Probing the Sub-Microwave Universe by K. Michael Malolepszy St Louis Astronomical Society

K. Michael Malolepszy of the Saint Louis Astronomical Society will be featured at the February meeting of the Society. The meeting will begin at 7:30 PM Friday, February 21 in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63105. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way.

In addition to telescopes that use light waves to form images, there are now instruments that “see” the universe in invisible radiation. X-rays, heat, and radio waves are examples. In the high, frozen deserts of northern Chile is a device, nicknamed ALMA, which detects sub-microwave radiation. Michael Malolepszy will talk about recent research using the Atacama Large Millimeter/submillimeter Array (ALMA). ALMA is not strictly a radio telescope, since sub-microwave energies have higher frequencies than radio energies. But it does operate very much like a radio telescope interferometer such as the Very Large Array (VLA) near Socorro, New Mexico. ALMA is an array of 66 high-precision, movable antennas, which can be linked together to form one image. Mr. Malolepszy will present some of ALMA’s recent discoveries about galaxies, galaxy clusters, and supermassive black holes. Perhaps of greatest interest for both scientists and the general public is the collaboration between ALMA and several other millimeter observatories in the Event Horizon Telescope project. What has been learned about supermassive black holes through sub-millimeter astronomy will be discussed as well as how the “first image of a black hole” was obtained.

Michael Malolepszy is a veteran amateur astronomer. Now employed by the Department of Biology at Washington University, he formerly worked as a Radio Telescope Array Operator at the VLA. Mr. Malolepszy also presents planetarium programs at the St. Louis Science Center.

Upcoming Presentations for 2020

March Joseph N Marcus, MD Carl Lampland, Pioneer Infrared Astronomer SLAS
April Raymond E Arvidson, PhD What Controls Planetary Climates Washington University
May William McKinnon, PhDSomething about Ultima Thule of Course! Washington University
June Vayujeet Gokhale, PhD The Science of Light Pollution Truman State University
July Amy E Kimball, PhD Radio Quasars & the VLA National Radio Astronomy Observatory (Zoom)
August Jeffrey Gillis-Davis, PhD Apollo XIII Plus 50 Years Washington University
October Marco Cavaglia, PhD Gravitational Waves Part II University of Missouri: S & T
President’s Corner by Jim Small

DON’T MISS THIS MEETING!!!

Not only is Mike Malolepszy the presenter for this month, but we will be recognizing members for membership recognition as listed on the front page. We will also be giving the outreach awards for volunteers from last year. It would be GREAT if we could have as many members receiving awards as possible for this event. In addition, we will have a surprise presentation! (No, I WON’T tell you, it’s a surprise!!)

HOMEMADE FEST is this Saturday!! Looking forward to hanging out with the members and watching some presentations. Brad Waller has sent out an email soliciting presentations, just reply to his email to get on the list!! OR, just let him know when you get there! We will meet at the usual place, the Kirkwood Community Center, room 301. Thanks to Kirkwood for once again providing this room for FREE!! Be sure to thanks them! We will see you Saturday! (bringing the jambalaya here :-) For details and times, see the ad below…. RSVP on NSN.

MSRAL Convention is coming and registration is OPEN! The dates are June 12-14. I suggest you call the Crowne Hotel for the room and mention MSRAL for the discounted rate. The link for MSRAL information is on the SLAS home page, at www.msral.org, or at this direct link: https://msral2020.wixsite.com/register4msral2020 The schedule and other events have been set. We’ll see you there!

We will be doing outreach volunteer training and participation in the training will get you a SLAS volunteer shirt! Watch for an announcement for that event to take place. Both trainers and trainees will be eligible for the shirts. We are in the process of developing the training program and the requirements. Most likely there will be materials from Night Sky Network and other sources. We are looking forward to the impact this will have on our volunteers. Not only are we looking to increase the number of volunteers, but also improve the quality of the presentation provided at star parties.

We are developing a new set of recognition awards for members and associated people in the area and will be looking for nominations for these awards. The form will be available online or we can give you a hard copy through the mail or at the meeting if you wish. The awards themselves will be presented at the September meeting, giving members plenty of time to think about who to nominate for each award. We look forward to your input!

See you at the meeting AND at Homemade Fest!

