

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

*Devoted to the Interest and Advancement of the Science of Astronomy*

**VOLUME 30, Issue 5  
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Mid States Region



### **Journey to Farpoint: NASA's New Horizons Mission Encounters the Kuiper Belt Object Arrokoth**

*by*  
**Dr. William B. McKinnon  
Washington University**

Dr. William B. McKinnon of Washington University will be featured at the May meeting of the Saint Louis Astronomical Society. The meeting will be held via Zoom online conference only, due to the coronavirus COVID-19 outbreak. The meeting and lecture will begin at 7:30 p.m. on Friday, May 15. Zoom access information is posted on the Society's website, [www.slasonline.org](http://www.slasonline.org).

Located about four billion miles from Earth and about one billion miles beyond Pluto, Arrokoth is the most distant object ever visited by a spacecraft. During its historic encounter with Arrokoth early in morning of New Year's Day 2019, NASA's New Horizons spacecraft sent back images and data from this small icy object only 22 miles long. As a "cold classical Kuiper Belt Object," it is thought to have been preserved in place since the beginning of the Solar System. The data sent back has allowed us to get some understanding of Arrokoth's geology, composition, and its formation and origin. What has been

revealed is a breakthrough in our ideas about the beginnings of planet formation.

Dr. Bill McKinnon is a Professor of Earth and Planetary Sciences and a member of the McDonnell Center for the Space Sciences at Washington University. His research focuses on the structure, origin, evolution, tectonics and bombardment histories of outer planet satellites and bodies in the Kuiper belt beyond. He is a science team member on NASA's New Horizons mission to Pluto and the Kuiper belt, serving as a deputy lead investigator for the Geology, Geophysics & Imaging Team. He is also a science team member for the European Space Agency's Jupiter Icy Moons Explorer and NASA's Europa Clipper missions.

#### **Upcoming Meetings!**

**June** Vayujee Gokhale, PhD The Science of Light Pollution Truman State University

**July** Amy E Kimball, PhD Radio Quasars & the VLA National Radio Astronomy Observatory

**August** Jeffrey Gillis-Davis, PhD Apollo XIII Plus 50 Years Washington University

**September** Ann Hofmeister, PhD New Mechanisms for Plate Tectonics, Lunar Drift and Differential Rotation of the Lithosphere.

**October** Marco Cavaglia, PhD Gravitational Waves Part II University of Missouri: S & T

**November**-Brett McGuire, PhD Mirror Asymmetry in Life and in Space

**December**- Maura McLaughlin, PhD Still Thinking About a Topic!

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#### **Joining a Zoom Conference Meeting: Everyone can join!**

Joining us for a Zoom Conference is easy! All you need is any of the following: Computer, desktop or laptop, smartphone, **OR** any regular phone! The meeting will be open from 7-11pm.

**Below is the invitation to join:  
To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone:**

**Just click the link below**  
<https://zoom.us/j/8604505790>  
Meeting ID: 860 450 5790

**Dial by phone** using your location (any phone will work)  
+1 312 626 6799 US (Chicago)  
Meeting ID: 860 450 5790

**If you need help joining the meeting, don't hesitate to call Jim Small at 314-307-0692!!**

## President's Corner by Jim Small

The SLAS Regular meetings for May will be via Zoom conference only. This month features our long-time friend Bill McKinnon.

To join the meetings, see the article on the front page for instructions and a link. We had 55 attendees last month and I anticipate even more this month!

Due to COVID-19, MSRAL and ALCON for 2020 are both postponed until 2021. On June 13 at 11 am, there will be a MSRAL Business meeting via Zoom conference. All are invited to attend. For the link and more information, see the article on the next page. Next years conference will be discussed and SLAS will think about hosting the conference in 2022. That topic will be brought up for discussion at the meeting Friday and at the next board meeting.

We will also continue holding SLAS Board meetings via Zoom conference, especially since at this writing, restaurants will be closing down for the near future.

The AAS conference is happening June 1-3 and you can

still register if you are interested in attending the conference with professional astronomers. If you really have an intense interest in cutting edge astronomy, the American Astronomical Society (AAS) meeting will be a good call! This conference is completely virtual so you won't have to pay for travel, hotel rooms, or meals! Amateur astronomers may register for the full conference for \$209 and attend all meetings. Students may register for \$99. There are many high power speakers and this conference will have many opportunities to see what's happening in the world of astronomy. Registration is open until May 29.

Here is the link for prices and registration page <https://aas.org/meetings/aas236/register>

Here is a description for the meeting along with the schedule: <https://aas.org/meetings/aas236>

Watch for virtual events on the SLAS calendar and watch dialogs for other events you might be interested in participating in.

Hopefully, we can get back to some sense of normality in the future.

