MONTHLY MEETING

In-Person GA Meeting
Friday, May. 12, 2023
7:00 PM
Note: Zoom & YouTube link will be provided via email.

Highland ACC
Building 1000, 2nd Floor, Room 2405
@ 6101 Highland Campus Drive
7:00 PM - 8:50 PM
GENERAL ASSEMBLY

After Meeting Meetup
Easy Tiger restaurant

Featured Speaker:
AAS member Bill Spizzirri

Our speaker this month will be AAS member Bill Spizzirri with a Zoom presentation on The VLA Radio Observatory. The meeting will be broadcast on Zoom and our AAS YouTube channel.

President’s Notes
By Joyce Lynch

As life is getting back to normal (whatever that is!), we are resuming a couple of the activities we used to do in the past. We had a great Central Texas Star Party, our first since 2017 and led by Member Services Chair Chris Bernhardt, and we’re now going to look forward to another event we haven’t had for a while—Austin Under the Stars to be held at St. Stephen’s Episcopal School on August 5. This will be our first AUTS since 2019, and I bet we can expect a large crowd of visitors eager to look at the sky. My first brush with AAS was in the late 90s, I believe, when my family saw a notice in the newspaper about the event; we went, and a few years later I got involved with the club. Mark your calendars now and look for more details as we get closer to the date.

Of course we will have meetings and star parties before then and that brings me to the question of meeting locations. We’ll have our third meeting at ACC this coming Friday, after being there in January and February with our March meeting back at UT. There are advantages and disadvantages to both locations. ACC has better parking, but use of the room does cost money, and we have to be out of the building by 9:00. At UT the room is free, and there is no required end time, although the building does get locked at 7:00 so we have to make arrangements to let people in after that. Parking at UT can be difficult and/or expensive, and in the past there have been months when the room was not available because of UT’s need for the space. I would appreciate hearing from you about what you think. Do you prefer ACC or UT? Do you think it would be confusing to alternate between the two? Please send your thoughts about this question or any other issue to me at president@austinastro.org

Preparations for the upcoming solar eclipses continue. We now have 3300 pairs of eclipse glasses purchased with part of a donation made by Richard
Hendrix and Angie Lemon several months ago. The Executive Committee will be deciding how to use those glasses—how many we will give away, especially to kids, and whether or not we will sell some to make a small profit. Our main interest is in making sure people can safely observe the event. Thanks to the 75 or so members who responded to the eclipse survey. The EC will study the responses and come up with some protocols for members wanting to go to Pedernales Falls State Park or our Bad Wolf Ranch.

On a completely non-AAS note, I just finished reading Project Hail Mary by Andy Weir, who also wrote The Martian. It had a lot of science-y stuff, which I didn’t try to understand completely, but it is also the story of a productive and emotionally rewarding relationship in space. Many of you have probably read it; if you haven’t, you might want to check it out.

As my personal astrophysicist Neil deGrasse Tyson says, keep looking up.

Joyce

May 2023 Meeting Guest Speakers: Bill Spizzirri

Topic: “The VLA Radio Observatory”

Bill Spizzirri is a retired mainframe software engineer from Chicago. He has been studying astronomy for about 65 years. He has belonged to several astronomy clubs for 43 years and served in various offices including president of an astronomy club in Chicago. His favorite astronomy activity is teaching children and the general public. He currently lives in Katy to be near his three grandchildren.

The meeting will be broadcast on Zoom (link below) and our AAS YouTube channel:

https://www.youtube.com/@austinastro7430/live
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## AAS Affiliations

- [IDA International Dark-Sky Association](http://darksky.org/)
- [Night Sky Network](https://nightsky.jpl.nasa.gov)
- [Astro League](https://www.astroleague.org/)
- [Texas Space Grant Consortium](http://www.tsgc.utexas.edu)
April 8, Inks Lake State Park: This public star party was cancelled due to inclement weather forecast.

April 21, Jester King Brewery: A private event. Dawn reported there was a good crowd turnout and support from AAS volunteers.

April 22, Pedernales Falls State Park: This public star party was cancelled due to inclement weather forecast.

Upcoming Events: Blaze School Family Campout on May 4; Travis Audubon Society Baker Sanctuary in Cedar Park on May 5; Pedernales Falls State Park public star party on May 13, Girl Scouts at Summit Elementary on May 19.

St. Stephens School has given approval for us to host Austin Under the Stars at their campus on Saturday August 5, 2023, from 6:00 PM to 11:30 PM. More details in next month’s outreach report.
The Central Texas Star Party was a success! Here are some pictures submitted by members who attended.
Nominees for the **EXECUTIVE COMMITTEE FOR THE YEAR 2023-24**

The Nominating Committee--Joi Chevalier, Jake Knobloch, Susie Soderquist--presents the following slate of nominees for the Executive Committee for the year 2023-24.

