

NOVA



Official Newsletter of the Salt Lake Astronomical Society
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SLAS's Newsletter's 50th year of publication.

Please Welcome The Newest SLAS Member!

Cowan, Katherine



Don O'Cain took this image of a portion of the Veil Nebula supernova remnant

SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING

09 September 2020

Special Note: Due to the COVID-19 outbreak the meeting was held virtually.

Board Members in Attendance: Luke Moses, Rodger Fry, Daland Speirs, Tom Sevcik, John Drabik

Other Members in Attendance: Patrick Wiggins

Location: Online virtual meeting using Zoom

President Luke Moses called the meeting to order: 7:10 PM

(Pre-meeting short discussion of plans to remove recently-donated dome and telescope in Midway. Will meet at or near [parking is limited] the donor's house. Luke will have his truck and trailer and common tools. The donation includes an LX200-16" telescope and a 10' diameter dome.)

Rodger's report was first. There is not much activity at SPOC, but the Grimm telescope was used once in the past week or so. The user noted that clutches are slipping, but Rodger noted this has been the case for awhile – so be sure to align to a known target before moving to the desired target. Rodger also noted that Jim Keane has been repairing the Ealing, replacing gears and making adjustments.

Rodger is still looking for a guest speaker for October. He has lined up Stacy Palen for November; she has spoken to us before and is very knowledgeable and engaging. He has also lined up Michael Joner from BYU for next week's general meeting.

Rodger received a call this past week from a woman who has two telescopes she would like to donate: a Celestron 4" GOTO refractor, and a Bushnell 105 mm GOTO Maksutov. He has them now.

The Secretary/Treasurer report was next (full report sent to Patrick for posting on the slas.us site). Summary: received \$279.40 in August, plus \$0.92 bank interest. Society's IRS Form 990-N has been filed for our fiscal year of September 1, 2019 thru August 31, 2020. We added five new members in August. Web site payment problems appear to be resolved but there are some lingering minor log-in problems – Ken is working those out, and is also still working on adding Astronomical League payment tracking to the web site. Minutes for the August General Meeting were sent to Patrick for posting about 2 weeks ago).

Discussion turned to nominations for 2021 SLAS Officers. The following nominations were received: some people received nominations for two offices, and are shown here as first / second position.

Aleta Cox, for President / Vice-President

Patrick Wiggins, for President (withdrew to give others a chance) Jamie Bradley, for Vice-president

Rochelle Tarin, for Secretary-Treasurer

John Drabik, for President / Secretary-Treasurer

Tom Sevcik and Daland Speirs for Board Member at Large positions

Motion by John to accept nominations, for this year only, through next Wednesday. No second. Luke is concerned that we didn't get anybody added last month. Rodger also noted that since the Society Constitution requires nominations be received by August 31, that we stick to that. People can still vote write-ins at the meeting in October.

Luke noted that the person donating the observatory and telescope this weekend would like a plaque commemorating his deceased son who was very excited by astronomy. Motion by Luke that the first received funds that we receive for the donated gear to purchasing a nice plaque. Second by Rodger. No further comments, motion passed unanimously.

Motion by John that we add a Donations plaque board somewhere at SPOC, to properly hold plaques such as the new one, and perhaps for prior donations and new donations above a certain threshold. Consensus that the lower limit should be \$1,000 in a direct donation or equivalent value. Second by Luke, to proceed with obtaining a plaque board, but the location will be determined later, and it might be outdoors if sufficient protection can be provided. He noted that the current outdoor Notice Board has required repairs on several occasions due to vandalism. Motion passed unanimously.

Luke will finalize plans for disassembly and removal of the Midway telescope and will send out details with location and estimated timing via text and email.

There being no further business, Luke adjourned the meeting.

Meeting adjourned: 7:42 PM

SALT LAKE ASTRONOMICAL SOCIETY GENERAL MEMBERSHIP MEETING
16 September 2020

Special Note: Due to the COVID-19 outbreak the meeting was held virtually.