## For the Next Issue!

Soooo, you're stuck at home, no star parties to go to, no meetings in person, what should you do? Take pictures! Break out your camera and shoot some photos related to astronomy. ANYTHING! All sky photos, Moon photos, creative landscapes, astrophotography of your favorite DSO, you name it. Process it and send it to [newsletter@slasonline.org](mailto:newsletter@slasonline.org) for publication in next months newsletter!

I'm looking forward to the creative abilities of SLAS members to abound! I can't wait to see what you come up with!



**Teacher Package:**  
**\$350.00 – Riker Box + 30 student**  
**\$250.00 - Riker Box + 20 student**  
**\$10 Donation - One stu-**

## Elections to be Held at the May Meeting

At the meeting this month via Zoom, we will have elections during the meeting. Offices up for election include President, Vice President, Treasurer, Secretary, Hospitality, and the Board Member at Large position currently held by Tom Nickelson. Nominations will still be honored anytime up until the elections are held at the May meeting.

Nominations at this time are: President - Jim Small, Vice President - Bradley Waller, Treasurer - Bill Winningham, Secretary - Mark Jones, Hospitality - Larry Campbell, Board Member at Large - Tom Nickelson

In light of the virtual nature of the meeting being held by Zoom conference, the following motion regarding the elections was passed at the board meeting this month.

**Motion by Mark Jones:** "That the Executive Council shall declare that the May regular meeting will be officially held using zoom video conferencing. Further that the official election of officers will be by vote during the May meeting. Additionally, I move that elections follow the process outlined: (1) That the Executive Board assign an Election Chairperson before the final vote. (2) That final nominations be opened for any office. (3) If the offices are unopposed, then a voice vote for and against be taken for slate of officers. (4) If there are any offices with more than one nominee, then the membership shall submit their vote to the election chairperson using the private chat feature on zoom. (5) The election chairperson shall then tabulate the votes and announce the results before then end of the May meeting."

ARTICLE V – MEETINGS (Amendment XIII - Adopted 5-15-1981)



## **MSRAL Business Meeting to be Held Saturday, June 13th.**

The Mid-States Region of the Astronomical League normally holds a conference every year. This year it was supposed to be held in Tulsa the weekend of June 13. Because of COVID-19, the meeting has been postponed until next year. Despite the fact that there will not be a conference, there will still be a business meeting via Zoom Conference at 10:30 am Saturday, June 13th. All members of any club in the region are invited to attend, including all SLAS members. The zoom conference will be very similar to our regular meetings held via zoom. You do not need a computer or internet access to participate as you may simply phone in to listen to the meeting.

An agenda for the meeting has not yet been released, but when it is, it will be sent out as a Night Sky Network message. If the newsletter for SLAS is out before the meeting and if the agenda is set by then, it will be included in the June Event Horizon. The agenda and business meeting will also be announced on the MSRAL website, [MSRAL.org](http://MSRAL.org). It would be great so see some good support for the region at the business meeting! SLAS is considering hosting the conference in 2022, so that topic may come up at the meeting. (nothing official, some of us have just been discussing it)

Here is the Zoom invitation to the meeting, Carroll Iorg is hosting:

Carroll Iorg is inviting you to a scheduled Zoom meeting

Join Zoom Meeting

<https://us02web.zoom.us/j/85201353323>

Meeting ID: **852 0135 3323**

One tap mobile

+13126266799,,85201353323# US (Chicago)

+16465588656,,85201353323# US (New York)

## **Helping the Public With Astronomy and Equipment by Mark Jones**

You may have noticed that the SLAS web site includes a "Contact Us" page <https://www.slasonline.org/contact-us>

On this page, members or general Public can ask questions and ask for help. SLAS receives many of these requests every year. Below are excerpts from some of those questions and the responses from SLAS. If you're a member and are interested in volunteering to respond to these types questions, please contact us. We are looking for a number of members to whom we can refer questions when they come in via the contact page. If you are interested in helping, send a note or speak to Mark Jones about it and let us know what type of questions you would be willing to help out with.

Below are several samples of the type of questions we get from "Contact Us"

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**Question 1.** On Tue, Apr 21, 2020 at 5:11 PM Cindy wrote: Perhaps I'm behind the times, but I'm interested in getting telescope lenses I can attach to my cellphone. So many products! Any recommendations? Thanks.

### **Response:**

Cindy, I don't have any direct experience with telephoto lenses for cell phones, but there is a wide selection available

I looked on Walmart website and they have several and I am sure you could return if it does not meet your needs I see 8X, 12X even 20X lenses. If you use the higher magnification ones you might need a tripod holder for your cell phone to keep it steady this one looks incredibly cheap, maybe too cheap

<https://www.walmart.com/ip/12x50-Zoom-Optical-Hiking-Monocular-Telescope-Telephoto-Camera-Lens-Phone-Clip-Holder-Tripod-For-Universal-Smart-Mobile-Phones/949841509>

This one is inexpensive and might be a good starter lens

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<https://www.walmart.com/ip/Cell-phone-Camera-Lens-12X-Zoom-Telephoto-Cellphone-Lens-with-Clip-For-iPhone-Samsung-LG-HTC-iPad-Most-Smartphones/560194192>

If you already have a tripod then you need a good cell phone tripod adapter, I have seen these on Amazon for \$5.