<table>
<thead>
<tr>
<th>Position</th>
<th>Nominees</th>
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<tbody>
<tr>
<td>President</td>
<td>Joyce Lynch</td>
</tr>
<tr>
<td>Vice-President</td>
<td>Jamie Canfield</td>
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<tr>
<td>Secretary</td>
<td>Jess Cagnolatti</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Charles Stark</td>
</tr>
<tr>
<td>Communications Chair</td>
<td>Terry Phillips</td>
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<tr>
<td>Equipment Chair</td>
<td>Greg Rohde</td>
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<tr>
<td>Member Services Chair</td>
<td>Brooke Ramey</td>
</tr>
<tr>
<td>Outreach Chair</td>
<td>Ed LaBelle</td>
</tr>
<tr>
<td>Members-at-Large</td>
<td>Steve Barrett, Tony Cagnolatti, Bill Gammerdinger,</td>
</tr>
<tr>
<td></td>
<td>Brian Lippincott, Domingo Rochin, Susie Soderquist</td>
</tr>
</tbody>
</table>
RATING EASY

**T Ursae Majoris**

Long-period Mira-type variable star  
**RA 12h 36.4m Dec +59d 29.0’ (2000)**  
**Magnitude range 7.7-13**

As an exercise, every amateur should follow a Mira variable star over a cycle or two. It's a perfect way to actually see something change up there beyond the solar system. One instructive target (among many) is the normal long-period (Mira-type) variable T Ursae Majoris, or T UMa for short. The star was discovered to be variable in 1860 at Bonn Observatory in Germany, by observers compiling the Bonner Durchmusterung (BD) star catalog.

T UMa is a red giant star whose variability is primarily due to pulsations in its outer layers that cause slight changes in both its size and temperature. These variations don't repeat exactly from one cycle to the next. As a result, over its 257 day (8.5 month) period T UMa typically ranges between magnitudes 7.7 and 12.9, but its extremes can range as bright as 6.6 and as faint as 13.5.

Binoculars can follow it over most of its cycle, but a telescope is needed to chase it all the way to minimum.

One nice thing about T UMa is its far north location, which allows it to be followed for reasonable amounts of time. T UMa is relatively easy to find. Just start with the Big Dipper’s handle and find Megrez (Delta UMa, where the handle joins the bowl) and Alioth (Epsilon UMa, the first handle star beyond Megrez). T UMa lies above these two, about 4 degrees from each, forming a rough 4-degree equilateral triangle with them.

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RATING MEDIUM

**NGC 5005**

spiral galaxy in Canes Venatici  
**RA 13h 10.9m Dec +37d 03.0’ (2000)**  
**Magnitude 9.8**

Sitting just 3.5 degrees SE of Cor Caroli (Alpha CVn), NGC 5005 is an easy find in spring skies. Also known as Caldwell 29, NGC 5005 is an inclined spiral with a relatively bright nucleus and a bright disk that contains multiple dust lanes.

The galaxy is an easy object even in smaller scopes. Both a 2.4-inch refractor and a 6-inch reflector will show a 3x1’ patch with a strongly concentrated center. Larger scopes naturally provide more detail: a 12-inch class reflector will show a 4.5x1.8’ object with a 1’ core and a bright nonstellar nucleus.

X-ray observations show that this nucleus contains a variable, point-like hard X-ray source, characteristic of the emission expected from hot, compressed gas in the environment around a supermassive black hole.

NGC 5005 is classified as a LINER galaxy. LINER (low ionization nuclear emission region) galaxies are very common, composing about 1/3 of all nearby galaxies (within 20-40 Mpc). LINER energy sources have been a matter of debate. Some professionals propose supermassive black holes as the energy source, which would certainly fit NGC 5005. Others believe that star formation regions are responsible.

Adding to its interest, NGC 5005 is a physical pair with nearby 10.8 magnitude spiral
galaxy NGC 5033, just under a degree SE. The two galaxies weakly influence each other gravitationally, but they aren’t yet close enough to each other to be distorted by mutual gravitational tidal forces.

NGC 5033 is a loose open spiral with an active Seyfert nucleus. Oddly, the Seyfert nucleus is not located at the kinematic center of the galaxy (the point around which the galaxy’s start rotate). This has been interpreted as evidence that NGC 5033 may have undergone a merger.

The NGC 5005/5033 galaxy pair lies in the range of 40 to 60 million light-years out, or roughly 20 to 30 times farther away than our neighbor M31, the Andromeda galaxy.

HCG 68 is an interesting little galaxy quintet in Canes Venetici. The group lies about 10 degrees south of Alkaid, the star at the end of Ursa Major’s tail (or at the end of the Big Dipper’s handle if you prefer). HCG 68 extends over about 5’ North to South, and is marked by an 6.5 magnitude K5 star just 3’ to its west.

Three of the HCG 68 galaxies are bright enough to be visible in an 8-inch scope, and form a north-to-south line. 11th-magnitude galaxy NGC 5353, a flattened E5 elliptical, reigns at the south end of this as the brightest quintet member. It forms a striking pair with 11th-magnitude S0 galaxy NGC 5354 just 1.2’ north. About 4’ north of this pair lies NGC 5350, an almost face-on barred spiral galaxy which is the quintet’s largest member. Because this galaxy is nearly face-on and thus spread out, and because of the the nearby 8th magnitude star to the southwest, NGC 5350 is a more difficult target than its southern neighbors.

A few minutes off to the east of this 11th-magnitude trio are two outlying 14th magnitude galaxies, NGC 5355 and NGC 5358, which complete the quintet. Expect to use at least a 10-inch scope to nail these two. The entire group, ranging from 110 to 120 million light years distant, is a subset of a linear association of galaxies pointing away from the Coma Cluster.

HGC 68 is shorthand for Hickson Compact Group 68, one of a list of 100 compact galaxy groups published in 1982 by Paul Hickson, who found them by studying the red prints of the Palomar Sky Survey. The list contains a number of good deepsky challenges for large telescope users.

FOR HIRE

**Teach Astronomy on Saturday Nights**

McKinney Roughs Nature Park (between Austin and Bastrop) is looking for a few candidates to hire for teaching astronomy on Saturday nights. This is a paid position.

