

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 28, Issue 9  
September, 2018**

### **Colliding Black Holes and the Search For Dark Matter**

*by*  
**Dr. Francesc Ferrer**

Dr. Francesc Ferrer of Washington University, will be featured at the September meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM on Friday, September 21, in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130.

One of the most fascinating predictions of Einstein's theory of gravity is the existence of black holes. These are objects that are so dense that not even light can escape their powerful gravity. The Laser Interferometer Gravitational-Wave Observatory (LIGO) has recently discovered the presence of black holes that could constitute the dark matter in the universe. Dr. Ferrer will discuss these black holes and the gravitational waves that LIGO detected when two black holes collided. He will also talk about observations of

the super-massive black hole at the center of the Milky Way by the Event Horizon Telescope.

Dr. Francesc Ferrer is an Associate Professor of Physics at Washington University. He completed his PhD at the Universitat Autònoma de Barcelona. He then held postdoctoral positions at Oxford University and Case Western Reserve before coming to Saint Louis in 2008. His areas of interest are theoretical cosmology and astroparticle physics. He studies the composition and evolution of the universe and implications for cosmology of theories of sub-atomic particle physics.

#### **Upcoming Meetings: 2018**

**October** Mao Xiaochen Washington University The Dawn Mission: Vesta and Ceres

**November** Bard Joliff, PhD Washington University Lunar Geology

**December** Pamela Gay, PhD ASP Secret Squirrel Part 2

#### **Mid States Region**



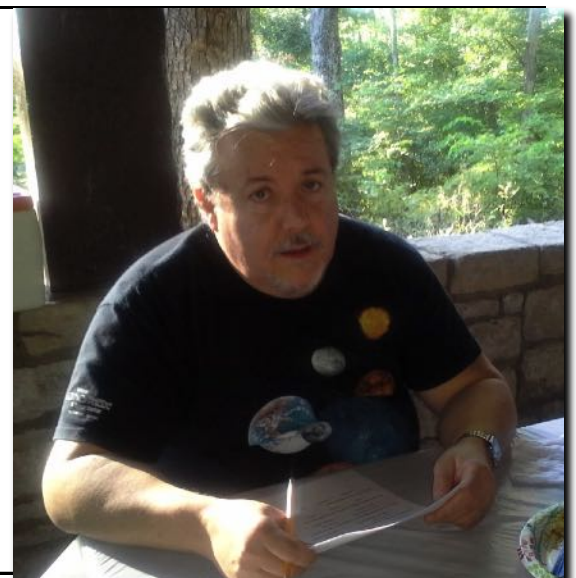
#### **Inside This Issue**

President's Corner, Bruce Logan	<b>2</b>
StarBQ announcement	<b>3</b>
Flora Borealis	<b>4</b>
ALCON Gallery	<b>7</b>
Board minutes	<b>8</b>
Financials	<b>9</b>
Events	<b>10</b>
Contacts	<b>11</b>

### **Bruce Logan**

**Bruce passed away last week at his home. See page 2 for a remembrance of Bruce.**

**SLAS Star B Q is coming up! Join us on Saturday, September 29, 2018!**



### Presidents Corner *by* Jim Small

I am sorry to pass on that our good friend, Bruce Logan passed on last week. He was a great guy to know and I will miss him. He was at our meetings regularly. Unfortunately, I do not know of any services for him.

I was also sad to find out that we missed the passing of a former member, Jim Moody a year and a half ago. I was made aware of his passing last week when I received a call from his widow about the observatory he had in his backyard. I will keep you updated on the status of that situation.

It's been a terrifically busy start to the school year for me as my astronomy classes at ECC have started as well as classes I'm taking. In addition, I will be taking on more duties at Pattonville with their astronomy related programs. It will be an exciting semester!

We are continuing to receive donated telescopes some of which we will put up for sale at the October meeting. It will likely be a silent auction situation or a live auction sit-

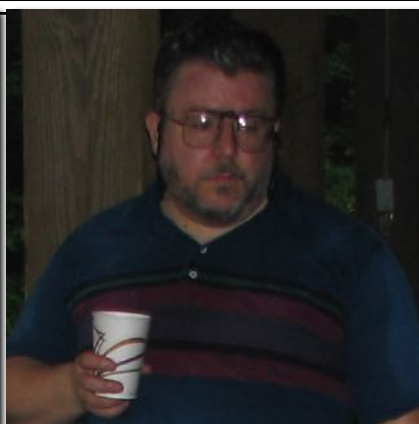
uation. We may also offer some telescopes for sale directly. There are some unique telescopes to be offered up for this program. They range from longer 4.5" reflectors to small refractors to homemade dobs. A list will be made available before the meeting for your perusal.