Board Members in Attendance: Luke Moses, Rodger Fry, Daland Speirs, Tom Sevcik, John Drabik

Attendance: ~27

President Luke Moses called the meeting to order: 7:31 PM

Rodger introduced the guest speaker, BYU's Dr. Michael Joner who presented "West Mountain Observatory (WMO) Complex"

Dr. Joner first described the location of WMO – it is actually southwest of Utah Lake, not directly West. He showed a satellite view of the area, and described the generally good viewing conditions at the site. There are few light sources between WMO and Reno NV. To the east, the mountain ridge provides shielding against some of the light pollution from Provo and the surrounding area. In addition, due to wind conditions, the site often has clearer skies than other nearby locations. However, there have been some recent fire incidents, but fortunately none have damaged WMO.

WMO sports 12", 15", 20" and 36" telescopes. These are research-grade telescopes, and he showed pictures and descriptions of the instruments.

Due to their quality and the location, they have observing capability from 8th to 20th magnitude and they routinely engage in capturing detailed light curves. They use a variety of filters, and equipment stability is such that they can perform observations ranging from just a few seconds up to several weeks per image update.

He first described the 0.3 and 0.5 meter telescopes, and their use in variable star projects and exoplanet studies, as well as light curves, and he showed examples of time-series light curves captured with these two telescopes.

Next he described the 0.9 m telescope. He described several outer-solar- system occultations that have been seen with the telescope, and showed a short video of one of them (Varda Kuiper Belt Object (KBO)).

He went on to describe Haumea rotation curves, with numerous examples of this well-known target. Those curves led to identification of what appears to be an ellipsoidal dwarf planet, and the ellipsoidal shape leads to lot of light variability and phase angle curve changes. WMO has also been involved in exoplanet searches, based on early high- false-positive indications from automated analysis, however many of those turned out to be wrong.

They were/are involved in KELT 16, and he noted the relationship to the originator of that project. KELT requires very high quality observations, and WMO has proven very capable in that regard. He showed light curves for some of the studies, and how the false positives occasionally confused the data since much of the analysis is done by computers searching for changes in periodicity. There are too many images and potential targets for humans to sort them out – they use the computer- driven analysis and then follow it up with human research.

They have also been involved in several stellar astrophysics projects such as those for eclipsing binaries, and that has led to the discovery of several new Delta Scuti variables. This was followed by discussion of white dwarf (WD) studies such as WD1145+017, and he showed several interesting other transit “chunks” revolving around this Earth-sized WD.

Dr Joner and WMO frequently collaborate with other observatories, and results from multiple observation bands (light, x-ray, etc.) are combined to enable multiple-band checks of various types, including pulsating Wds (such as ZZ Psc) with pulses in the range from just a few minutes, and frequency analysis (photometrics using H-alpha lines, much of which can be done with the smaller telescopes). Related to this is the observation of extra-galactic Cepheids such as in M31 (the first such star was discovered in M31). This is a V1 cepheid, and he showed light curves for it, for NGC 6822 (Barnard’s Galaxy, in Sagittarius), and others.

Next was a description of their work on new galaxy formations in M100, using “contrast level stretching” of the curves to improve their utility. The Active Galaxy (AGN) projects were also noted, including identification of “reverberation” due to central black hole activity in those galaxies.

Dr. Joner finished his presentation with a number of nice images, including composites that were merged using data from several observatories to highlight various parts of the images. He noted that, for the most part, they use conventional image software to perform this work, but he also said that there is a well-known expert who excels in aligning images from various instruments, with different scales, slightly different positional offsets, etc.

This was followed by a question and answer session, including a short description of the imaging gear that they use. It’s fairly conventional – filters and filter wheels, and an old Fairchild 3041 back-illuminated CCD imager / camera, which gives excellent results but requires fairly considerable processing or else the results tend to look like there is nothing in the picture at all – he showed black-and-white images that demonstrated just how sensitive the device is when the results are properly post-treated. This again involves fairly common photo software, although they do sometimes use specialized software such as Pix Insight and IRAF.

This concluded the presentation, and Luke went on to the Business section of the meeting at 8:35.

Business Section of the Meeting:

There is not much business except the elections coming up next month. Luke asked John to give the names of those who have been nominated:

- Aleta Cox, nominated for President and for VP, indicated that she prefers the VP role but will accept the President role if she can get help from others with more contacts than she has. Rodger, Luke, Cecile, and others offered to help her when she needs it.
- Jamie Bradley for VP; with Aleta accepting the President nomination, Jamie will be running unopposed except for possible write-ins
- Rochelle Tarin and John Drabik for Secretary/Treasurer, is the only current contested position
- Daland Speirs and Tom Sevcik for the two Board Member at Large positions, thus there is currently no opposition but write-ins are possible.