Job duties would involve pointing out constellations with historical and cultural stories, setting up and managing multiple Dobsonian scopes and a Nexstar 8 Schmidt-Cassegrain.

There are planetary, lunar, and nebula filters with a wide array of eyepieces to help augment the observing experience. Training will be provided, but experience in public viewing at star parties is preferred.

Contact Nicholas Cowey if you are interested. Nicholas.Cowey@lcra.org
Congratulations City of Bee Cave! Last month, April 2023, they obtained their certification as an International Dark Sky Community through DarkSky International. This achievement is in no small part due to the hard work and persistence of the city employees, city residents and the many friends of the dark sky that were involved in the process. The city joins the growing network of Texas and international cities and communities that are awakening to the spread of light pollution and choosing to do something about it. As previously mentioned in this column, the night skies have gotten 10% brighter every year for the last 13 years. Our night skies are fading and natural darkness is disappearing. An estimated 80 percent of Americans have never seen the Milky Way. As astronomers, we know the difficulty that this poses to us. There is also a growing body of knowledge that is uncovering the harmful effects that light pollution causes to our bodies, the livelihood of animals and of plants.

Bee Cave has been working for a few years now on their certification, educating their community about the beauty of dark skies and educating the public on ways to preserve them. They adopted a lighting ordinance in 2021 that officially incorporated the 5 principles of responsible outdoor lighting, shared here again for you.

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Dark Sky week, celebrated last month, was a huge success. Austin Astronomy Club was represented at the Jester King for their annual Star Party, hosted by our very own Dawn Davies and the Hill Country Alliance. Our president Joyce Lynch shared with the 160 or so attendees about astronomy and the importance of dark skies. The beauty of the skies and the celestial bodies was observed and enjoyed by all, maybe even by some of the goats that the Jester King kept and let loose on the surrounding grounds to feed. Our celebrations were a part of a global celebration of dark skies, through city and county proclamations, star parties, and general raising of awareness of the harms from light pollution.

Darksky Bonus: Calling all AAS photographers! DarkSky International’s annual “Capture the Dark” photography contest is open for entries and final entries are due June 30th. Find out more at: https://capturethedark.darksky.org/2023
Have you ever witnessed a total solar eclipse? What about an annular solar eclipse? If not, then you are in luck if you live in North America: the next twelve months will see two solar eclipses darken the skies for observers in the continental United States, Mexico, and Canada!

Solar eclipse fans get a chance to witness an annular eclipse this fall. On Saturday, October 14, 2023, the Moon will move exactly in front of the Sun from the point of view of observers along a narrow strip of land stretching across the United States from Oregon to Texas and continuing on to Central and South America. Since the Moon will be at its furthest point in its orbit from Earth at that time (known as apogee), it won’t completely block the Sun; instead, a dramatic “ring” effect will be seen as the bright edge of the Sun will be visible around the black silhouette of the Moon. The distinct appearance of this style of eclipse is why it’s called an annular eclipse, as annular means ring-like. If you are standing under a tree or behind a screen you will see thousands of ring-like shadows projected everywhere during maximum eclipse, and the light may take on a wan note, but it won’t actually get dark outside; it will be similar to the brightness of a cloudy day. This eclipse must only be observed with properly certified eclipse glasses, or other safe observation methods like pinhole projection or shielded solar telescopes. Even during the peak of the eclipse, the tiny bit of the Sun seen via the “ring” can damage your retinas and even blind you.

Just six months later, a dramatic total solar eclipse will darken the skies from Mexico to northeastern Canada, casting its shadow across the USA in a strip approximately 124 miles (200 km) wide, on Monday, April 8, 2024. While protection must be worn to safely observe most of this eclipse, it’s not needed to witness totality itself, the brief amount of time when the Moon blocks the entire surface of the Sun from view. And if you try to view totality through your eclipse viewer, you won’t actually be able to see anything! The Moon’s shadow will dramatically darken the skies into something resembling early evening, confusing animals and delighting human observers. You will even be able to see bright stars and planets - provided you are able to take your eyes off the majesty of the total eclipse! While the darkness and accompanying chilly breeze will be a thrill, the most spectacular observation of all will be the Sun’s magnificent corona! Totality is the only time you can observe the corona, which is actually the beautiful outer fringes of the Sun’s atmosphere. For observers in the middle of the path, they will get to experience the deepest portion of the eclipse, which will last over four minutes - twice as long as 2017’s total solar eclipse over North America.

While some folks may be lucky enough to witness both eclipses in full – especially the residents of San Antonio, Texas, whose city lies at the crossroads of both paths – everyone off the paths of maximum eclipse can still catch sight of beautiful partial eclipses if the skies are clear. The Eclipse Ambassadors program is recruiting volunteers across the USA to prepare communities off the central paths in advance of this amazing cosmic ballet. Find more information and apply to share the excitement at eclipsesafety.org. NASA has published a fantastic Solar Eclipse Safety Guide which can help you plan your viewing at bit.ly/nasaeclipsesafety. And you can find a large collection of solar eclipse resources, activities, visualizations, photos, and more from NASA at solarsystem.nasa.

