

NOVA



Official Newsletter of the Salt Lake Astronomical Society
Volume 50 Number 6 June 2020

SLAS's Newsletter's 50th year of publication.

Please Welcome The Newest SLAS Members!

Davidson, Allan Ross, Aaron



Orion and the Running Man Nebulae. Image by Todd Deitrick

TDD
Deitrick
ASTROPHOTOGRAPHY

SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING

May 13, 2020

Special Note: Due to the COVID-19 virus outbreak and concerns, this Board meeting was held virtually.

Board Members in Attendance:

Luke Moses, Rodger Fry, Daland Speirs, John Drabik

Other Members in Attendance:

Joan Carman, Patrick Wiggins, Tony Lack

Location: Online virtual meeting using Google Meetings

President Luke Moses called the meeting to order: 7:06 PM

Luke began by asking for the Secretary's report summary. John reported that the Society's fund balance is currently \$20,508.45, less two renewal payments made earlier in the day (about \$40). Both the General Liability and Directors & Officers insurance annual bills were paid in April. There are no major expenditures expected during May.

Rodger was next, with a SPOC status report. Opening up SPOC is still on hold due to the virus. Rodger also reported that he will try to get previously-scheduled May and June guest speakers to appear either in person or virtually in June and July.

Joan suggested we keep using virtual meetings, regardless of the virus situation. Some discussion followed and her comment was viewed favorably but no motion or consensus position was reached.

John re-introduced his motion to dedicate the non-library-telescope portion of the Sales Tax refund (\$393.23), to the Jachmann telescope project. Second by Rodger. Luke said we shouldn't have to decide and can use the funds as we wish. John read the Feb 12 Motion regarding funding and reimbursement for Jachmann expenses. At this point in time, the Society has received more donations than was spent on the GEM and transport, so the requirements of that motion (to not spend more money until the amount spent for the GEM and transport had been repaid from donations) has been met. The current total donations (about \$2600) would increase to about \$3000, of expected \$5000, if the motion passes. After further discussion, it was decided to take no action at this time, and the Motion was tabled.

Daland had contact with people looking for information on star parties. John has been updating the web pages and will extend the "no parties" dates through the end of May (they are currently listed as canceled already, but that if Utah policy changes the Board will discuss reopening SPOC and other star and sun parties. Safety is an issue and potential virus transmission via shared eyepieces is possible.

John raised the idea of printed eyepiece covers, a simple tube to keep people's eyes away from the actual eyepiece, and which they would carry from telescope to telescope. Joan is concerned that 3D-printed eyepiece covers may not be adequate due to the range of eyepiece sizes. John noted that the covers would be printed per-person and would have an aperture large enough for any eyepiece to be used, possibly in two general diameters (1.25" and 2.0") but that focusing may have to be adjusted due to the extra distance. In any event, this would probably not work for library star parties or for large audiences at SPOC. John asked Joan about pending calibration of three loaner telescopes and if it might be possible to pick up the 3 telescopes for adjustment at his home. Joan noted that library star parties are still canceled and that the libraries are not loaning telescopes at this time either, so collimation is not a pressing issue.

There was then discussion about how to reopen SLAS more, especially SPOC. Rodger noted that most operators will have to be re-certified. John suggested that we start that process soon so that we are ready when Utah lifts restrictions. The state is currently in "Orange" status (R / O / Y / G).

After some discussion Rodger indicated he may start re-certification when we get to Yellow. It was emphasized that he does not need explicit Board approval to open for re-certification at that time. Rodger will draft a SLAS Blast notice about re-certification and will circulate it to the Board for approval before it is sent to anybody. There was general consensus that the re-certification sessions not start until at least Yellow status is attained. Rodger also reported that the Bryce Canyon has not been canceled but has been postponed until September 16-19. Motion by John to accept Rodgers statement about re-certification for SLAS news (tomorrow's edition). No second.

Patrick wants to put a notice about this week's General meeting being virtual, into News tomorrow too. Joan will send him a link and details. Members will receive the meeting password via the email blast, and members of the general public can request the password from the Secretary. John will field the requests and pass the list of potential non-member attendees to Joan so that she can be on the lookout for abusers. Joan noted that we can have at most 100 attendees, and a 40-minute maximum call.