<https://www.walmart.com/ip/Vertical-iPhone-Galaxy-Max-Mount-G5-G6-G7-More-V40-Tripod-X-Phone-Cell-S10-Bracket-Universal-S9-Holder-S10-S10E-Note-8-9-V35-XR-XS-Samsung-LG/358724191>

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**Question 2:** On Friday, April 3, 2020, 10:24:43 PM CDT, Jonathan > wrote:

First, I want to thank you for providing the telescopes to the SLCL for loan. My family loves them!

I am interested in buying a slightly better one that I may be able to see more of our solar system planetary moons. But I'm trying to understand how the "power" of telescopes works.

What would be the next model up from the ones the SLCL loans out? Any advice in learning more on telescopes?

For instance, Venus has been visible and I used the telescope to check it out, but couldn't see much other than a bright star. Is there a consumer telescope that would allow us to see any features of it?

Thanks so much for introducing us to our galaxy!

**Response:**

Jonathan,

The SLCL telescopes should be capable of seeing the crescent of Venus, Jupiter and it moons, Saturn and it rings. Right now Venus is grwoing into a slender crescent before it disappears in early June. If you cannot see it with the SLCL telescope then the optics may be misaligned and it needs to be serviced by our club. Let your library know.

The SLCL telescope is a great beginner scope and the same company offer a larger size that you might be interested in

here is link to the current SLCL telescope

<https://www.telescope.com/Orion/Orion-StarBlast-45-Astro-Reflector-Telescope/rc/2160/p/102010.uts>

Here is the next larger size

<https://www.telescope.com/Orion/Orion-StarBlast-6-Astro-Reflector-Telescope/rc/2160/p/102011.uts>

The 6" provides much improved brightness and resolution compared to the 4.5". The power of a telescope is determined by the focal length of the primary mirror divided by the focal length of the eyepiece used. The 6" focal length is 750mm and the eyepieces are 25mm and 10mm. Therefore the 10mm eyepiece gives a power of  $750/10 = 75X$

The 4.5" telescope has focal length of 450mm and the eyepieces are 17mm and 6mm. Therefore the highest power would be  $450/6=75X$

While both give you 75X the 6" image will be brighter because of the larger mirror collecting light. Also the 10mm eyepiece is much easier to look through than the 6mm. As a rule I don't use eyepieces with focal lengths less than 12mm because the are difficult to look through and don;t give as good images.

Please avoid buying any cheap refractor telescopes they advertise more power but the images are dim and fuzzy.

Here are some BAD telescopes

<https://www.telescope.com/Orion/Orion-GoScope-III-70mm-Refractor-Telescope-Kit/rc/2160/p/118163.uts>

<https://www.telescope.com/Orion/Orion-Observer-II-60mm-AZ-Refractor-Telescope-Starter-Kit/rc/2160/p/118326.uts>

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**Question 3:** On Tuesday, March 31, 2020, 6:39:12 PM CDT, Jill > wrote:

Hi, I was given a used telescope. I don't know anything about it and I believe it's missing a part. I do not know a thing about telescopes. Is there Somewhere I can take it after this virus is over to have it checked out?

Thanks so much for any help!

**Response:**

Jill,

SLAS should be able to help you. Yes, we will have to wait until the pandemic is passed, for now please provide more

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information on the telescope. It should have a model number and description label. Also here is the Tasco website it might have some info to help

<http://www.tasco.com/products/index.aspx?ClassID=17&FamilyID=378>

Tasco is not a brand i recommend. They over hype the magnification of their telescopes, claiming more than 600X. If you try to use the telescope only use the H25mm eyepiece and do not use the Barlow lens.

If you have a H12.5mm or SR4mm eyepiece set those aside they are not very useful and will lead to frustration and disappointment

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**Question 4:** On Feb 1, 2020, at 7:55 PM, Tom > wrote:

Bought a Celestron Nexstar and extra lens for my wife a few years ago .. Paid \$850 hoping it would be an improvement on the Meade (about \$200 ) that she really enjoyed, Could clearly see most the planets ... Problem is we can't get the Celestron to properly focus... We can see the moon and its caters, but can barely see Jupiter or Saturn or any other planets... I'm thinking maybe the mirrors are misaligned, not sure.. Do you guys know where I can get this telescope repaired or looked at ??? Its been sitting for 2 years barely used because we cant it focused ...

Thanks... Tom

**Response:**

Tom,

Please send more info on the scope like model number and size. Also what part of town you live in? Can you bring the scope to one of our SLAS events? I'm sure we can help!