This article is distributed by NASA’s Night Sky Network (NSN). The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!
DISCORD FOR MEMBER CONVERSATIONS

Attention all Austin Astronomical Society members! The society now has a Discord server. This invite link will get you there:

https://discord.gg/3BsNBBHGqz

Discord is a hosted communication platform that feels similar to a web forum with some modern twists. There are a number of different channels one can read and post messages in, as well as voice channels that function much like Zoom except anyone can start a meeting. It is very simple to post/share pictures and videos and interact with other members. You may be wondering why we need Discord if we already have a Signal group. Signal is a great app for texting but not as good for referring to previous messages and following a number of conversations at the same time. There is a Discord app for phones and desktop/laptops, or you can use Discord straight from the browser on a desktop/laptop. We may find that we can retire the Signal group after people get used to Discord, or we may decide it makes sense to keep both.

Access to Discord is restricted to members only. Use the invite link to get into the server (https://discord.gg/3BsNBBHGqz) and then someone from the Welcome Team will verify your membership and add you to the AAS Members role. Until you are added the discord will look somewhat sparse. Once you get in you will see more features, something similar to this:

Join us on Discord and start the fun! If you have any questions, you can email webmaster@austinastro.org

SHOP THE

AUSTIN ASTRONOMICAL SOCIETY STORE

Austin Astronomical Society is opening a new online store. All proceeds from items sold in this store are used to fund astronomy and STEM scholarships. We would like to include astronomy-themed items that incorporate images produced by some of our talented local astrophotographers. Credit for the image creator will be printed on the merchandise, and your approval of the design will be asked before the item is sold in the store. Please email us if you would be interested in granting AAS permission to use any of your images.

SHOP NOW
Kyle Library Astronomy Club
Astronomy Day Outreach 29 April 2023
By Michael Marotta

To celebrate Spring 2023 Astronomy Week the Kyle Library Astronomy Club set up three telescopes on Saturday the 29th for viewing the Sun from 10:00 AM to 3:00 PM. Mike Krzywonski brought two instruments, one of them a Lunt solarscope which is optically filtered for the wavelength of energized hydrogen (H-alpha) allowing us to see the convection granules, prominences, and flares on the Sun. He and Mike Marotta also brought refractors with front-mounted solar filters for viewing sunspots. About 30 people stopped by to discover more about our closest star.

Mike K and Mike M are also members of the Austin Astronomical Society. The Kyle club is sponsored by the City of Kyle Public Library in support of their telescope loaner program. As a city function, all are welcome; there are no club dues or club officers. The next meeting will be May 20 at 2:00 PM. The guest speaker will be Prof. Don Olson of Texas State University. His topic will be "Ansel Adams and Moons Over the High Sierra."
THE ASTRONOMICAL LEAGUE CONVENTION (ALCON) 2023 REGISTRATION IS OPEN

Additional activities include an opening reception and viewing at Louisiana State University’s Landolt Observatory, an Astronomical BBQ at Highland Road Park Observatory, an Award Banquet with Keynote Speaker David Eicher of Astronomy Magazine, an evening planetarium show and talk from “Mr. Eclipse” Fred Espenak at the Irene Pennington Planetarium, and a tour of the Laser Interferometer Gravitational-Wave Observatory (LIGO) facility.

For hotel room block details, more information, and to register now, visit https://alcon2023.org/. Space is limited for the LIGO tour, so don’t delay!

ASTRONOMICAL LEAGUE (AL) OBSERVING CHALLENGES

• **Solar Eclipse Observing Challenges (NEW)** – In anticipation of the upcoming annular eclipse, the AL has created a silver and gold-level Solar Eclipse Observing Challenge. The deadline for submission is April 30, 2024. Stay tuned for more information on the Total Solar Eclipse Challenge in 2024.
  https://www.astroleague.org/content/solar-eclipse-observing-challenges

• **Galaxy Challenge 2.0 (NEW)** – The AL’s 8th Observing Challenge requires observing 10 of the 20 targets from the provided list, sketching and imaging the chosen targets, and conducting an outreach activity. Observations must be made between April 1 – June 15, 2023. The Submission deadline is July 15, 2023.
  https://www.astroleague.org/content/al-observing-challenge-special-observing-award

Good luck with these new challenges!
Clear Night Skies,

By Dawn Davies, AAS Astronomical League Correspondent (ALCOR)
Bad Wolf Ranch?
Thanks to AAS members, Alan and Carolina Carruth, our club has the use of Bad Wolf Ranch for member-only star parties, special events like the 50th anniversary of the Apollo landing, AND private observing any night for every member and her guests.

The ranch is located approximately 15 miles NNW of Lampasas and 60 miles from Austin in an open area with only a few ranch houses within several miles. Most importantly, there is a porta-potty that is serviced on a weekly basis.

Although undeveloped there is a ranch building (off limits to AAS) and a small AAS dome with a 12.5-inch scope available to members. The skies are dark - in the rural/dark sky transition zone

Sample SQM readings at 10:30pm on 4/20/2020:
Zenith – 21.41
North – 21.53
East – 20.95
South – 21.22
West -21.18

Be prepared
• Bring your own power – not available on site
• Bring your own water - not available on site
• Watch out for cow patties and ants

Bad Wolf Ranch Rules at all Events
• No Loud music
• No Tampering with fences or gates
• No Hunting of any sort
• No Activities which materially interfere with owners use and enjoyment of his/her adjacent lands.
• No access to owner’s structures
• Don’t damage, deface or destroy any property or improvements
• AAS members are responsible for closing and locking all gates when leaving
• No Discharge of firearms or fireworks

Member Individual Observing

To arrange for private observing contact Alan Carruth for permission:
badwolfranch@bobogigio.com

if you do not receive a reply in 24 hours permission is granted

Enjoy a night under the stars at Bad Wolf Ranch
JOIN THE AAS TEXT GROUP
FOR CHATTING WITH OTHER MEMBERS

You can still join the AAS text group for chatting with other members about everything astronomical. Currently there are 62 members. Instructions are below.