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Homemade Fest 2020

Saturday, February 22, 2020
Kirkwood Community Center

Join fellow SLAS members and guests for our annual winter pot-luck dinner meeting!
Doors open at 4pm to unload equipment and food and to set up the room. We will begin eating at 6pm. Formal Opening and presentations begin at 6:45pm. This is a show-and-tell meeting.
Members are encouraged to present anything of astronomical interest they have bought, built, refurbished, improved or just can’t do without.
You can present your favorite image or explanation of a concept as well.
This is your chance to share with your fellow SLAS members!
SLAS will provide the soda, coffee and paper goods.
So bring a favorite dish or dessert to share and let’s enjoy each other’s company and love for Astronomy on this long winter’s night.

Attendance prizes will be drawn throughout the evening

If you have questions or wish to present, please contact Mark Jones for more information.
This event is free to all SLAS members and their families. Guests are $5 each.
RSVP on SLAS Night Sky Network is optional but encouraged.
**SLAS Volunteer Hours for 2019**

*by Mark Jones*

Based on the volunteer hours logged in Night Sky Network, the members listed below contributed in 2019. A total of 1475.5 hours have been logged in NSN. If you believe your hours are in error please let me know or update NSN before Jan 20th. For those events lasting more than 6 hours volunteers were credited with 2 events if they accumulated 6 or more hours for that event. Based on these numbers 22 members have 5 or more events. 4 members had 4 events and 24 members had 1-3 hours. That means 53 members volunteered for 2019 Outreach programs. Thank you to all!

<table>
<thead>
<tr>
<th>Name</th>
<th>Events</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald Ficken</td>
<td>84</td>
<td>195</td>
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<tr>
<td>Bradley Waller</td>
<td>57</td>
<td>162</td>
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<tr>
<td>Cook Feldman</td>
<td>42</td>
<td>119</td>
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<tr>
<td>Mark Jones</td>
<td>34</td>
<td>101</td>
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<td>Richard Jennings</td>
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<td>James Small</td>
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<td>John Beaury</td>
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<td>Bill Breeden</td>
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<td>Rita Breeden</td>
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<td>Frank Mack</td>
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<td>Larry Campbell</td>
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<td>Sharon Bertram</td>
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<td>Kathryn Czeschin</td>
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<td>Richard Fefferman</td>
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<td>Rick Menendez</td>
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<td>Alfred Schovanez</td>
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<td>26.5</td>
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<td>William Neubert</td>
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<td>Phyllis Nolan</td>
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<td>Carl McCullough</td>
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<td>Bill Biermann</td>
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<td>Ann Trull</td>
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<td>Jim Trull</td>
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<td>David Adkins</td>
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<td>Raymond Mueller</td>
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<td>Robert Sullentrup</td>
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<td>John Boncek</td>
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<td>Randy Harrison</td>
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<td>Mary Barteau</td>
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<td>Charles Laughton</td>
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<td>Anna Schroeter</td>
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<td>Lance Traylor</td>
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<tr>
<td>Renee Mettle</td>
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<tr>
<td>Yamiel Bell</td>
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<tr>
<td>Brian Mills</td>
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<tr>
<td>Derek Kalista</td>
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<tr>
<td>William Winningham</td>
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<td>Alan Sapia</td>
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<tr>
<td>Craig O'Mara</td>
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<tr>
<td>John Ducheck</td>
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<tr>
<td>Ken Kibort</td>
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<td>2</td>
</tr>
<tr>
<td>Zuzana Schneider</td>
<td>1</td>
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</tbody>
</table>

**SLAS Member Recognition Program**

**Purpose**

This program is to recognize individuals (members and non-members) who help contribute to SLAS’ mission statement “for the educational purpose of encouragement of interest in and the dissemination of knowledge of the science of astronomy.”

This program will not affect or replace recognition programs for Public Outreach through the Night Sky Network, or the Continuous Years of Service Awards.

The awards described below are a mixture of “member-only” recognition awards and those that could be awarded to non-members.

The Executive Board designed this program around 5 named awards; each recognizing a different area of contribution or service to SLAS. The following process will guide the program.