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**Question 5:** On Tuesday, January 28, 2020, 3:01:05 PM CST, Julie wrote:

Question: My husband bought a very expensive telescope for my daughter and we have no idea how to use. I was hoping to hire someone or see if anyone knows of any classes on how to use. Thank you in advance.

**Response:**

Julie,

Hopefully we can help your family. Expensive telescopes can be complicated with a steep learning curve.

These scopes can provide the user with many hours of exploration once mastered. While many telescope manufacturers offer online videos, nothing replaces a real person being there to help you. Send us more information on the model telescope you have and the ages of the people involved. We will do some research and make a recommendation on the next steps

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**Question 6:** On Jan 4, 2020, at 10:40 AM, Amanda wrote:

Question: Looking for information about options for a star party for a Girl Scouts troop.

**Response:**

Amanda,

Try one of our public events. Go to our calendar page and look for our scheduled events.

<https://slasonline.org/events/calendar>

Some you might one to take note of: First Friday at the Planetarium; Wednesday nights at Francis Park; Sunday nights at Jefferson College; St. Louis County library telescope nights; and Pattonville School has open nights at their observatory usually Friday's.

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**Question 7:** On Jan 2, 2020, at 12:06 PM, Christine wrote:

Interested in taking/learning class(es) about astronomy. beginner level. Is this the correct venue?

**Response:**

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Christine, We don't offer any formal classes. We have fabulous monthly speakers and a great library and video courses you can checkout. A couple of our member have taught astronomy courses at local colleges like St. Louis County Community College, St, Charles Community College, East Central College in Union Mo. and Jefferson College in Hillsboro Mo

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**Question 8:** On Nov 25, 2019, at 4:45 PM, Nate wrote:

Hello! Please help! I bought a nice telescope a couple years ago. I thought it would be a great family activity but I've struggled to use it effectively. I really want to learn but need help. Any chance the SLAS offers courses? Ideally, I'd love to pay one of your members to teach me how to use my specific telescope. Thank you for your help!

**Response:** Nate, I am sure we can help you with your telescope. Here are a couple of suggestions:

1. You could post your problems on our public FB page asking for advice from fellow owners. You can follow our public FB page at: [St Louis Astronomical Society](#)
  2. For more personal assistance it would be best if you could bring your telescope to one of our public events so we could look at it. Go to our SLAS calendar page and find an event that might work for you, like our monthly meeting every third Friday or our first Friday events at the St Louis Science Center, or Solar Saturdays at the science center, or the monthly Francis park telescope viewing or our Jefferson College telescope viewing. Here is the link to our calendar: [St. Louis Astronomical Society | SLAS Events | Night Sky Network](#)
- If you wish to join SLAS please go to our website: [Membership](#)

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**Question 9:** On Nov 23, 2019, at 9:13 AM, Pam wrote:

Good morning. I'm seeking advice as to what telescope to get my 12 year old granddaughter for Christmas. She is extremely bright and fascinated with all things scientific. She loves to experiment - hopefully not to blow up her home! I'm wanting to spend no more than \$150 as she's a beginner as am I. Thank you for any guidance.

**Response:**

Pam, The telescope we use for the library telescope program is very good and easy to use plus she can come to our training sessions and use same methods on her personal scope

For \$200 <https://www.telescope.com/mobileProduct/Orion-StarBlast-45-Astro-Reflector-Telescope/102010.uts>

Another company offers the same model

[https://www.highpointscientific.com/zhumell-z114-portable-altazimuth-reflector-telescope-zhus002-1?utm\\_source=google&utm\\_medium=cse&utm\\_term=ZHU-ZHUS002-1&gclid=EAIaIQobChMIqYa359yA5gIVTvdACH3QZQSxEAQYBSABEgLhkPD\\_BwE](https://www.highpointscientific.com/zhumell-z114-portable-altazimuth-reflector-telescope-zhus002-1?utm_source=google&utm_medium=cse&utm_term=ZHU-ZHUS002-1&gclid=EAIaIQobChMIqYa359yA5gIVTvdACH3QZQSxEAQYBSABEgLhkPD_BwE)

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**Question 10:** On Saturday, November 16, 2019, 12:17:05 PM CST, Zoe wrote:

Question: I received a Celestron AstroMaster 114 for Christmas a couple years ago, and could never get it to work properly. my guess is that I put it together wrong. i was hoping if there was anyone who could help me with it? maybe take a look at it and see if they can find the problem. it's just been sitting collecting dust for years now and i would LOVE to finally be able to use it :) any help will be greatly appreciated. also would love more information on becoming a member? I want to take my passion for astronomy further :) thanks so much!