Short discussion about sending Jonathan Barnes an email about our proposed reopening strategy and "schedule". John will compose it and send it, with Luke on copy.

There being no further business, Luke adjourned the meeting.

Meeting adjourned: 8:00 PM

SALT LAKE ASTRONOMICAL SOCIETY GENERAL MEMBERSHIP MEETING

May 20, 2020

Virtual Meeting on Zoom: "An Evening with Dr Einstein"

Board Members in Attendance:

Luke Moses, Rodger Fry, John Drabik, Tom Sevcik

Other Members in Attendance:

Joan Carman, Patrick Wiggins, Ken Warner, and est. 35 other attendees Location: Zoom online virtual meeting

President Luke Moses called the meeting to order: 7:30 PM

The meeting was a conversational interaction with our Guest Speaker, Dean Howarth acting in the role of Albert Einstein.

Luke opened by telling attendees that SLAS will not be re-opening SPOC and physical attendance meetings until the State of Utah reaches at least level Yellow for the pandemic. Reaching Yellow will not immediately cause reopening, since we need certified telescope operators for SPOC, for example. Rodger indicated that he will send notices and training plans in the next week or so.

Joan Carman then introduced the guest speaker, as "Professor Einstein", in a conversational format. Professor Einstein then began.

He described his early years first. He was born in 1879, and "had issues in school" But most of all he was given opportunities to wonder. He described the gift of a compass from his father, and his fascination at what he termed "secret" forces in the universe that made it work.

1905 was his breakout year. His explanation of the Photoelectric Effect resulted in a Nobel Prize years later. As a child and during this time, he began to wonder what it would be like to ride a beam of light, which led him to a range of questions about space and time. He tied these together with the famous $E=mc^2$ equation in 1905 too.

Professor Einstein fielded a question about the difference between the 1905 Special Relativity and 1915 General Relativity theories? He responded that the 1905 theory was "child's play" in comparison to the significant work needed for General Relativity. He noted that without the help of Rosen he would have failed. For relativity, he said his basis was Newtonian Physics but it was unable to explain everything, especially perturbations of Mercury's orbit. The errors were large enough that some astronomers predicted the existence of a "Planet Vulcan", but it did not take long to determine it did not exist. Also, experiments to detect the presence of an "aether" failed too. A key insight that he had at this time was that a person falling off a roof would not feel gravity. He gave an analogy of warping of space, based on a child on a bed surrounded by candies: the space around the child would be curved and candies would "fall in".

He pondered whether this effect applied to space. Specifically, he asked if a beam of light would curve to match curved space around the Sun caused by the Sun's gravity. A significant question was how this could be tested, and he had the idea to compare apparent locations of stars in a known star field during an eclipse. The first attempt to do this was canceled due to WW I, but on May 29, 1919 another opportunity arose, and Dr. Eddington confirmed apparent changes in position of a star (using pre-eclipse and during-eclipse photos; it took months to process the images. The effect was confirmed – a change in apparent position of just 1.7 arc seconds was detected. By way of comparison, this is about the diameter of a US quarter from a distance of 2 kilometers (1.2 miles).

Another person in the audience asked what he would have done if the theory had not been proven. He answered that he would have felt "very sorry for God" because it is such a beautiful theory.

Einstein's distaste for war led him to hope that the new proof of his theory would tie together countries together but it did not. With the prospect of war in Europe increasing, he moved to the USA (New Jersey) in the 1930's but for a time he felt he had made a mistake, given the rise of McCarthyism, but he remained in the USA and eventually went to the Institute for Advance Studies at Princeton.

A wider Question and Answer session followed, and the Professor ably fielded questions on everything from recent detection of gravity waves caused by interacting black holes (and he expressed his wonder that both have been proven), to the wide range of applications using his theory. This included astronomical effects, distance measurements to other galaxies, gravitational lensing, and even GPS satellite location atomic clock time corrections needed because of the speed of the satellites.

Luke noted there is no Society business to discuss.

Meeting adjourned: 8:17 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 SLAS events are currently on hold. The board will be sending out email SLAS Blasts advising the membership about any changes.

June 2020

10 Board Meeting on line. Details to be announced via SLAS Blast emails.

17 General Meeting 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.