**Award Nomination Process**

1. Nominations are generally restricted to SLAS members only. All nominations from non-members must be approved by the program chair.
2. Nominations must be submitted using the form downloaded from the SLAS website.
3. It is the responsibility of the nominator to demonstrate how their nominee meets the criteria described for award.
4. If multiple nominations are received for the same person in any category, the nominators will be asked to re-submit a single nomination form.
5. Persons can be nominated in more than one award.
6. Nominations will open on Dec 1st for the following calendar year.
7. The deadline for nominations is May 1st of each calendar year.
8. Nomination forms will remain valid for 3 years after initial submission.

(Continued on page 4)
Award Review Committee

The Award Review Committee will be chaired by the Director of Hospitality and Membership, and will be comprised of additional volunteer SLAS members. The committee will require of a minimum of five members (including the chair) for voting. They will be responsible for executing the program under the guidance of this document. Following the nomination deadline each year, the committee will convene one or more meetings, and will use the following to guide their decisions:

1. Not every award must be given each year
2. They will select an awardee (or not) based on the merits of the valid nominations received.
3. There will be no rule preventing more than one person receiving an award for the same category
4. The committee will generally avoid awarding more than one category to a single individual. If a single person is voted an award in more than one category, the committee should consider awarding multiple persons for the same category.
5. Minutes must be kept of all committee meetings
6. The committee reserves the right to reject or return any nomination form to the nominator if the submission needs further substantiation, clarification, or re-classification to a different award category.
7. The Award Review Committee may propose program changes to the Executive Board for review/approval. If approved, the committee will update this document accordingly.
8. The program will be executed using the current version of this document as of the nomination opening day.
9. The committee will request and manage budget requests and expenditures to ensure smooth operation of the program.
10. The Award Review Committee will be responsible for retaining all valid nomination forms.

Award Presentation

1. Awards will be presented during the September regular meeting of the society
2. Each recipient will receive a plaque or trophy to commemorate the award
3. A SLAS cumulative plaque will be updated each year with new recipient names. This plaque will displayed at SLAS regular meetings.
4. Additional recognition will be posted on the SLAS website and on member name tags
5. Award process to be reviewed and approved at September Board meeting for publishing in Sep newsletter to open nominations
6. 2020 Budget will include funding of the awards under the recognition committee

Award Categories

The Albert M. Obrecht Founders Award

In January, 1936, Albert Obrecht (1883-1955) founded the St Louis Amateur Astronomical Society. Albert and a small group of members established the first Constitution and By-Laws. Officers and committees and budgets were established to provide the perpetual structure for stability and growth. The mission of society was established in the Preamble of the Constitution as: "...to promote and diffuse the knowledge of astronomy...". Albert remained a member until at least 1954. The society's was renamed St Louis Astronomical Society during Albert's tenure and SLAS remains committed to the legacy handed down by these original founders. In the spirit of Albert M. Obrecht, the Founder Award should be given to board or committee person for their service to SLAS. The nominee must be a SLAS member. The nominee should have past or current positions as an officer or committee member. The nominee should demonstrate their contribution to the operation, stability and growth of the society.

The Lois D. Fitter Outreach Award

Lois Diane Fitter (1943-2016) served SLAS in many capacities. Lois was a member of SLAS from 1985 until her death in 2016. Lois was a former SLAS President and Committee chair and a telescope maker. Lois will be remembered for her enthusiastic astronomy outreach events. In a time when no one really kept track of volunteer hours. Lois was out there showing kids and adults views through one of her homemade telescopes, creating a sense of wonder and excitement wherever she went. She was certainly not afraid of the dark and would take her Subaru to dark sites around the area to work on her own projects and hone her skills. She was very capable astronomer and speaker. Lois setup the original outreach plan for coordination with schools and organizations. She logged her events and established long lasting relationships with these organizations. In the spirit of Lois D. Fitter, the Outreach Award should be given to a SLAS member with most dedicated or most improved public outreach impact as a participant or coordinator.

The Richard D. Schwartz Supportive Faculty Award

Richard Dean Schwartz, PhD (1941-2011), was professor of astronomy at University of Missouri-St Louis from 1975 to 2003. When Dick arrived at the University of Missouri-St Louis in 1975, he was the only astronomer in the Department of Physics. He built the astronomy program and initiated the B.S. in physics with an astrophysics option. Dick compiled a distinguished record of research that gave him an international reputation as an astrophysicist. During his career, Dick pioneered a new research area studying the energetic mass loss in young stars, there have been over 2000
citations to his 80 scientific papers. In 1999 he received the Chancellor’s Award for Research and Creativity for his distinguished research record. Dick became a member of SLAS shortly after coming to St Louis and would present his research at SLAS meetings. In the spirit of Richard D. Schwartz, the Supportive Faculty Award should be given to local educator at HS or college level who support SLAS’ mission by providing astronomy-related talks to SLAS or the St Louis area. Nominee does not have to be SLAS member.