Some of you may be interested in knowing that you can participate in messaging on your computer rather than your phone, although it is necessary to have a smartphone to join the group. www.signal.org/download/windows

1. Open the App Store (iPhone) or Google Play (Android) and search for Signal. Below is an example of Signal visible within the App Store:

![Signal App Store Screenshot]

Install the application and complete the steps required to setup your phone number.

2. Once installed, use your camera or a QR scanning app to scan the following QR code:

![QR Code]

Click the link provided by the QR code to be forwarded to the Signal group. Alternatively, if the QR code does not work for you, you can click the following link from your phone: https://signal.group/#C-jQKlIP5RYPwVYGixqeFOkz9mDpNlFEcsUe66IUECqR-slaVqEhBzSoaINwblAG0ITXtsraDs

3. You should see the following message afterwards. Click on “Join.” Because the group is limited to AAS members, we’re checking the membership list before admitting anyone. For ease of checking, please use your full name in your profile:

![Signal Group Invitation]

4. Finally, you’ll see the following message indicating that your request is pending:

![Request Pending]

A group admin will admit you once your request is received. If you have any difficulties with the setup, please email outreach@austinastro.org
Congratulations to
DAVID WOLLARD

M2
• Messier 2 globular cluster captured in Myrtle Beach SC.
• Radian Rapure 61mm
• ZWOASI 183MCPro
• 25 x 3minute exposures.
Congratulations to David Ward

The Orion and Running Man Nebula in LHaRGB
by Chris Foster

- Stellarvue SV80ST2-25FT
- ZWO ASI6200MM Pro
- Orion HDX110 Eq-G
- Astrodon Gen2 E-Series Tru-Balance Filters
- Integration: 19h

NGC 6822, Barnard’s galaxy in Sagittarius
by Jack Estes

- This was a 20 minute image run from 7/26/22.
- Note the subtle colors. A nice, but faint, summer object. Discovered by E.E. (Eagle Eye) Barnard in 1884.

The Cone Nebula and Christmas tree cluster in SHO
by Chris Foster

- Orion EON 115mm ED Triplet Apochromatic Refractor Telescope
- QHYCCD QHY268 M
- Orion HDX110 Eq-G
- Astrodon H-alpha 3nm 36 mm
- Astrodon OIII 3nm 36 mm
- Astrodon SII 3nm 36 mm
- Integration: 42h
Amazing mammatus clouds over the waterwheel
by Ed LaBelle

Amazing mammatus clouds over the waterwheel in the Highlands of Crystal Falls in Cedar Park, Texas on April 28, 2023. These unique looking clouds typically form under a thunderhead and can product large hail.

M42
by Rusty Fletcher

- Taken January 11th, 2021
- Location: backyard in Kyle.
- one-shot color ZWO ASI533 camera
- 4.5 inch f4 Newtonian telescope mounted piggyback on my larger AZ-ALT, 17.5 inch, telescope.
- I built the 17.5 inch scope and you can see a pictures it here
- 241 subs x 15 seconds
- total integration time of 1 hour 15 seconds.
Members’ Gallery

by David Wollard

**Markarians Chain**

Captured in Joshua Tree National Park

- Radian Rapture 61mm, ZWO ASI 183
- MC Pro. 41 - 3 minute exposures

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**Rosette Nebula**

by Todd Eggleston

- Only 12 minutes of data
- 532mm
- Perdenales Falls CTSP

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**M20 Trifid Nebula**

by Dawn Davies

- Unistellar eVscope Gen1 | Devils River State Natural Area
- 8m 44s exposure | April 16, 2023

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**M104 Sombrero Galaxy**

by Dawn Davies

- Unistellar eVscope Gen1 | Devils River State Natural Area
- 54m 24s exposure | April 16, 2023

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**M51 Whirlpool Galaxy**

by Dawn Davies

- Unistellar eVscope Gen1 | Devils River State Natural Area
- 24m 32s exposure | April 16, 2023
# Treasurer’s Report April 2023

By Sean Leary, Treasurer

## April 2023 Treasurer’s Report

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<th>Deposits:</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
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<td>Dues - Checks</td>
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<tr>
<td>Dues - Direct deposit (WildApricot)</td>
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<td>Donations - Direct deposit (Other)</td>
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<tr>
<td>Donations - Check</td>
<td>$ 400.00</td>
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<tr>
<td><strong>Total deposits in checking acct</strong></td>
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<table>
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<tr>
<th>Interest earned:</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Saving</td>
<td>-</td>
</tr>
<tr>
<td>Checking</td>
<td>$ 0.54</td>
</tr>
<tr>
<td>Scholarship</td>
<td>-</td>
</tr>
<tr>
<td>Marcus CD - 5249</td>
<td>$ 0.51</td>
</tr>
<tr>
<td>Marcus CD - 1723</td>
<td>$ 11.89</td>
</tr>
<tr>
<td>Amazon smiles</td>
<td>-</td>
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<tr>
<td><strong>Total interest and rewards earned</strong></td>
<td>$ 21.94</td>
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| Deposits Total                   | $ 2,261.94 |