**Response:** Zoe, I am sure we can help you with your telescope. Here are a couple of suggestions:

1. You could post your problems on our public FB page asking for advice from fellow owners. You can follow our public FB page at: [St Louis Astronomical Society](#)
2. For more personal assistance it would be best if you could bring your telescope to one of our public events so we could look at it. Go to our SLAS calendar page and find an event that might work for you, like our monthly meeting every third Friday or our first Friday events at the St Louis Science Center, or Solar Saturdays at the science center, or the monthly Francis park telescope viewing or our Jefferson College telescope viewing. Here is the link to our cal-

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endar [St. Louis Astronomical Society | SLAS Events | Night Sky Network](#) If you wish to join SLAS please go to our website: [Membership](#)

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**Question 11:** On Nov 12, 2019, at 3:26 PM, John wrote:  
Question about Northern Taurid Meteor Shower. Can you provide or direct me to resources that may be able to add more detailed information to what has been reported in the media concerning the meteor that exploded over areas west of the Saint Louis Missouri metro area. The event occurred Monday, November 11, 2019 at about 8:55pm. I live slightly south of Lake Saint Louis. Like the many recordings of the event, the night sky lit up and we also experienced and significant explosion concussion. I'm looking for more detailed information concerning the event. For example, how large was the meteor before exploding. The location and height of the meteor at the time of explosion, etc

**Response:**  
John, According to the following site: <https://fireballs.ndc.nasa.gov/>  
Fireball over Missouri just before 9 PM last night  
At 8:51:45 PM last evening (2019 November 12 2:51:45 UTC), hundreds of eyewitnesses located in Missouri, Illinois, Iowa, Kansas, Nebraska, Oklahoma, Wisconsin, South Dakota, and Minnesota reported seeing a very bright fireball. An analysis of their accounts, along with data from an EarthCam camera in St. Louis and from a camera located at Missouri Skies (near Albany, Missouri), has established that this fireball first became visible at an altitude of 59 miles above the town of Cedar Hill, just to the southwest of St. Louis. The meteor moved to the northwest at 33,500 miles per hour, traveling some 70 miles through Earth's atmosphere before ablating 12 miles above the town of Bridgeport, northeast of Hermann. The orbit and brightness of this fireball indicate that it was caused by a fragment of an asteroid about 16 inches in diameter (basketball size), weighing over 200 pounds. Based on the information currently available, it is possible that this event produced meteorites north of Bridgepoint/McKittrick.  
It was not a member of the Taurid meteor shower, as some have reported.  
The fireball was also detected by the Geostationary Lightning Mapper (GLM) onboard the GOES 16 weather satellite, which supports the eyewitnesses reports of the fireball being brighter than the Full Moon.  
Here are the ground track, GLM image, and GLM/camera trajectory comparison. More details at <https://fireballs.ndc.nasa.gov/skyfalls/events/20191112-025148>

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**Question 12:** On Sep 17, 2019, at 10:09 AM, Judy wrote: Question: Can I see Saturn and Mars with a really good pair of binoculars?

**Response:** Judy, While Saturn and Mars appear to the naked eye as stars, to see Saturn and Mars as actual planetary disks, rings, moons, etc you need about 100mm aperture and 100x magnification. This is optimal you could have slightly less on either. Binoculars are normally only 50mm and 10x so they won't provide close enough views of planets.

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**Question 13:** On Aug 21, 2019, at 9:55 AM, Judy wrote: Question: I am looking for a "coffee table" book with pictures of space and the planets. I like to look at the web site ASTRONOMY PICTURE OF THE DAY, and I am looking for something similar to that with a brief description of the picture. I don't want anything that has too much science in it, just some interesting fun facts that go with the picture. Do you have any suggestions? I went to the science center but they really did not have much of a selection. If you could point me in the right direction, bookstore or website, that would be great.

**Response 1:** I will ask fellow SLAS members for recommendations and let you know  
I like to browse half price books in Chesterfield they have nice picture books at good prices selection varies

**Response 2:**  
Galaxies by Timothy Ferris, large edition, .....although not colorful  
The Heavens proclaim his Glory is a beautiful color with scientific explanations, and motivational spiritual quotes....

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SO..... If you would be interested in helping SLAS handle these kinds of questions from the public, let one of us on the board know, especially Mark Jones. We would love to have you participate in getting knowledge about astronomy distributed!!

**St. Louis Astronomical Society**  
**Devoted to the Interest and Advancement**  
**of the Science of Astronomy**  
**Executive Board Meeting Minutes April 2, 2020**

**1. Opening Activities** Attendance: Jim Small, Larry Campbell, Bill Winningham, Bradley Waller, John Newcomer, Brent Buch, Mark Jones

Open Meeting: Meeting started at 7:16pm as a remote Zoom meeting

Approval of last month's meeting minutes. Motion to approve by Mark seconded by Bill, minutes approved

Next Board meeting date: Dates for 2020: Meetings will be via Zoom until further notice: May 7, Jun 4, Jul 2, Aug 6, Sep 3, Oct 1, Nov 5, Dec 3

**2. Upcoming General Membership meeting topics:**

Speaker: Ray Arvidson, Washington University Dept of Earth and Planetary Sciences - What Controls Planetary Climates? April meeting will be a Zoom meeting.