The Robert E. Cox Popular Astronomy Award

Robert Edward Cox (1917-1989) moved to St Louis in 1960 to work for McDonnell Aircraft Co. His optical shop produced prototypes in connection with flight testing of Voodoo and Phantom fighter planes, as well as for the Mercury and Gemini spacecraft. Optics from his shop flew on all American manned space missions up through Gemini 8. Cox retired from McDonnell-Douglas in 1982. Bob was Sky and Telescope’s “Gleanings for ATMs” column editor from 1956 to 1977. Bob received the Astronomical League Award in 1962 and the Clifford Holmes Award in 1980. Bob was a member of SLAS from 1960 until his death in 1989. Bob was an early supporter for the building of the McDonnell Planetarium and taught numerous classes at the planetarium after it opened. Through his talks and articles Bob help popularize astronomy and telescope making locally, nationally and internationally. In the spirit of Robert E Cox, the Popular Astronomy Award should be given to an amateur who publishes or produces work recognized at a regional or national level or having major contribution to popularizing astronomy at the regional or national level. Nominee does not have to be SLAS member.

The Alfred L. Woods Mentoring Award

Alfred Lee Woods (1911-2004) was a member of SLAS since the mid-1960’s and was elected to a term as a board member at large to the board of directors. Al was the 1993 Amateur of the Year for the Mid-States region of the Astronomical league. Al was a gifted telescope maker and optical fabricator. Al could grind and polish mirrors and lenses to ultimate precision. Al fabricated a number of very difficult telescope designs including 2 and 3-mirror Schießspiegler telescopes. Al mentored amateur telescope makers across the globe. Al educated his fellow amateurs at the annual SLAS Homemade Fest. Al’s design were featured on Amateur Telescope Making magazine and other publications. In the spirit of Alfred L Woods, the SLAS Mentoring Award should be given to a SLAS member for mentor-ship in astronomy, telescope and gadget making to their fellow amateurs.

**MSRAL Conference is June 12-14! by Peggy Walker, Chair MSRAL**

Registration for MSRAL 2020 scheduled for June 12th-14th in Jenks, Oklahoma is officially live! https://msral2020.wixsite.com/registration

You will notice speakers are still being confirmed which also means an actual program schedule is still in progress. However, the keynote speaker is the only one listed.

A new opportunity is that there will be a separate youth MSRAL conference that will be held at the same time. This conference is for high school students 9th to 12th grade and will be run by high school senior, Abby Bollenbach also AL’s 2018 Horkheimer Smith Award winner. The goal is to be inclusive for accessible students since the building is accessible, but the program is being designed to offer an astronomical experience for blind/legally blind as well as deaf/hearing impaired students.

So far, the program under consideration is the construction of an origami buckey ball, observing, solar observing and student talks. Nothing is set in stone and is still being finalized. So, if you have a 9th-12th grader, please encourage them to come since nice giveaways have been gathered just for the youth.

To book a hotel room at our special rate of $79.00 at The Crowne Plaza, go to the “Venue” tab and scroll to the picture of The Crowne Plaza and click on the yellow booking button. That will take you directly to The Crowne Plaza where you are able to select a king, or a double room at our special rate. *Editor’s note: I would recommend calling the hotel to book the room at the discounted rate.*

To register, please go to the “Registration by PayPal” tab. Each transaction will require a name and club affiliation because not everyone will purchase all the meals. The shopping cart will take you to PayPal where the transaction will be completed. If you have dietary concerns or have questions, please go to the bottom of the “Home Page” to the “Contact Us” form. However, if you are sending in your registration by mail, please add any comments on dietary issues or concerns on the registration form located in the “Printable” tab. My personal address is at the bottom.

There are printable maps in the “Printable” tab as well as maps of restaurants near the conference site and The Crowne Plaza. There are $10.00 breakfast vouchers free upon request at the front desk but there are many breakfast places nearby if you so desire.