## Expenses:

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Life Storage - telescope storage</td>
<td>$ -</td>
</tr>
<tr>
<td>Life Storage - Late fee</td>
<td>$ -</td>
</tr>
<tr>
<td>WildApricot bank card fee</td>
<td>$ 43.69</td>
</tr>
<tr>
<td>First aid kit</td>
<td>$ 19.37</td>
</tr>
<tr>
<td>Eclipse glasses</td>
<td>$ 1,351.46</td>
</tr>
<tr>
<td>24&quot; mirror shipping charge</td>
<td>$ 229.97</td>
</tr>
<tr>
<td>24&quot; mirror recasting</td>
<td>$ 1,115.00</td>
</tr>
<tr>
<td>Larry Forrest Telescope plaque</td>
<td>$ 207.00</td>
</tr>
<tr>
<td>Web hosting (WildShare)</td>
<td>-</td>
</tr>
<tr>
<td>Member management (WildApricot)</td>
<td>-</td>
</tr>
<tr>
<td>Visa debit card fee</td>
<td>-</td>
</tr>
<tr>
<td>ESSM dues</td>
<td>-</td>
</tr>
<tr>
<td>Post office box annual fee</td>
<td>-</td>
</tr>
<tr>
<td>Mercer liability insurance premium 2023</td>
<td>-</td>
</tr>
<tr>
<td>IDA Donation 2023</td>
<td>-</td>
</tr>
<tr>
<td>UT Orl Day expenses</td>
<td>-</td>
</tr>
<tr>
<td>GA meeting room expense</td>
<td>-</td>
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<tr>
<td><strong>Total expenses</strong></td>
<td>$ 2,955.50</td>
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## Bank balances:

<table>
<thead>
<tr>
<th>Bank Account</th>
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<tr>
<td>UFCU savings</td>
<td>$ 2,219.94</td>
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<td>UFCU scholarship special</td>
<td>$ 227.66</td>
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<td>UFCU checking</td>
<td>$ 12,739.96</td>
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<td>Marcus CD - 5249</td>
<td>$ 6,147.96</td>
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<td>Marcus CD - 1723</td>
<td>$ 8,105.46</td>
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<tr>
<td>PayPal account</td>
<td>-</td>
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<tr>
<td><strong>Total cash</strong></td>
<td>$ 27,440.98</td>
</tr>
</tbody>
</table>

### Membership Counts:

- **Active AAS member accounts**: 453
- **Total active AAS memberships**: 567
- **New members in the last 30 days**: 24
- **Lapsed**: 6
- **Renewals overdue**: 31
- **Quorum for 2023-2024 term**: 450

**Other notes**: AAS uses accounts not individuals to determine membership. Lifetime memberships and the admin account are not included, household and housemates with senior count only bundles the numbers. Junior, regular, junior, and student are counted separately. Widespread active members. Includes lifetime members and bundle members, but not the admin account. Count the full amounts, not the person values. On April 1, this count + lifetime members determine.
# Approved Budget 2022-2023

By Sean Leary, Treasurer

<table>
<thead>
<tr>
<th></th>
<th>2022-2023 Budget</th>
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<tbody>
<tr>
<td><strong>REVENUES</strong></td>
<td></td>
</tr>
<tr>
<td>Club Dues</td>
<td>$ 9,000.00</td>
</tr>
<tr>
<td>CTSP Dinner Sales</td>
<td>-</td>
</tr>
<tr>
<td>Donations • Outreach</td>
<td>-</td>
</tr>
<tr>
<td>Donations • Other</td>
<td>-</td>
</tr>
<tr>
<td>Merchandise Sales</td>
<td>-</td>
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<tr>
<td>Interest Income</td>
<td>$ 57.00</td>
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<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td>$ 9,057.00</td>
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</tr>
<tr>
<td><strong>EXPENSES</strong></td>
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<tr>
<td>AL Dues</td>
<td>$ 2,055.00</td>
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<tr>
<td>Asset Purchases</td>
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<tr>
<td>Equipment (includes library)</td>
<td>$ 1,000.00</td>
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<tr>
<td>Astronomy On Tap</td>
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<tr>
<td>Storage Facility</td>
<td>$ 1,344.00</td>
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<tr>
<td>CTSP Expense</td>
<td>$ 450.00</td>
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<tr>
<td>Bad Wolf Capital Expenses</td>
<td>$ 3,190.00</td>
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<tr>
<td>Bad Wolf Site Operating</td>
<td>$ 200.00</td>
</tr>
<tr>
<td>Pedernales Capital Expenses</td>
<td>$ 100.00</td>
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<tr>
<td>Pedernales Operating Expenses</td>
<td>$ 250.00</td>
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<tr>
<td>General Business Expenses</td>
<td>$ 250.00</td>
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<tr>
<td>Repair/Maint.</td>
<td>-</td>
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<tr>
<td>Website Expense</td>
<td>$ 2,758.00</td>
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<tr>
<td>Member services</td>
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<tr>
<td>Insurance Expense</td>
<td>$ 1,954.00</td>
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<td>Communications</td>
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<td>Intl Dark Sky Contribution</td>
<td>$ 400.00</td>
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<tr>
<td>Scholarship Contribution</td>
<td>-</td>
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<tr>
<td>Misc Expense: Plaques/Awards</td>
<td>$ 200.00</td>
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<tr>
<td>AUTS Expense</td>
<td>$ 100.00</td>
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<tr>
<td>Outreach Committee Expense</td>
<td>$ 200.00</td>
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<tr>
<td>P.O. Box Rental</td>
<td>$ 124.00</td>
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<tr>
<td>Program/Meeting/Speaker Expense</td>
<td>$ 150.00</td>
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<tr>
<td>Texas sales tax</td>
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<tr>
<td>Texas business tax</td>
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<tr>
<td>Zoom</td>
<td>$ 160.00</td>
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<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td>$ 15,085.00</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NET GAIN OR LOSS</strong></td>
<td>$ (6,028.00)</td>
</tr>
</tbody>
</table>
EXECUTIVE COMMITTEE MINUTES

