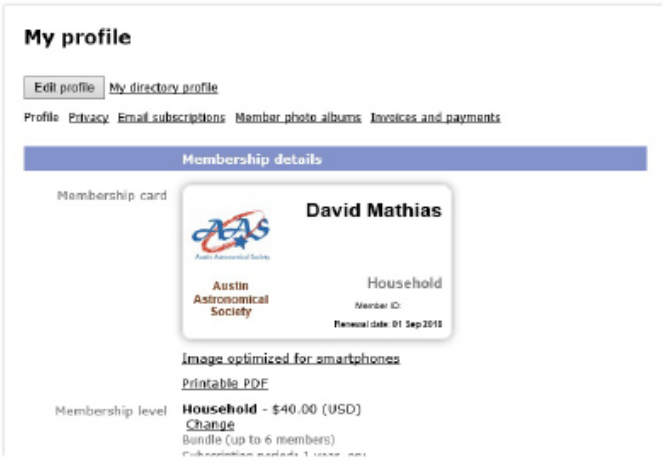
What's Up segment – Brian Lippincott
Talked about an astrobites article on Vera Ruben's research and dark matter hypothesis
Large Synoptic Survey telescope is going online in 2022.

Main Presentation – Bill Ambrose
Bill presented his talk on Dangerous Places in the Solar System.

Meeting adjourned at approximately 9:22

Membership Cards Now in Your Profiles

At last, Wild Apricot, our membership database vendor, has made available to its customers membership card templates. Now, under your AAS membership profile you will see a mockup of a card with your name, Membership ID and membership expiration date. You are offered two options for displaying your card: one which is suitable for displaying from a smartphone, and another printable PDF which you can cut and laminate to your heart's delight.



NIGHT SKY NETWORK

The Night Sky Network is a nationwide coalition of amateur astronomy clubs bringing the science, technology, and inspiration of NASA's missions to the general public. AAS members can register with NSN and receive the NSN newsletter and email about upcoming webinars and any additional information or announcements created by the NSN for members. They will be able to search for resources, view all of the toolkits and the files, and access the downloads in each kit.

If you are interested in registering, here is the procedure.

Go to https://nightsky.jpl.nasa.gov/index.cfm
Enter your zip code in the upper right box for CURRENT LOCATION.
Scroll down to CLUBS NEAR YOU and click on AAS.
Click on Register in the toolbar on our page.
Fill out the form and submit.

Your form will be sent to the club for approval.

If you have any questions, email outreach@austinastro.org

Joining AAS or Renewing Membership

To join or renew your membership to AAS, please visit: http://austinastro.org/index.php/why-should-you-be-a-member/ There are six membership levels to choose from:

Household Bundle (up to 6 members) $40.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members of a household living at the same address.

Household With Senior (up to 6 members) $28.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments.
For members of a household living at the same address and at least one member is over 65 years of age.

Junior $15.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members up to age 18.

Students $15.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members age 18 and older.

Regular $25.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For individual members.

Seniors $15.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members 65 years of age or older.

Visit Dawn Davies' *Earthbound Astronomer* website at https://www.earthboundastronomer.com/

Amy Jackson's website is http://www.starryskyaustin.com/. Learn more about her children's book about astronomy at http://www.starryskyaustin.com/childrens-book-project/

Rob Pettengill's site can be found at http://astronomy.robpettengill.org/. Rob's material shared per CC BY-NC-SA 4.0 license.

Celestial Teapot's product catalog can be found at http://messierplanisphere.com/

Joseph Macry writes a weekly column for Manor Community News: "This Week in Astronomy". You can read the online edition here: http://manorcommunitynews.com/

Officers of The Society **2019-2020**

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