Speaker Press Release: Not out as of the board meeting. Rich H wants laser pointer to give to Dr Arvidson. Brad will also supply SLAS coffee mug to Dr Arvidson.

Special Awards needed: none

Special Business needed

Attendance prizes will be drawn at April meeting. Names will be drawn from Zoom attendees list Awards will be mailed to recipient. Prizes include: Moon phases card, constellation flashcards, etc.

A101: Ask Bill Breeden to show how to do virtual star parties.

Announcements: Upcoming virtual events like the AAS May elections. Open nominations at April meeting. Tom Nickelson's spot coming up for re-election. Discussion: Should SLAS buy a Zoom pro subscription for \$15/month? Or should we continue to use Jim Small and Don Ficken accounts? Estimated cost is \$14.99/month or 12.99/month for full year, max of 100 participants. Zoom could be used for future outreach events if social isolation extends into year. Board proposed funding zoom subscription with Outreach budget. Zoom account needs email address and password. It would be best to set up slasonline.org email address for Zoom account. Decision was to defer vote and continue to use existing accounts and see if demand for Zoom increases for other outreach programs.

**3. SLAS Financial Report** Balance Sheet: First Bank statements have not been received yet Profit/Loss report reports will be sent out next week Annual Budget meetings – Start in September Corporate filings - Trout Lodge account. Bill W needs name and address and will write check to liquidate account balance

**4. Speaker Committee** Budget - \$500

Upcoming speakers: **May**-William McKinnon, PhD; **June**-Vayujeet Gokhale; **July**-Amy E Kimball, PhD; **August**-Jeffrey Gillis-Davis, PhD; **September**-Ann Hofmeister, PhD; **October**-Marco Cavaglia, PhD; **November**-Brett McGuire, PhD; **December**- Maura McLaughlin, PhD

Open dates: No open dates for 2020 Topics of interest – send topic ideas to Brad W Stipends – Budget allocated for July speaker

Travel – Budget allocated for October and November speakers if travel is permitted due to COVID-19

**5. Membership Initiatives** Budget - \$400

Welcome Aboard Meetings Raffles – None planned at this time. Attendance prizes – solstice, equinox. Next prizes will be April meeting

**6. Membership Recognition** Total Budget \$900

NSN Outreach Awards- Brad still has 6 pins for 2019 to give away.

Membership Report: Don submitted thorough report. Sent to board/committee prior to meeting. We currently have 187 members there has been an increase in family memberships. Perhaps look into members lost and communicate to see why. Member anniversary awards planned for November

New Award program - \$600 budget

New Award Committee proposed Zoom meeting planned for Sunday April 5 at 7pm

New Award Policy and nomination process will be finalized at committee meeting Submittal deadlines will be extended to July 1<sup>st</sup> this year only Nomination reviews to be completed by Aug 1<sup>st</sup>

**7. Outreach** Budget - \$1100

Outreach- \$297 for signs, storage containers, and A-frame spent so far this year

Member Training Program Status: on hold for the time being.

Purchase of T-shirts for volunteers completed training

Purchase of lawn signs – done thanks to Brad W. and John N.

Upcoming outreach events: Outreach in current COVID-19 on hold for near future. Discussion of techniques to be used going forward. Limiting small groups, 6 foot spacing, cleaning of telescopes and eyepieces to prevent spread of virus

Awards/recognition – Scheduled for January NSN Outreach hours YTD – Hours are in NSN

**8. Old Business:** Training Program start a committee, Mark write article for April newsletter.

**9. New Business:** none

**10. Other Committee Reports: If needed**

**SLSC Business:** First Friday actions: First Fridays are discontinued until further notice. Virtual First Friday stargazing? Other immediate business SLSC now doing an astronomy fact of the day on their website.

**SLCL Business:** Annual contract – Expect income from SLCL to be reduced due to cancellation of events Upcoming events cancelled through June

**Jefferson College Business:**

Committee Meeting report

Upcoming Outreach Event: Outreach events are cancelled for April and May, Summer to be discussed later

**Library Telescope Committee** Budget – \$650

Upcoming builds or maintenance events

Maintenance budget - \$200

Mileage re-imbusement - \$250

Promotional materials - \$200

Money received from Cape Girardeau Library - \$307.50

**SLAS Social Events** Budget - \$300

Homemade Fest - \$100 budget. Final cost was \$71.07

Star-B-Q - \$200 budget, date and venue is TBD

**SLAS Brochures** Budget \$325 Quarter cards

**Loaner scope Program** Budget - \$100

New donations

Shed status: Shed will not be moved. Greg to continue as coordinator

Items for sale

**SLAS Library** Budget - \$400

**Star Parties Donation:**

Star parties are cancelled through April 22 at this time pending further information.