At the October meeting, we will also vote on the motion regarding restoring the funds used from the library budget for the extra banners and table runners we ordered in the past. That motion will be repeated in the October newsletter.

Budget meetings will begin with the first meeting occurring Sunday, September 30rd at Young's Restaurant. If you are interested in budget doings, be sure to join us at the meeting. Meeting time will be 4:00 pm,

Don't forget to mark your calendar for the Annual SLAS Star B Q next Saturday, September 29th! We sure hope to see you there!

You can also mark your calendar for the next Homemade Fest which we booked last week for February 16th, the day after our February meeting.



### Bruce Logan

I received the following message from Ken Gianino on Sep 7, 2018. It is with a sad heart that I announce the passing of our long time member and friend Bruce Logan. Bruce was 64. Jim Small

Bruce was SLAS Treasurer from 1999-2000 and participated in events such as: SLAS Homemade Fest, SLAS Annual Star-B-Q, Night Sky Over Babler, SLAS Board Meetings, Edward Jones YMCA, Library Telescope Training and builds, Astronomy Day, SLSC Public Telescope Viewing, MSRAL 2014, School STEM events and Science nights, cub scout and girl scout events.



**Photos: Top Left:** Night Sky over Babler; **Top Center:** Star-B-Q; **Top Right:** Star-B-Q, **Bottom Left:** Star-B-Q, **Bottom Right:** Star-B-Q. Thanks to Mark Jones and John Beaury for photos

# 16th Annual SLAS Star-B-Q

## Saturday, September 29, 2018

### Walnut Grove Picnic area

Come join fellow members of SLAS at Babler State Park for a day of food, softball, games, and observing. SLAS will once again provide the Bar-B-Q. We ask is for you to bring your favorite drinks and side dish or dessert. ***This area has a large shelter, restrooms, and baseball fields. There is also plenty of room to set up volleyball or horseshoes if you wish to bring them. We will observe from the ball fields.*** Don't have a telescope? Don't worry this is a great chance to see other member's telescopes.

Remember: Members should bring a drinks and a favorite side dish or dessert. **Don't forget to bring your telescope or binoculars, chairs and bug spray!**

