

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 27, Issue 9  
September, 2017**

### **Total Eclipse of the Sun: Highlights of the Low Light Members of SLAS and Friends**

local amateur astronomers, will be featured at the September meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, September 15, in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way. Yellow zone and garage parking are available. The event, cosponsored by NASA's Missouri Space Grant Consortium, is open to the public free of charge.

The Great American Eclipse of August 21 was seen by millions across the country and hundreds of thousands across the Greater St.

Louis area. Members of the St. Louis Astronomical Society will discuss the event and present images taken from various sites along the eclipse path. New and used solar eclipse glasses will be sent to schools in South America and Asia for student viewing of 2019 eclipses. These eclipses will not be visible from the U.S. The public is invited to donate ISO-approved glasses in good condition. Collection points – the McDonnell Planetarium in Forest Park and branches of many area libraries – will be mentioned. A complete list can be found at [www.stleclipse.org](http://www.stleclipse.org).

#### **Upcoming Meetings:**

**October:** Heinric Krawczynski, Wash U Meeting will be at Wilson Hall, WU Campus

**November:** William McKinnon, PhD  
PLUTO Wash U

**December:** Amy E Kimball, Radio Quasars

### Mid States Region



### Inside This Issue

|                                     |     |
|-------------------------------------|-----|
| President's Corner<br>SLAS Star B Q | 2   |
| Task force                          | 3   |
| Eclipse Sundial                     | 4   |
| Newcomer                            | 5   |
| Gallery                             | 6-7 |
| Masthay                             | 8   |
| Board Minutes                       | 9   |
| Financials                          | 10  |
| Events                              | 11  |

## **15th Annual SLAS Star-B-Q Saturday, September 16, 2017 Walnut Grove Picnic area**

Come join fellow members of the 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 horse-shoes 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 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 3:30 quiz (with prizes) 4pm-6pm Food line open 7:09pm Sunset 7:30pm-Midnight Observing at picnic site

**Special Note:** There will be solar viewing during the day. This is close to New Moon weekend so we should have dark skies.

**Presidents Corner - Jim Small**

What a great event nationwide! Myself and Don Ficken, Mark Jones and Grant Martin fled to Tennessee to chase guaranteed clear skies because the forecast for Missouri want' that great! Grant ended up in Sparta, TN and the rest of us ended up in Springfield, TN

We set up a pop up shelter and our equipment on the edge of a parking lot with a nice grassy area and a couple of trees. It would have been great to have a more scenic view, but at least we had restrooms and food available.

I personally had too much going on to do a great job on the equipment. Too much stuff and tried to do too many things. I'll simplify it next time! Don had as much trouble as I did and Mark encountered some issues, too.

I would have put some of our photos in this issue, but there was just too much stuff available! Maybe we'll do a special issue with many pages later.

My personal best shots came with my Nikon D750 camera and a 300 mm lens. I tried to use my 2x teleconverter but found out it wasn't compatible with my lens. I did manage to get some decent shots of totality, and one of them is being

used to make the cake for the meeting!

The task force wrapped up with a party Wed night and all had a good time. Lots of stories about the eclipse! I know Don and the rest of us were really happy that the weather turned out so well for most of the places that held events! St. Louis County had 10000 people and tons of media at their event. Festus did well as did most of the other venues.

If you have an article about your event you would like to post, please send it to me at [newsletter@slasonline.org](mailto:newsletter@slasonline.org).

At this meeting, we will vote on repurposing the \$300 that we allocated for the reflective vests to be used for volunteers at the Science Center to purchase eclipse mugs to be sold instead.

Bring your photos and videos for display and viewing-for this month's meeting. Let Brad Waller know you want to be included before the meeting if possible.

Next month's meeting will be held at Wilson Hall on the Wash U campus.

Jim Small



**Membership Recognition Day**

The first annual **SLAS Membership Recognition Day** will be on **October 20th** this year. Pins and certificates will be presented to those loyal members who have supported us with continuous membership over a time span of 5, 10 15, 20, 25 and 30 [or more] years. A few members have more than 50 years, but they do not have pins for that! The certificates will show the actual time span being recognized. Please make a special effort to attend this meeting to receive your award and / or celebrate the dedication of your fellow SLAS members.

**SEND ECLIPSE VIEWING GLASSES  
TO SOUTH AMERICA AND ASIA  
FOR 2019 SOLAR ECLIPSES**

Help is needed to obtain and ship solar viewing glasses for use by students in South American and Asian schools. The St. Louis Eclipse 2017 Task Force is teaming up with the Astronomers Without Borders organization to collect new and used solar eclipse viewing glasses and send them to South America and Asia. Solar eclipses cross those continents in 2019. The glasses will be distributed to school children, so that they can safely view the partial phases of the solar eclipses.