We look forward to seeing you in June and we are confident that you will have a great time here in Oklahoma.

Sincerely,

Peggy Walker

MSRAL 2020 Conference Chair

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**Teacher Package:**

- **$350.00** – Riker Box + 30 student
- **$250.00** – Riker Box + 20 student
- **$10 Donation** - One student

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St. Louis Astronomical Society Executive Board Meeting Minutes January 2, 2019

1. Opening Activities Attendees: Jim Small, Tom Nickelson, Larry Campbell, Brad Waller, Brent Buch, John Newcomer, Mark Jones Minutes of previous meeting, distributed before the meeting. Motion made by Tom to approve the minutes, motion seconded by John. Minutes were approved.

2. External Business: SLSC: First Friday. Weather forecast bad, so probably will be an indoor event, with one table. Try to arrive by 6:30pm, to get a parking spot. Solar Saturdays and First Fridays are on NSN calendar First Friday is Jan 12 next year. Jefferson College next event is this Sunday. Next board meeting: Meetings posted on NSN calendar. Board meetings will be held at Nicoletti’s Restaurant in Valley Park until further notice. Dates for 2020: Feb 6, Mar 5, Apr 2, May 7, Jun 4, Jul 2, Aug 6, Sep 3, Oct 1, Nov 5, Dec 3

3. Director Reports:

President: Jim Small: No additional report
Vice President: Bradley R Waller

Presentations 2020

<table>
<thead>
<tr>
<th>Month</th>
<th>Name</th>
<th>Topic</th>
<th>Sponsor</th>
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<tbody>
<tr>
<td>17-Jan-2020</td>
<td>Ryan Clegg-Watkins, PhD</td>
<td>Exploring the Moon from Orbit:</td>
<td>Washington University</td>
</tr>
<tr>
<td>21-Feb-2020</td>
<td>K Michael Malolepszy</td>
<td>Paving the Way for Future Astronaut Explorers</td>
<td>SLAS</td>
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<tr>
<td>20-Mar-2020</td>
<td>Joseph N Marcus, MD</td>
<td>Probing the Sub-Microwave Universe Part II</td>
<td>SLAS</td>
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<td>17-Apr-2020</td>
<td>Raymond E Arvidson, PhD</td>
<td>Carl Lampland, Pioneer Infrared Astronomer</td>
<td>SLAS</td>
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<td>15-May-2020</td>
<td>William McKinnon, PhD</td>
<td>What Controls Planetary Climates</td>
<td>Washington University</td>
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<tr>
<td>16-Sep-2020</td>
<td>Marco Cabaglia, PhD</td>
<td>Something about Ultimate Thule of Course!</td>
<td>Washington University</td>
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<tr>
<td>17-Jul-2020</td>
<td>Amy E Kimball, PhD</td>
<td>The Science of Light Pollution</td>
<td>Truman State University</td>
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<td>19-Jun-2020</td>
<td>Vayujeet Gokhale, PhD</td>
<td>Radio Quasars &amp; the VLA</td>
<td>NRAO (Zoom Event)</td>
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<td>21-Aug-2020</td>
<td>Jeffrey Gillis-Davis, PhD</td>
<td>Apollo XII Plus 50 Years</td>
<td>Washington University</td>
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<td>20-Nov-2020</td>
<td>Brett McGuire, PhD</td>
<td>Gravitational Waves Part II</td>
<td>University of Missouri: Science &amp; Technology</td>
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<td>16-Oct-2020</td>
<td>Maura McLaughlin, PhD</td>
<td>Mirror Asymmetry in Life and in Space</td>
<td>NRAO-WVA (Zoom Event)</td>
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<td>18-Dec-2020</td>
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<td>Still thinking about a Topic :)</td>
<td>UWVA (Zoom Event)</td>
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*Astro 101: *Welcome Aboard Meetings for new members are still planned for each month.

101 -Mark Jones Astro events for 2020 A101 for Feb will be Carl Mathsay Brad wants a SLAS web page for Francis Park so John N can create a QR code. Jim will create

Secretary: Mark Jones Mark proposed adding the 2020 goals for new programs and expenditures so they can be statuses each month. Mark will provide draft of meeting agenda

Treasurer/ALCor: Bill Winningham No report

Hospitality: Larry Campbell Anniversary recognition awards will be ready for Jan.