#### Schedule of Events

2pm Setup

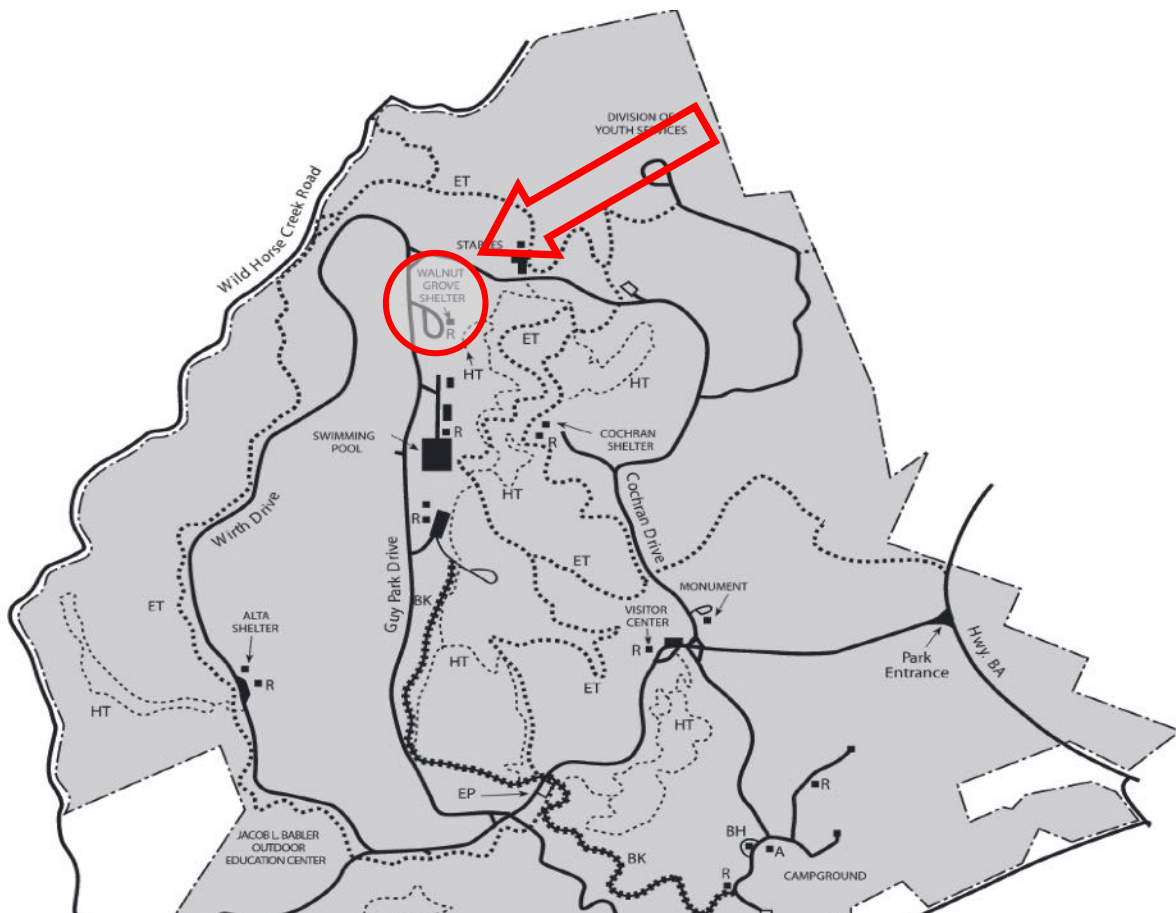
3pm – Picnic begins

4pm-6pm Food line open

6pm-7pm Trivia Contest (with prizes)

6:50pm Sunset

7:30pm- Midnight Observing at picnic site





## Stargazing at the Missouri Botanical Garden's *Flora Borealis* by Bill Breeden July 9,10, and August 21, 2018

ST. LOUIS - The Missouri Botanical Garden, also known as Shaw's Garden, is one of St. Louis' treasures. Along with Forest Park, the Gateway Arch, and Tower Grove Park, the Garden is a popular destination for the residents of St. Louis and visitors alike. Anytime I have visited the Garden and marveled at all the trees, flowers, and manicured landscapes, I have looked up and wondered what it would be like to observe celestial objects from such a beautiful place. I don't have to wonder anymore – it is glorious!

Chelsea Bowerman, Senior Events Coordinator at the Missouri Botanical Garden, contacted the St. Louis Astronomical Society (SLAS) via Night Sky Network in April. Since I serve as the Star Party Coordinator, I responded quickly, seeing this as an incredible opportunity for us to serve the Missouri Botanical Garden. The Garden is one of our area's finest organizations, and I really wanted the opportunity to work with them. This was it!

The Garden was preparing for its summer nighttime garden show, *Flora Borealis*, "a nighttime multimedia experience," amidst the wonderful gardens. They wanted to add stargazing to the event, and they chose us – the St. Louis Astronomical Society – to provide this service for them. It seems we at SLAS are succeeding at fulfilling our mission, "devoted to the interest and advancement of the science of astronomy." Way to go SLAS!

Chelsea asked me for ten nights, which was awesome, but I did not want to over-promise and under-deliver. I worked with her to select four nights instead, and so the nights of July 9, 10, and August 20 and 21 were selected. Given our weather patterns here in St. Louis, I estimated that two of these nights would be clear. We got three! Only August 20 was clouded out.

*Flora Borealis* and SLAS telescope outreach made for a perfect example of two non-profit organizations working together to bring the beauty and wonder of the natural world to the public. In three nights, SLAS reached an estimated **1,320 people**, including adults and children. Read on about these amazing nights!

### Logistics of Setting up Telescopes at the Garden

We were instructed to park in the Bus Parking area in the parking lot on Shaw Boulevard, then place a call to our contact upon arrival. We were provided golf carts to haul our heavy equipment from the parking lot into the Garden, right to our setup spot. It took three trips back and forth with the golf carts to haul everything (and *everyone*), but that was part of the fun! At the end of the event, this played out in reverse to get back to our vehicles.

*Flora Borealis* is a special event at the Garden where guests are taken on a tour in groups of about twenty at a time. (This explains why my estimates for the number of guests are multiples of 20.) They are guided to various areas of the Garden lit up with colorful lights, a laser show, narration, and sound effects. At the end of the tour, guests end up at the fountain plaza, ready to gaze at celestial objects through our telescopes.

### Highlights of July 9 and 10

We had planned on setting up telescopes on a small grassy area near the Climatron, and at the fountain plaza near the front entrance. Cook Feldman took a visual survey of the observing geometry, and recommended that we set up only at the fountain plaza. Great call Cook! The view of the sky, most notably the ecliptic, was much better from the fountain plaza. The Moon was just days before New, so it would not be visible during these two nights. The Moon is the best object to show the public through a telescope, but without it, what would be your next choice? Bright planets, of course! Celestial mechanics worked in our favor in this regard, as we had Venus, Jupiter, Saturn, and briefly, Mars. These four planets, mostly Jupiter and Saturn, were the Main Attractions for both nights.

**Venus** was my first stop on our tour of the Solar System. It shone at a dazzlingly bright magnitude of -4, and appeared as a waning gibbous through the telescope. Venus shows no surface detail due to its ever-present thick cloud cover, but it still managed to impress many viewers.