Tom Sevcik reported on two recent requests for star party support. These would probably not be at SPOC, and participants would have to bring their own telescope or binoculars, probably to a location in SLC or Sandy. He needs three volunteers, for this "Constellations only" event.

Rodger, Luke, and Daland expressed concern about the "Constellation Tour", since it would have the SLAS name attached to it, which could be problematic given the virus situation. John described mechanisms such as per-attendee 3D-printed eyepiece offset tubes that participants would use but it would be necessary to decide in just one or two telescopes so that an excessive number of prints would not be needed. Shoshana noted that she has info from the Wilson Observatory describing how they use Petri dishes as easily-cleaned eyepiece covers. [Update: Shoshana forwarded some of the details to John. Those interested should contact the SLAS Secretary for the description and a web link).

Next was a description of several recent donations, and of equipment for sale including a refractor for the University of Utah. Rodger agreed to look up prices, and feels that due to their excellent condition, we should start bidding at one-half of the (current) new value for the gear. There were no bids received for the small observatory that was donated back in March. We recently had another observatory donated, and it was disassembled and moved to SPOC last weekend. It may be sold, or it may be installed – the Board will make a decision at their next meeting.

New member Harry Audell expressed his thanks to SLAS for providing astronomy information including on asteroid 4099. He is a geologist by background and is looking forward to learning more about astronomy.

Rodger noted that he still has not found a guest speaker for next month's meeting, but he is updating a presentation he gave years ago about Mars geology, and will present that if a speaker is not found in time.

There being no further business, Luke adjourned the meeting.

Meeting adjourned: 9:05 PM

SLAS Member Information

The SLAS Member Information file is available at <http://slas.us/slasbooks/NEWMEM.PDF>.

Loaner Telescopes For SLAS Members

SLAS has several scopes available for loan to current SLAS members. Check the SLAS website under "[Membership Benefits](#)" for details.

Contact Us slasinfo@slas.us

2020 SLAS Board of Directors

President	Luke Moses
Meetings	
Vice President	Rodger Fry
Publicity, PR and Web Content	
Secretary-Treasurer	John Drabik
Membership Dues & Renewals	
Board Member at Large	Tom Sevcik
SPOC Star Party Coordinator	
Board Member at Large	Daland Speirs
School & Special Star Parties	

Appointed Positions

Astronomical League Contact	Aleta Cox
Equipment Manager	Luke Moses
Historian	Patrick Wiggins
NASA Night Sky Ambassador	Ann House
Newsletter Editor	Patrick Wiggins
Observatory Director	Rodger Fry
Private Star Party Coordinator	Don Colton
Webmaster	Ken Warner
ZAP Grant Writer	Jim Keane

SPOC Advisory Committee

Chair through JAN 2021	Rodger Fry
Member through JAN 2021	Rodger Fry
Member through JAN 2021	Stan Eriksen
Member through DEC 2020	Larry Holmes
Member through FEB 2022	Leslie Fowler
Member through DEC 2020	Patrick Wiggins
Member through JAN 2021	Jim Keane
Member while SLAS President	Luke Moses
Member through FEB 2022	Tony Lau
Member as Obser. Dir. Emeritus	Bruce Grim
Member while Harmons Rep.	Vacant

SPOC Telescope Instruction Coordinators

Refractor	Marlene Egger
Ealing	Jim Keane
Grim	Rodger Fry
Clements	Leslie Fowler

Events Calendar

NOTICE: Owing to concerns over the COVID-19 pandemic, all in person SLAS events are currently on hold. The board will be sending out email SLAS Blasts advising the membership about any changes.

October 2020

14 Board Meeting may be held on line. Details to be announced via SLAS Blast emails.

21 General Meeting may be held on line. Details to be announced via SLAS Blast emails.

NOVA is a publication of the Salt Lake Astronomical Society, a non-profit organization. Nova contains minutes of meetings, Board member names & contact info, activities, reports and special club events. The editor of NOVA is appointed by the SLAS Vice-President. Members are encouraged to contribute content. Current editor is Patrick Wiggins, 4099wiggins@gmail.com.