Membership recognition: Jim to purchase NSN pins for Volunteer awards. Count 22 with 5 or more, 4 with 4 events

Board member at large reports

John Newcomer (2022): Waiting for the URL for Francis Park Budget for new signs using for sale sign type

4. Committee Reports:

Library Telescope Program: Don has scheduled 2 maintenances days in 2020 on NSN calendar

Membership: Attached is the SLAS membership report. We ended the year with 182 members which is three members above last year’s count of 179 members. Notably, our youth membership dropped from eight members to one member and our family membership increased from 50 members to 58 members. Please review the past due membership list. We have several longtime members showing as past due (including one board member).

Merchandise: 6 Infini-tees shirts sold at December meeting for total of $52

Telescope Making: No report

Librarian: purchased Celestial Sphere ($148.90) and updated Moon Globe ($107.45). Purchased three Great Courses ($118.88): Black Holes, Tides, and Curved Space Time, What Einstein Got Wrong, and Dark Matter, Dark Energy

Newsletter: Please forward articles to newsletter@slasonline.org 3 Printer cartridges ($246.78) and a roll of 100 forever stamps ($56.80) purchased

Website:

Social Networking: Twitter has 94 followers. Public FaceBook has 478 followers

Night Sky Network:

SLAS dialog: Transfer to groups.io completed. One year membership in place

Dark Site: no report

Publicity: Need press release for January

Observing Programs:

Star Parties: Based on the volunteer hours logged in Night Sky Network, 50 members contributed a total of 1475.5 hours in 2019

5. Old Business: None

6. New Business: 1. I asked the Board members to think about Volunteer Training Program, we need to start a committee

2. Star Party request policy tabled until next month: Options: Service only to preferred patrons, which SLAS has beneficial partnerships. Service only the events with larger number of visitors, therefore biggest impact to community. Don’t limit by size of group name but don’t allow scheduling of more than 2 events on same date. Set Blackout dates on calendar to allow more “free time” for members to enjoy their own hobby. Remove “Request a Star Party” from our public website. This will reduce “over advertising” our ability to staff such events. Do not booking events on same night as SLAS social events, outreach events or SLAS meetings. Do not double-booking events for the same night. Do not book more than 3 events in a given week. Do not book events on Dark Moon Saturday nights

7. Closing Activities Motion by Brad to adjourn, second by Larry. Meeting adjourn at 9:16pm
We could use articles for the newsletter. The following topics are fine for submission.

1. Star party reports. Let us know how a star party you attended went! Photos would be most welcome in addition to the article.
2. Observing reports. Actually made it out observing? Let us know how it went. Taken some astro photos? Please submit!
3. Bought something or built something? How about a review or an article!

Send to newsletter@slasonline.org
Upcoming Star Parties and Other Events

For details on these and other upcoming events, check out the Night Sky Network Calendar linked on the Home Page for SLAS at http://www.slasonline.org

SLAS Executive Board Meetings Location will be at Nicoletti’s Restaurant in Valley Park All meetings are on First Thursdays unless noted.
Mar 5, Apr 2, May 7, June 4, July 2, Aug 7, Sept 3, Oct 1, Nov 5, Dec 3

Dark Sky Observing Dates
Feb 22, Mar 21

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon
Apr 1, Apr 29, May 27, Jun 24, July 29, Aug 26, Sept 23, Oct 21

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park
Please RSVP if you plan to come!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month
Planetarium shows start at 7pm
Mar 6, Apr 3, May 1, Jun 5, Jul 3, Aug 7, Sept 4, Oct 2, Nov 6, Dec 4

Pattonville Observatory Public Viewing Dates
Feb 28, Mar 6, Mar 13, Apr 3, Apr 23, May 8, May 14

Broemmelsiek Astronomy Park Public Viewing
Every Friday night with ASEM members

UMSL Observatory
For directions and map http://www.umsl.edu/~physics/About%20the%20Department/astro.html
All sessions include viewing of 1st quarter Moon with additional objects
Skywatch Hotline: 314-516-5706
Saturdays:

SLAS EVENTS

February
21 Fri SLAS Regular Meeting
22 Sat Solar Saturday
22 Sat Homemade Fest
22 Sat SLAS Dark Sky Observing
26 Wed Parkway North Star Gazing
27 Thur STEAM FEST 2020
27 Thur Florissant Valley Library
29 Sat Library Telescope Maintenance

March
4 Wed St Louis Public Library
5 Thur SLAS Board Meeting
6 Fri Parkway School STEM Fest
6 Fri SLSC Public Telescope Viewing
7 Sat Parkway School District
8 Sun Jefferson College Observatory
9 Mon Rock Hill Library
15 Sun SLAS Sky Orienteering
20 Fri Carondolet Leadership
20 Fri SLAS Regular Meeting
21 Sat Solar Saturday
21 Sat SLAS Dark Sky Observing
24 Tue Oak Bend Library
25 Wed Bridgeton Trails Library
26 Thur Samuel Sachs Library
30 Mon Grants View Library
31 Tue Grand Glaize Library
31 Tue STLCO HQ Library

April
1 Wed Francis Park Stargazing
2 Thur Armstrong Elementary
2 Thur SLAS Board Meeting
3 Fri SLSC Public Telescope Viewing
5 Sun Jefferson College Observatory
9 Thur Premier Charter School
17 Fri Twin Chimneys Elementary
17 Fri SLAS Regular Meeting
18 Sat Solar Saturday
18 Sat SLAS Dark Sky Observing
19 Sun SLAS Sky Orienteering
22 Wed Wild Horse Elementary
27 Mon Natural Bridge Library
28 Tue Lewis and Clark Library
29 Wed Francis Park Stargazing

LET US KNOW YOU ARE COMING!
To RSVP for any of these events log in to the Night Sky Network and submit your RSVP. If the event is canceled, you will be notified immediately according to the preferences you have selected.

SLAS Merchandise Available
SLAS merchandise is now set up for embroidery at Headz n Threadz at https://hnt.threadthis.com/
There are two locations:
Galleria: 2495 St. Louis Galleria, St. Louis, MO 63117 Telephone: 314.862.2695
galleria@headznthreadz.com
Simply take the garment, hat, etc you wish to have embroidered and they will take care of it. They have the SLAS logo on file. You may make modifications to the colors if you wish.

SLAS Logo is also available at Infini-toes
SLAS MEMBERSHIP APPLICATION

Name: Last ____________________________________________________________________________
First, Middle Initial ___________________________________________________________________
Address ______________________________________________________________________________
City, State, Zip Code _________________________________________________________________
email address __________________________________________________________________________

Youth $10.00 / 1 year (18 yrs or younger) $_________________
Individual $25.00 / 1 year $_________________
Family $40.00/1 year $_________________

Publications with discount available with your SLAS membership:
Sky and Telescope $32.95 / 1 year $_________________
Astronomy $34.00 / 1 year $_________________

TOTAL ENCLOSED $_________________

Check all that apply:
___ Renewal
___ Address Change Only
___ Please send my newsletter by regular mail
___ New Member!

Please send completed form with check (no cash please) made payable to
St Louis Astronomical Society
Don Ficken, Membership
13024 Barrett Crossing CT
St. Louis, MO 63122

SLAS OFFICERS

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president at slasonline.org

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vicepresident at slasonline.org

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secretary at slasonline.org

Treasurer Bill Winningham, (Don Ficken - membership) 636-357-2763
treasurer at slasonline.org

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hospitality at slasonline.org

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Brent Buch 314-239-0329
board21 at slasonline.org

John Newcomer 314-496-4636
board22 at slasonline.org

ALCOR Bill Winningham 636-357-2763
(Astronomical League Correspondent )
treasurer at slasonline.org

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Telescope Making Bill Davis, Jim Melka 314-469-3061
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Who We Are and What We Do
St. Louis Astronomical Society is a not-for-profit organization established in 1936. SLAS is devoted to the interest and advancement of the science of astronomy. Our mission is to promote an understanding of the science of astronomy to our members and to the public. Membership is open to anyone with an interest in astronomy.

For more information contact any SLAS officer or visit our website listed above. SLAS is affiliated with the Astronomical League, Night Sky Network and the Mid-States Region of the Astronomical League.

Meetings are held the 3rd Friday of each month at McDonnell Hall at Washington University. See the map to the right for directions.