**11. Closing Activities**

Motion to adjourn meeting by Brad W. second by Bill W. Meeting adjourned 9:12pm



**St. Louis Astronomical Society  
Profit & Loss Budget vs. Actual  
January through April 2020**

	Jan - Apr 20	Budget	\$ Over Bud...
<b>Ordinary Income/Expense</b>			
<b>Income</b>			
Events Income		405.00	(405.00)
Magazine Subscription	735.40	570.95	164.45
Membership Dues	1,405.00	1,955.00	(550.00)
<b>Total Income</b>	<b>2,140.40</b>	<b>2,930.95</b>	<b>(790.55)</b>
<b>Cost of Goods Sold</b>			
Magazine Subscriptions	735.40	570.95	164.45
<b>Total COGS</b>	<b>735.40</b>	<b>570.95</b>	<b>164.45</b>
<b>Gross Profit</b>	<b>1,405.00</b>	<b>2,360.00</b>	<b>(955.00)</b>
<b>Expense</b>			
1-Programs & Events	572.87	1,886.00	(1,313.13)
2-Newsletter		235.00	(235.00)
3-Library expense	81.53	166.66	(85.13)
5-Loaner Scopes		33.00	(33.00)
6-Brochures		200.00	(200.00)
7-Insurance		1,050.00	(1,050.00)
8-Website	179.40	385.00	(205.60)
9-Administrative Expen...	90.05	110.00	(19.95)
<b>Total Expense</b>	<b>923.85</b>	<b>4,065.66</b>	<b>(3,141.81)</b>
<b>Net Ordinary Income</b>	<b>481.15</b>	<b>(1,705.66)</b>	<b>2,186.81</b>
<b>Other Income/Expense</b>			
<b>Other Income</b>			
Donations	102.05		102.05
Interest Income	81.43	66.00	15.43
LTP Receipts	1,669.01		1,669.01
Proceeds from Lens Sales	694.10		694.10
<b>Total Other Income</b>	<b>2,546.59</b>	<b>66.00</b>	<b>2,480.59</b>
<b>Other Expense</b>			
LTP Disbursements	1,799.26		1,799.26
<b>Total Other Expense</b>	<b>1,799.26</b>		<b>1,799.26</b>
<b>Net Other Income</b>	<b>747.33</b>	<b>66.00</b>	<b>681.33</b>
<b>Net Income</b>	<b>1,228.48</b>	<b>(1,639.66)</b>	<b>2,868.14</b>

**St. Louis Astronomical Society  
Balance Sheet  
As of April 30, 2020**

	Dec 31, 19	Apr 30, 20
<b>ASSETS</b>		
<b>Current Assets</b>		
<b>Checking/Savings</b>		
Checking - First Bank	7,187.45	7,749.70
Deposit, Certificate of	15,841.67	15,906.37
Library Telescope Escrow	1,053.86	998.61
PayPal	77.94	513.99
Savings - First Bank	41,122.69	41,139.42
YMCA Trout Lodge Escr...	14.21	14.21
<b>Total Checking/Savings</b>	<b>65,297.82</b>	<b>66,322.30</b>
<b>Other Current Assets</b>		
Inventory Asset	761.53	761.53
Undeposited Funds	20.00	0.00
<b>Total Other Current Assets</b>	<b>781.53</b>	<b>761.53</b>
<b>Total Current Assets</b>	<b>66,079.35</b>	<b>67,083.83</b>
<b>Fixed Assets</b>	<b>15,000.00</b>	<b>15,224.00</b>
<b>TOTAL ASSETS</b>	<b>81,079.35</b>	<b>82,307.83</b>
<b>LIABILITIES &amp; EQUITY</b>		
<b>Equity</b>		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	69,757.14	72,581.69
Net Income	2,824.55	1,228.48
<b>Total Equity</b>	<b>81,079.35</b>	<b>82,307.83</b>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>81,079.35</b>	<b>82,307.83</b>

**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](mailto:newsletter@slasonline.org)**

## SLAS EVENTS

### 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. **Note: Board meetings will be via Zoom until further notice.**  
June 4, July 2, Aug 7, Sept 3, Oct 1, Nov 5, Dec 3

#### Dark Sky Observing Dates

**Francis Park Events:** These events are on Wednesdays of the week nearest the first quarter Moon  
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** Jun 5, July 3, Aug 7, Sept 4, Oct 2, Nov 6, Dec 4

**Pattonville Observatory Public Viewing Dates**  
*See you next year! Maybe!*

**Broemmelsiek Astronomy Park Public Viewing**  
Cancelled until further notice

**UMSL Observatory**  
For directions and map  
<http://www.umsi.edu/~physics/About%20the%20Department/astro.html>

All sessions include viewing of 1st quarter Moon with additional objects

Skywatch Hotline: 314-516-5706

Saturdays:

#### 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.

### May

All events scheduled for May that involve meeting in person will be cancelled.