March 2023

By Jess Cagnolatti, Secretary

March 6, 2023 / 7PM / Zoom

ATTENDEES

Joyce Lynch, Jamie Canfield, Tony Cagnolatti, Terry Phillips, Jake Knobloch, Dawn Davies, Greg Rohde, Ed LaBelle, Sean Leary, Bill Gammerdinger, Susie Soderquist, Chris Bernhardt

AGENDA:

• February Meeting Minutes- EC will send corrections to Jess
• Committee reports
• Business: Nominating Committee, eclipse glasses, eclipse survey, future GA meeting sites, New logo, future meeting locations
• Next meeting April 3rd

Vice President Report - Jamie Canfield:

• We will meet at UT on Friday, 3/10, for Don Olson
• Jamie has spoken with Lara at UT about how to get in touch with Dr. Finkelstein to talk to the club about new findings with James Webb
• April is CTSP
• More to come for May
• Jamie has been in contact with ACC, and responses have been slow. Purna did not know that $65 was the discounted rate for our rented room. More to come on future meetings
• Plan to pay for Don’s parking at UT since we seemed interested in the free parking aspect

Treasurer Report- Sean Leary:

• Dues were down last month to $783
• Donations: $200 from Richard Hendricks, $95 donation from Tony C
• Contributed $400 to IDA
• Spending a lot less than anticipated
• Sean will amend the report to include STEM day at UT expenses

Communications Report- Terry Phillips:

• Little Green Light is not aligned with our needs for the club
• Racklet may be a contender; it would be $49/month billed annually
• Terry ran a comparison, and Racklet performs almost identically to Wild Apricot
• Terry will contact Racklet for a demo

Equipment Report - Greg Rohde:

• Spica Eyes mirror is at the provider, the coating was stripped, and no issues were noted with the figure and no spectrum damage. Re-coating will happen in the next week
• Greg will plan on moving Larry Forrest to Pedernales Saturday

Member Services Report- Chris Bernhardt:

CTSP:

• 26 groups, 26 reservation entries, 40 rsvp, 37 dinner reservations
• A small group of individuals working on lodging; the majority have spots secured
• Plan to use railroad BBQ for the caterer
• Chris is working on a map and protocols for the party
• Working on the donations process
• We should plan to have the final numbers around 48 hours before the event
• Dinner will be at 5 PM, and the GA meeting
• Joyce will bring the club canopy
• Giveaways, stickers, etc. The plan is to use the stickers we have, possibly eclipse glasses
• Chris is requesting recommendations on the protocol for the dark sky - Jake suggested handing out red lights to decrease the use of white lights. Joyce recommends having a cutoff time when people need to leave to help reduce white light. That will assure people there will be a dark sky after a specific time
• Jake suggested getting a permit to use drones during the event. Chris will look into it
• First Aid/Emergency: Joyce will check to ensure the observatory has a first aid kit. Joyce has also brought out water bottles to the observatory and will check on the quantity
• Joyce recommends a demonstration to use Larry Forrest - there is a document on the process. No one has had practice with it, but Terry has dealt with it most recently
• Joyce and Susie are working on kid-friendly activities during the day Saturday
• Terry will help provide an observing list for the event for attendees
• General meeting at CTSP
  • Practical astronomy around 5 PM
  • Dinner at 6- have a meeting at this time as well?
  • Observing
  • We can have a meeting on Saturday as another possibility
  • Election of officers- we may not have a formal election if there is one candidate for the position

Club Outreach Report- Ed LaBelle:
• Four events in February
  • Pedernales Falls Star Party - good turnout
  • Science Night at Dessau Elementary - cloudy, so it was set up in the gym and showed them to use a tabletop Dob
  • Inks Lake party canceled- inclement weather
  • UT STEM day - great turnout
• Upcoming events: Pedernales, Ruiz Library, Negley Elementary School
• Joyce and Jim volunteered at an event with Stars and Science Austin at Bee Cave Middle School
• Smithsonian Event: Per Ed, no commitment has been made. The courtyard at the hotel would be the venue; the courtyard is not an ideal location. There will be astrophysics experts there that may be beneficial. Could we get 2-3 members to participate on Friday, 4/5/24? We would also get a donation to AAS. Consensus to host a party for the event
• Ed will contact Jennifer with details/updates
• Terry will help host a star party at Sunrise Beach the night before the eclipse, as he will be close to them
• AISD:
  • Joyce and Chris were the first to discuss plans for the eclipse
  • They are excited to collaborate with them
  • Discussion about having a “train the trainer” night to get the schools engaged and prepared

MAL:
• No questions/concerns

Dawn Davies- ALCOR:
• No significant updates on observing programs
• ALCON 2023 Baton Rouge in July “Astronomical Gumbo”
• There are still volunteer spots open for Jester King and Devil’s River events

Jake Knobloch- Webmaster:
• No major updates

IDA- Ernie Leaf:
• Donation made to IDA for continued membership
• Ernie has made contact with the regional director of IDA
ACTION ITEMS- Business