"It looks like a small moon in here!" (That's no moon, it's a space station! Only kidding, that's Venus.)

"That's not Venus! It looks like the Moon!" (We get that a lot, trust me, it's Venus.)

"Are we looking at that really bright star right there?" (Venus is sometimes called the Evening Star or the Morning Star, but it is no star at all. It is a planet. It is so dazzlingly bright that many UFO reports actually turn out to be Venus.)

**Jupiter** was simply amazing through our telescopes, and the visitors of *Flora Borealis* were wowed by great views of the Giant Planet and its four Galilean moons. Many viewers commented on Jupiter's bands, calling them "stripes," "lines," or even "rings." It was great that people at this event were taking a genuine interest in astronomy.

Jupiter stirred up much excitement from the guests at the Garden. There is a lot to see when observing Jupiter, and the ever-changing positions of the four Galilean moons are always interesting. Children like to learn the names of the moons – Io, Europa, Ganymede, and Callisto. Here are some of my favorite Jupiter questions and answers:

"How do you remember the names of Jupiter's moons?" (I eat green caterpillars!)

"I can see the rings!" (Technically Jupiter has *bands*, not rings.)

"That is so clear! It looks like a miniature solar system!" (In many ways, the Jovian system is very much like a smaller version of our Solar System.)

"Can we see the Great Red Spot tonight?" (Not sure, but I do not see it at the moment.)

**Saturn** rose high enough to begin observing a little later in the evening. Saturn never disappoints!

"Wow, I can really see the rings from here? I never knew that!" (Yes.)

"Is that a picture in your telescope?" (No.)

(Continued on page 5)

*(Continued from page 4)*

“Is this a special night that we can see Saturn?” (No.)

“What is that star next to the rings?” (Saturn’s largest moon, Titan.)

“Saturn looks PERFECT!” (That’s because you are looking at the actual planet.)

“Are there two rings? I see a small gap!” (That is the Cassini Division.)

**Mars** rose after we had begun packing up our telescopes. While we were taking our equipment down, we were fielding questions about Mars.

“What is that bright red star over there?” (Mars.)

“I don’t remember seeing Mars so easily!” (A quick explanation about the upcoming Mars opposition followed.)

“Can we see Mars through a telescope?” (It will be higher next month, so we will be able to observe it earlier in the evening.)

Whew – questions abound! I love it! I always had a feeling that Shaw’s Garden would be a great place to reach out to the public about astronomy. And it is!



*Bill  
Rita*

*Cook Feldman loads his Dobsonian telescope onto a golf cart to transport people and equipment to the fountain*



*and*

*Rich Heuermann is ready with his SkyQuest Dobsonian at the Garden! Photo by Bill Breeden.*



*Breeden at the fountain plaza with 8-inch LX-90 telescope. Photo by Cook Feldman.*



*Cook Feldman (white shirt) discussing astronomy with a guest at the Garden. Photo by Bill Breeden.*



*Sherry Nash (blue shirt) poses aboard the golf cart with Rita Breeden, and all of the Breeden's telescope equipment ready for unloading. Photo by Bill Breeden.*



*Rich Heuermann at the eyepiece getting it ready to give guests a great view of Jupiter. Photo by Bill Breeden.*

*(Continued on page 6)*



### Highlights of August 21

Venus was too low in the west to be observed from the fountain plaza by August. Jupiter was above the trees in the southwest for a short time at the beginning of the evening, but it was not visible from my setup spot. Richard Fefferman setup his Orion reflector so that he could catch Jupiter before it vanished behind the trees.

The Moon, a 10-day-old waxing gibbous, was fantastic! All of us had our telescopes pointed at it, including Jim Trull. Jim had his Celestron telescope connected to a video eyepiece and small screen. This allowed guests to view the Moon in groups, while Jim told interesting stories about the lunar features that are visible. It is a very cool setup, and quite portable.

We were fielding all of the usual questions about our nearest celestial neighbor.

"Wow this is a close-up view! Can you see the lunar landers though this telescope?" (No.)

"I see some mountains on the Moon. How tall do you think they are?" (I am not sure – a kilometer maybe? I would need to look that up.) "Do you think people will go back to the Moon soon?" (Probably not, sadly.)

"The Moon looks so close. How powerful is this telescope?" (Actually it is the eyepiece that magnifies the image. This view is about 133x with this 15mm eyepiece.)

One of the most interesting questions was "Would the craters look different if we could get a lot closer to the Moon?" (Not really, because smaller ones would appear larger, and then you would see still smaller ones, so the overall view would be very similar. That is one of the reasons that it is difficult to grasp the scale of lunar features.)