15 Fri	SLAS Regular Meeting (Zoom)
17 Sun	SLAS Sky Orienteering (cancelled?)
23 Sat	SLAS Dark Sky Observing
27 Wed	Francis Park Star Party (Zoom?)
30 Sat	Stargazing at the Arch (cancelled?)

### June

4 Thur	SLAS Board Meeting (zoom)
5 Fri	SLSC Public Telescope Viewing (?)
7 Sun	Jefferson College (tentative)
13 Sat	MSRAL Business Meeting (zoom)
19 Fri	SLAS Regular Meeting (zoom)

For other events, watch the calendar on the website. Virtual stargazing events and other online activities will be registered there. We hope you can join us for some of these activities!

#### 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-tees**



## 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 \$ \_\_\_\_\_

(S&T may also be renewed at their website:  
<http://www.skyandtelescope.com>)

Astronomy @ \$34.00 / 1 year \$ \_\_\_\_\_

**TOTAL ENCLOSED** \$ \_\_\_\_\_

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

Check all that apply:

- Renewal  
 Address Change Only  
 Please send my newsletter by regular mail  
 **New Member!**

### SLAS OFFICERS

**President** *Jim Small* 314-307-0692  
 president at slasonline.org

**Vice President** *Bradley R Waller* 314-481-7250  
 vicepresident at slasonline.org

**Secretary** *Mark Jones* 636-394-2342  
 secretary at slasonline.org

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

**Hospitality** *Larry Campbell* 636-244-2867  
 hospitality at slasonline.org

#### Board Members at Large:

*Tom Nickelson* 314-346-9565  
 board20 at slasonline.org

*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

**MSRAL Rep.** *Jim Small* 314-909-7211  
 msral\_rep at astroleague.org

### COMMITTEE CHAIRS

**Dark Site Coordinator** *Mark Jones* 636-394-2342  
 darksite at slasonline.org

**Librarian** *Jim Small* 314-909-7211  
 librarian at slasonline.org

**Library Telescope Program** *Don Ficken* 636-851-9630  
 librarytelescope at slasonline.org

**Loaner Equipment** *Greg Gaines* 314-277-3082  
 loaner at slasonline.org

**Merchandise** *Vacant*  
 merchandise at slasonline.org

**Membership** *Don Ficken* 636-225-0269  
 membership at slasonline.org

**Newsletter Editor** *Jim Small* 314-909-7211  
 newsletter at slasonline.org

**Observing Programs** *Mark Jones* 636-394-2342  
 observing at slasonline.org

**Publicity** *Rich Heuermann* 314-962-9231  
 publicity at slasonline.org

**Recognition** *Larry Campbell* 636-244-2867  
 recognition at slasonline.org

**Social Media** *Vacant*

**'SLASdialogs' Moderator** *Mark Jones, Rhonda Whelan*  
 dialogsmoderator at yahoo.com

**Star Party Coordinator** *Bill Breden* 314-276-3613  
 starparty at slasonline.org

**Telescope Making** *Bill Davis, Jim Melka* 314-469-3061  
 telescope at slasonline.org

**Webmaster** *Jim Small* 314-909-7211  
 webmaster at slasonline.org

***Devoted to the Interest and Advancement of the Science of Astronomy***

**ST. LOUIS ASTRONOMICAL SOCIETY**

We're on the Web!  
<http://www.slasonline.org>

Follow us on  
Twitter: @stlastro  
Facebook: @stlastro

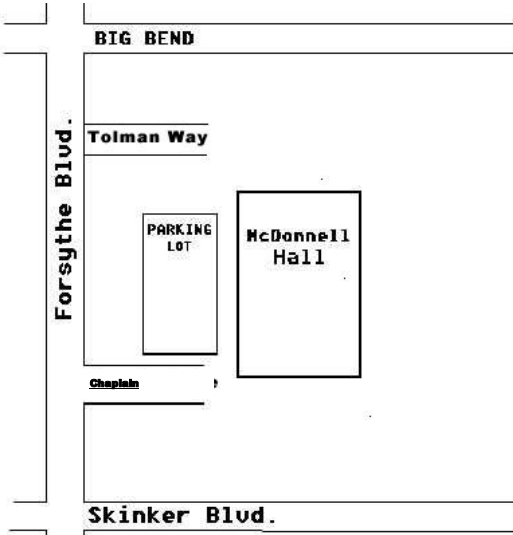


**Who We Are and What We Do**

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.



**St. Louis Astronomical Society**  
Jim Small  
13128 Cozyhill Drive  
St. Louis, MO 63122