- Nominating Committee
- Susie and Jake have met and got responses from the EC on who plans to continue in their positions
- They are working on bringing open offices to the general membership
- Susie recommends having a couple of people who are familiar with the positions so there can be assistance and other members who can step in as needed, particularly the membership position
- Discussion about advertising to members the need for them to work on committees with chairs to help even out the workload

Eclipse Glasses:

- Rainbow symphony: 3,000 glasses for $1500 with a specific design
- American Solar Eclipse: 1250 pairs of “Texas 2clipse” for $1.20 each with S&H. The minimum order is 2500 glasses, with clear bags to put AAS stickers on to advertise
- Great American Eclipse: 3000 glasses/ $.50 each
- Dawn recommends Thousand Oak Optical will do 5000 at $.50 each
- Dawn will provide information to EC about vendors
- Dawn also recommends that we request glasses back to be donated to astronomers without borders
- Chris also noted that it could be used as a member drive to help get more members
- The plan is to pin down a decision by next month

Meeting location for GA Meeting

- No formal decision has been made to go to ACC permanently
- Given communication issues with ACC, when we have meetings with a larger attendance expected, could we meet at St. Stephen’s for these meetings?
- Concerns with having to pay for a room being a non-profit
- UT has parking issues, room reservation limits, and future construction
- Purna also noted that the astronomy club there may be able to host some meetings to help offset costs
- Potential discussion with AISD to meet there and build synergy
- More possibilities for location will be considered, and more to come!
- Austin Public Library was a suggestion, but they close at 8 PM. They have a more significant event space, but parking at the library is difficult
- Jamie has contact for Austin Public Library to see if they may have facilities available and what the AV options would be. The club could also sponsor a telescope loaner program with libraries

Logo Discussion

- Jamie has some ideas/sketches for GA meeting Friday

Next EC Meeting: April 3rd 2023

Location: Zoom

The meeting adjourned at 8:58 PM

Submitted by: Jessica Cagnolatti, Secretary
The April GA meeting was held on April 15 2023 after dinner during the Central Texas Star Party at Pedernales Falls State Park. The list of new officers for the year beginning June 1 2023 was announced, and any of the returning or incoming officers who were there were introduced. The plaque for the Larry Forrest Telescope was shown to the group, and it will be attached to the telescope soon. The group thanked Member Services Chair Chris Bernhardt for his work to organize CTSP. An AAS trivia game was played, with a prize donated by Bob’s Knobs and other prizes from Highpoint Scientific.

You may send suggested corrections to secretary@austinastro.org
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) $60.00 (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) $30.00 (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 $20.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members up to age 18.

Students $20.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members age 18 and older.

Regular $40.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For individual members.

Seniors $20.00 (USD)
Renewal: Every one year, starting from join date
No recurring payments. For members 65 years of age or older.

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 2022-2023

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Joyce Lynch</td>
<td><a href="mailto:president@austinastro.org">president@austinastro.org</a></td>
</tr>
<tr>
<td>Vice-President</td>
<td>Jamie Canfield</td>
<td><a href="mailto:vicepresident@austinastro.org">vicepresident@austinastro.org</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Jess Cagnolatti</td>
<td><a href="mailto:secretary@austinastro.org">secretary@austinastro.org</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Sean Leary</td>
<td><a href="mailto:treasurer@austinastro.org">treasurer@austinastro.org</a></td>
</tr>
<tr>
<td>Communications Chair</td>
<td>Terry Phillips</td>
<td><a href="mailto:communications@austinastro.org">communications@austinastro.org</a></td>
</tr>
<tr>
<td>Outreach Chair</td>
<td>Ed LaBelle</td>
<td><a href="mailto:outreach@austinastro.org">outreach@austinastro.org</a></td>
</tr>
<tr>
<td>Equipment Chair</td>
<td>Greg Rohde</td>
<td><a href="mailto:equipment@austinastro.org">equipment@austinastro.org</a></td>
</tr>
<tr>
<td>Member Services Chair</td>
<td>Chris Bernhardt</td>
<td><a href="mailto:memberservices@austinastro.org">memberservices@austinastro.org</a></td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Domingo Rochin</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Susie Soderquist</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Tony Cagnolatti</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
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<tr>
<td>Member-at-Large</td>
<td>Vacant</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
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<tr>
<td>Member-at-Large</td>
<td>Anthony Tran</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Bill Gammerdinger</td>
<td><a href="mailto:membersatlarge@austinastro.org">membersatlarge@austinastro.org</a></td>
</tr>
<tr>
<td>Parliamentarian*</td>
<td>Ron Carman</td>
<td><a href="mailto:parliamentarian@austinastro.org">parliamentarian@austinastro.org</a></td>
</tr>
<tr>
<td>ALCor (Astronomical League)*</td>
<td>Dawn Davies</td>
<td><a href="mailto:alcor@austinastro.org">alcor@austinastro.org</a></td>
</tr>
<tr>
<td>IDA Rep (Dark Skies)*</td>
<td>Ernie Leaf</td>
<td><a href="mailto:darkskies@austinastro.org">darkskies@austinastro.org</a></td>
</tr>
<tr>
<td>Newsletter Editor*</td>
<td>Nathan Morgan</td>
<td><a href="mailto:newsletter@austinastro.org">newsletter@austinastro.org</a></td>
</tr>
<tr>
<td>Webmaster*</td>
<td>Jake Knobloch</td>
<td><a href="mailto:webmaster@austinastro.org">webmaster@austinastro.org</a></td>
</tr>
<tr>
<td>* designates appointed position</td>
<td></td>
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</tr>
</tbody>
</table>

*designates appointed position