Saturn was next, appearing just to the right of the gibbous Moon in the sky. Visitors are always impressed by telescope views of the Ringed Planet. I took this opportunity to use a wide-angle Orion Expanse 15mm eyepiece to give visitors a quite impressive view of Saturn.

Mars had a chance to climb higher in the southeast since the July 9-10 event. Just four weeks after opposition, Mars was still big and bright, and with effort, detail could be spotted on its 22-arcsecond-wide disk. Mars pierced the hazy August night with its intense red light, impressing the viewing public even before telescope observation. Mars was the talk of the evening!

"Where are Mars' moons?" (Too small to see with this telescope.)

"Do you think that we will send people to Mars?" (No, but I can be pessimistic when it comes to a manned space mission to Mars ever coming together. But don't take my opinion too seriously!)

"I think I see a white area on one edge of Mars. What is that?" (The polar ice cap.)

"Will Mars appear as big as the Moon soon? I read that on the Internet." (No, that is called the Mars Hoax. Look up at the sky and

you can see Mars and the Moon. Their relative sizes will not change much.)

"Wow, Mars reaks red!" (Sure does!)



*Jim & Ann Trull set up their Celestron telescope, video eyepiece, and screen for sharing views of the Moon. Photo by Bill Breeden.*



*Richard Fefferman (red shirt) points out the Moon to a Garden staff member. Photo by Bill Breeden.*

*(Continued on page 7)*

(Continued from page 6)



*Cook Feldman (black shirt next to telescope) stands ready to provide stunning views of the Moon through his 8-inch Dobsonian reflector. Photo by Bill Breeden.*

*Bill Breeden, "Step right up folks, and take a look at the lunar surface, close up!" Photo by Rita Breeden.*

I was really happy about all the excitement over the Moon and planets at the Missouri Botanical Garden. Enthusiasm is contagious, and you could see it happening in the crowds.

About 10PM, clouds began moving in from west to east, first blotting out Saturn, then the Moon, and finally, Mars. Once Mars vanished behind the clouds, we decided to call it a night and began packing up. After two golf cart trips to haul equipment and ourselves back to our vehicles, our *Flora Borealis* stargazing events ended. But what a great experience! We fully enjoyed working with the Missouri Botanical Garden, and we look forward to future events with them!

July 9: SLAS Volunteers: Bill & Rita Breeden, Cook Feldman, Rich Heuermann, Raymond Mueller.

Estimated number of visitors: 360.

July 10: SLAS Volunteers: Bill & Rita Breeden, Rich Heuermann.

Estimated number of visitors: 720.

August 21: SLAS Volunteers: Opal Andrews, Bill & Rita Breeden, Richard Fefferman, Cook Feldman, Jim & Ann Trull.

Estimated number of visitors: 240.

**Thank you to all the SLAS Volunteers** that helped with these three wonderful nights. Your efforts make SLAS a valuable part of the St. Louis community.

**Thank you to all members of SLAS** for your continued membership, and your support of all that we do. We could not make events like this happen without your support!

**Thank you to the Missouri Botanical Garden** for asking us to participate in *Flora Borealis*, and for your generous donation to the St. Louis Astronomical Society. Thanks to you, SLAS is able to provide astronomy and science outreach to St. Louis area schools, libraries, churches, scout groups, and other non-profit organizations. Each time a child, youth, or adult takes an interest in science, our community becomes a better place.

Clear Skies,  
Bill Breeden  
St. Louis Astronomical Society  
Star Party Coordinator



## SLAS Executive Board Meeting Minutes August 2, 2018

**1. Opening Activities:** Meeting opened at 7:04pm Attendees: Jim Small, Brent Buch, Mark Jones, Bill Winningham, Bradley Waller, Rich Heuremann, Tom Nickelson July meeting minutes were distributed for review prior to meeting. Motion to approve the July minutes made by Brad; second by Tom. Minutes were approved

**2. External Business** Next board meeting: Sept 6, Oct 4, Nov 1, Dec 6 Board meetings will be held at Nicoletti's Restaurant in Valley Park until further notice.

### 3. Director Reports:

**President – Jim Small:** ALCON 2018 in Minneapolis July 11-14 Next year's ALCON is a cruise from Cape Kennedy

**Vice President - Bradley R Waller** \*Brochure: Final Approval 2000 @ \$175.75 3000 @ \$263.13 4000 @ \$270 5000 @ \$345 Board approved brochure artwork and the purchase of 4000 pieces at \$270 from printing budget Brad will contact \*Bob "Astro Bob" King to see what speaker fees are involved

Presentations 2018

Month	Name	Topic	Sponsor
17-Aug-2018	Anna Schonwald	The Apollo Missions: The Farside of the Moon & Continued Studies From a Distance	Wash U
21-Sep-2018	Francesc Ferrer, PhD	Gravitational Waves from Black Hole Mergers: Did LIGO Detect Dark Matter?	Wash U
19-Oct-2018	Mao Xiaochen	The Dawn Mission: Vesta and Ceres	Wash U
16-Nov-2018	Brad Jolliff, PhD	Lunar Geology	Wash U
21-Dec-2018	Pamela Gay, PhD	Super-Secret Squirrel Stuff...Again :)	ASP: Astronomical Society of the Pacific

Presentations 2019

Month	Name	Topic	Sponsor
18-Jan-2019	Erika Gibb, PhD	Comets	UMSL
15-Feb-2019	K Michael Malolepszy	The Year in Planetary Exploration	SLAS
15-Mar-2019	Bruce Stinchcomb, PhD	Meteorites	Flo-Valley
19-Apr-2019	Possible Bob "Astro Bob" King		
19-Jul-2019	Ryan Clegg-Watkins, PhD	Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers	Wash U
20-Sep-2019	Don Hampton, PhD **	Aurora Borealis & Steve	UAF
15-Nov-2019	Claire Chandler, PhD **	Super-Earths and the Formation of the Solar System	NRAO
20-Dec-2019	Duncan Lorimer, PhD **	Fast Radio Bursts: "Lorimer Bursts"	UWVA

\*\*Skype Event -NRAO: National Radio Astronomy Observatory -UAF: Univ of Alaska: Fairbanks

-UWVA: Univ of West Virginia

\*Astro 101: Mark to present Astronomical Events for remainder of 2018 at August meeting

\*Welcome Aboard Meetings for new members are still planned for each month.

**Secretary – Mark Jones:** No report

**Treasurer/ALCor – Bill Winningham:** Financial report distributed prior to meeting for review

- \$200 donation received from MO Botanical Garden for 2 events
- Discussion of Cooks questions from his email was discussed. Bill would put together response and send to Board
- Alcor Fees have been paid.
- Trout Lodge escrow is \$482.87. The original amount of the escrow was \$1,172.87, established in November of 2010 for a Meade 12" LX200.

**Hospitality – Larry Campbell:** July Mars and Moon cakes were a big hit

Membership recognition – Anniversaries pins and certificates still available

### Board Member at Large Reports

**Rich Heuermann (2019)** Rich has Telescope viewing with Trout Lodge Rich will ask Trout Lodge management what they want done with the escrow account

**Tom Nickelson: (2020)** no report

**Brent Buch (2021)** Working video problems, no thumbnails visible on videos.

### 4. Committee Reports:

**Library Telescope Program:** Next build is Aug 4th at Don Ficken's house

**Membership –** 163 memberships reported to ALCOR

**Merchandise –** Sales of mugs has completely reimbursed the speakers budget. All future sales go to merchandise account

**Librarian –** Bought 3 new items for library

**Newsletter –** Articles and pictures for newsletter are welcome to beef up the newsletter and our social media outlets. Please forward to newsletter@slasonline.org

**Website -** Web security certificate in place. Also renewed domain name fee for one year. 5-year renewal and SSL certificate will go into 2019 budget.

**Dark Site –** Jefferson College committee has proposed plans to college

**Loaner Scopes -** Cases ordered for 2 refractors, 2 PST's and 3 cases for eyepieces per the budget

**Publicity –** Press release out for Aug 11th and Aug 17th

**Star Parties-** August 11 Perseid Event at Jefferson College. See report for list. Check NSN for upcoming events

### 5. Old Business

Motion was tabled at the last meeting: I propose that SLAS membership approve increasing the Library budget \$182 to cover the purchase of new two SLAS table covers and one banner for outreach. Multiple events on the same day make it necessary to have duplicate materials. Motion by Jim Small, second by Tom Nickelson. Motion passed by Board and taken to general membership in August

**6. New Business** none

**7. Closing Activities** Motion to adjourn. Meeting adjourn at 9:06pm



8:19 AM  
09/19/18  
Accrual Basis

**St. Louis Astronomical Society  
Profit & Loss Budget vs. Actual  
January through August 2018**

	<u>Jan - Aug 18</u>	<u>Budget</u>	<u>\$ Over Budget</u>
<b>Ordinary Income/Expense</b>			
<b>Income</b>			
Total Magazine Subscription	1,207.10	1,205.50	1.60
Membership Dues	2,880.00	3,030.00	(150.00)
<b>Total Income</b>	<u>4,087.10</u>	<u>4,235.50</u>	<u>(148.40)</u>
<b>Cost of Goods Sold</b>			
Total Magazine Subscriptions	1,220.10	1,205.50	14.60
<b>Merchandise</b>			
Inventory Adjustment	(294.59)	0.00	(294.59)
Merchandise - Other	208.67	45.00	163.67
<b>Total Merchandise</b>	<u>(85.92)</u>	<u>45.00</u>	<u>(130.92)</u>
<b>Total COGS</b>	<u>1,134.18</u>	<u>1,250.50</u>	<u>(116.32)</u>
<b>Gross Profit</b>	<u>2,952.92</u>	<u>2,985.00</u>	<u>(32.08)</u>
<b>Expense</b>			
1-Programs & Events	1,162.00	1,400.00	(238.00)
2-Newsletter	130.00	117.00	13.00
3-Library expense	248.40	200.00	48.40
4-Astronomical League Dues	825.00	780.00	65.00
5-Loaner Scopes	512.14	600.00	(87.86)
7-Insurance	825.00	825.00	
8-Website	288.37	170.00	118.37
9-Administrative Expenses	398.70	1,117.00	(720.30)
<b>Total Expense</b>	<u>4,387.61</u>	<u>5,189.00</u>	<u>(801.39)</u>
<b>Net Ordinary Income</b>	<u>(1,434.69)</u>	<u>(2,204.00)</u>	<u>769.31</u>
<b>Other Income/Expense</b>			
<b>Other Income</b>			
Total Donations	1,329.50	0.00	1,329.50
Interest Income	73.82	67.00	6.82
LTP Receipts	4,807.33	0.00	4,807.33
Proceeds from Lens Sales	1,803.29	0.00	1,803.29
<b>Total Other Income</b>	<u>7,813.94</u>	<u>67.00</u>	<u>7,746.94</u>
<b>Other Expense</b>			
LTP Disbursements	4,755.71	0.00	4,755.71
LTP Escrow Funding	500.00	500.00	0.00
<b>Total Other Expense</b>	<u>5,255.71</u>	<u>500.00</u>	<u>4,755.71</u>
<b>Net Other Income</b>	<u>2,558.23</u>	<u>(433.00)</u>	<u>2,991.23</u>
<b>Net Income</b>	<u>1,123.54</u>	<u>(2,637.00)</u>	<u>3,760.54</u>

**St. Louis Astronomical Society  
Balance Sheet  
As of August 31, 2018**

	<u>Dec 31, 17</u>	<u>Aug 31, 18</u>
<b>ASSETS</b>		
<b>Current Assets</b>		
<b>Checking/Savings</b>		
Checking - First Bank	5,162.74	5,917.81
Deposit, Certificate of	20,188.79	20,219.02
Library Telescope Escrow*	299.98	(890.38)
PayPal	583.55	2,012.64
Savings - First Bank	46,297.03	46,340.62
YMCA Trout Lodge Escrow	482.87	482.87
<b>Total Checking/Savings</b>	<u>72,994.96</u>	<u>74,082.58</u>
<b>Other Current Assets</b>		
Inventory Asset	511.28	597.20
Undeposited Funds	50.00	0.00
<b>Total Other Current Assets</b>	<u>561.28</u>	<u>597.20</u>
<b>Total Current Assets</b>	<u>73,556.24</u>	<u>74,679.78</u>
<b>Total Fixed Assets</b>	<u>0.00</u>	<u>0.00</u>
<b>TOTAL ASSETS</b>	<u>73,556.24</u>	<u>74,679.78</u>
<b>LIABILITIES &amp; EQUITY</b>		
<b>Equity</b>		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	54,813.50	65,418.58
Net Income	10,805.08	1,123.54
<b>Total Equity</b>	<u>73,556.24</u>	<u>74,679.78</u>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<u>73,556.24</u>	<u>74,679.78</u>

\* Note that there are \$986 in Library Telescope funds in the Paypal account awaiting transfer as of August 31. Following the transfer from Paypal the LTP Escrow has a positive balance of approximately \$100.

**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.

2018: Oct 4, Nov 1, Dec 6

Dark Sky Observing Dates

October 6, November 3

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon  
October 17

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park orienteering. 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

10-5, 11-2, 12-7

Pattonville Observatory Public Viewing Dates  
9-28, 10-5, 10-12, 11-9, 11-30, 12-7, 12-14, 1-11, 1-25, 2-8, 2-22, 3-8, 3-22, 4-12, 4-26, 5-10, 5-24

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:

### September

21 Fri SLAS Regular Meeting  
22 Sat Stargazing at the Arch  
25 Tue Lewis and Clark Library  
29 Sat SLAS ANNUAL STAR B Q  
30 Sun SLAS budget meeting

### October

1 Mon Northwest Branch Jeffco Library  
2 Tue Central Library  
4 Thur SLAS Board Meeting  
5 Fri SLSC Public Telescope Viewing  
6 Sat Girl Scout Camp  
6 Sat SLAS Dark Sky Observing  
9 Tue Eureka Hills Library  
11 Thur Jefferson County Library  
11 Thur Florissant Valley Library  
12 Fri Blackburn Park  
13 Sat Spirit of St. Louis Airshow  
13 Sat Stargazing Jefferson College  
14 Sun Spirit of St. Louis Airshow  
15 Mon Cliff Cave Library  
16 Tue Collinsville Library  
16 Tue Indian Trails Library  
17 Wed Belleville Library  
17 Wed Francis Park  
18 Thur Grand Glaize Library  
18 Thur Glen Carbon Library  
19 Fri SLAS Regular Meeting  
20 Sat Sidewalk Solar Observing  
20 Sat Stargazing at the Arch  
22 Mon Grant's View Library  
23 Tue St. Charles Library  
24 Wed Jamestown Bluffs Library  
27 Sat Night Skies Over Babler  
30 Tue Prairie Commons Bluffs Library

### 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-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 @ \$29.95 / 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

<b>President</b>	<b>Jim Small</b>	314-307-0692
president at slasonline.org		
<b>Vice President</b>	<b>Bradley R Waller</b>	314-481-7250
vicepresident at slasonline.org		
<b>Secretary</b>	<b>Mark Jones</b>	636-394-2342
secretary at slasonline.org		
<b>Treasurer</b>	<b>Bill Winningham, (Don Ficken - membership)</b>	636-357-2763
treasurer at slasonline.org		
<b>Hospitality</b>	<b>Larry Campbell</b>	636-244-2867
hospitality at slasonline.org		
<b>Board Members at Large:</b>		
	<b>Rich Heuermann</b>	314-962-9231
Board19 at slasonline.org		
	<b>Brent Buch</b>	314-239-0329
Board21 at slasonline.org		
	<b>Tom Nickelson</b>	314-346-9565
Board22 at slasonline.org		
<b>ALCOR</b>	<b>Bill Winningham</b>	636-357-2763
(Astronomical League Correspondent ) treasurer at slasonline.org		
<b>MSRAL Rep.</b>	<b>Jim Small</b>	314-909-7211
msral_rep at astroleague.org		

## COMMITTEE CHAIRS

<b>Dark Site Coordinator</b>	<b>Mark Jones</b>	636-394-2342
darksite at slasonline.org		
<b>Librarian</b>	<b>Jim Small</b>	314-909-7211
librarian at slasonline.org		
<b>Library Telescope Program</b>	<b>Don Ficken</b>	636-851-9630
librarytelescope at slasonline.org		
<b>Loaner Equipment</b>	<b>Greg Gaines</b>	314-277-3082
loaner at slasonline.org		
<b>Merchandise</b>	<b>Vacant</b>	
merchandise at slasonline.org		
<b>Membership</b>	<b>Don Ficken</b>	636-225-0269
membership at slasonline.org		
<b>Newsletter Editor</b>	<b>Jim Small</b>	314-909-7211
newsletter at slasonline.org		
<b>Observing Programs</b>	<b>Mark Jones</b>	636-394-2342
observing at slasonline.org		
<b>Publicity</b>	<b>Rich Heuermann</b>	314-962-9231
publicity at slasonline.org		
<b>Recognition</b>	<b>Larry Campbell</b>	636-244-2867
recognition at slasonline.org		
<b>Social Media</b>	<b>Vacant</b>	
'SLASdialogs' Moderator <b>Mark Jones, Rhonda Whelan</b>		
dialogsmoderator at yahoo.com		
<b>Star Party Coordinator</b>	<b>Bill Breden</b>	314-276-3613
starparty at slasonline.org		
<b>Telescope Making</b>	<b>Bill Davis, Jim Melka</b>	314-469-3061
telescope at slasonline.org		
<b>Webmaster</b>	<b>Jim Small</b>	314-909-7211

***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

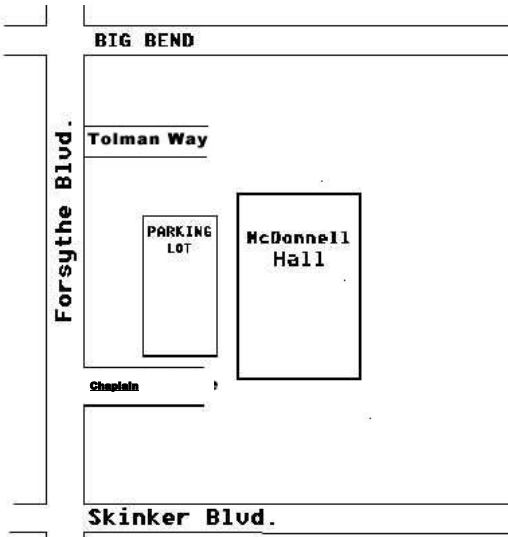


**Who We Are and What We Do**

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