First, eclipse glasses are needed. Donations of ISO certified new or used but undamaged eclipse glasses may be brought to any of several collection points. They will be bundled and sent to Explore Scientific in Springdale, Arkansas. Explore Scientific will store them until South American and Asian distribution facilities are ready to receive them. All branches of the St. Louis County Library and St. Charles City-County Library systems will accept

donations, as well as the James S. McDonnell Planetarium of the Saint Louis Science Center. Glasses should be brought to the Planetarium building, 5100 Clayton Road in Forest Park. Collections will be accepted through September 30. Glasses can also be brought to the September 15 SLAS meeting. More collection points are anticipated. The latest St. Louis Metro Area collection center list can be found at [www.stleclipse.org](http://www.stleclipse.org). Alternatively, glasses may be shipped directly to Explore Scientific at the address of AWB Eclipse Glasses Donation Program, Explore Scientific, 1010 S. 48th Street, Springdale, Arkansas 72762. Donation of used glasses will not only benefit South American and Asian school children, but it will also save space in U.S. landfills.

Second, help will be needed to count and bundle donated glasses so that they can be shipped to Explore Scientific. Processing will occur on Saturday, October 7, at the Grand Glaize branch of the St. Louis County Library. More details will be posted on Night Sky Network. Please volunteer to help, if you can.

## Greetings from the Borg Collective!

### Fall Equinox 2017

The Collective is pleased to announce that at the September Monthly meeting, there will be several "Attendance Prizes". Some of them include: \*Bino Cozies \* S & T Pocket Atlas \* Mike Brown" "How I Killed Pluto..."Chris Hadfield: "Space Sessions" \*Solar Eclipse Stamps (Courtesy of Rick Menendez, who will bug us if we do not mention he purchased them for the Borg).

### New SLAS Mug Contest

The Borg needs to Assimilate more Mugs into The Collective. So, we will have a Contest. At the September SLAS Meeting, you will see MANY pictures of the 21 August 2017 TSE. At the SLAS October 2017 Meeting, we will have a Contest at the Meeting to choose the New picture on the new SLAS mug!!! Even if you do not present at the September SLAS Meeting, you can still submit a picture for the Contest. The winner will be chosen at the October SLAS Meeting and hopefully, the Mugs will be available at the November 2017 SLAS Meeting. The Mugs will serve two purposes. 1: Presentation Mugs for our Monthly Pre-

senters 2: SLAS Members will have the opportunity to purchase one of these new mugs!!! The purchase price for these mugs will cost \$7-\$10. If your picture is the chosen one, you will receive a New SLAS Mug.....FREE!!!!

### ATTENTION TWO SLAS MEMBERS

The Collective has been trying to reach out to two SLAS Members. So far, they have not responded to, E-Mails, Phone Calls and yes, real Letters!!! They were they winners of the Spring Equinox Attendance Prize: A gift Certificate to Bob's Knobs. We do not know if they have claimed their prizes. So, if you are: Richard Myra or Bruce Boston...or know them, PLEASE have them contact the Borg Collective!!! We would like to make good on your Gift Certificates.

### Pattonville Heights Observatory

If you are not busy on 2 Fridays/Month, then make your way to the Pattonville Heights Observatory. The viewing session runs: 2030-2230. It is a fun way to learn the Heavens. Feel free to Arc to Arcturus and speed on to Spica!!! 195 Fee Fee Road, Maryland Heights, MO 63043 Observatory Hotline (314) 213-8034

## Eclipse Task Force Wraps Up

*by Don Ficken*

At the end of October, the St. Louis Eclipse Task Force is ending its operations after three years of work of preparing the St. Louis area for the historic August 21, 2017 Total Solar Eclipse. The last total solar eclipse visible from St. Louis was in the year 1442. The task force launched in October 2014 in the Board Room of the Saint Louis Science Center and grew to more than 300 members and 160 participating organizations including cities, parks, schools, businesses and amateur astronomy clubs.

Hundreds of outreach events were held by task force members with the most notable being the June 17, 2017 Eclipse Expo held at the Greensfelder Recreational Complex at Queeny Park. The expo drew over 4,000 attendees and nearly 80 exhibitors.

Safety was important goal of the task force. More than 200,000 ISO certified eclipse glasses were purchased by area schools, parks and cities under a discount program organized by the task force. Additionally, more than 160,000 ISO certified eclipse glasses were donated at no cost to schools, cities, parks and other organizations in need. Post-eclipse, the task force is supporting a program by Astronomers Without Borders to recycle unwanted eclipse glasses to schools in South America and Asia.

The St. Louis Astronomical Society has played a key role in the success of the St. Louis Eclipse Task Force from its humble beginning, providing seed funding, treasury support and hundreds of hours of volunteer time. As manager of the task force, I would like to extend my appreciation to the St. Louis Astronomical Society Board and the members of the St. Louis Astronomical Society for their unwavering support of the task force. In particular, Jim Small, President, and Mark Jones, Secretary have been supportive of the task force initiative from the beginning and have provided invaluable time and guidance. Our Treasurer, Bill Winningham, has endured hours of work behind the scenes to make sure we were on track and within budget.

With the eclipse now over, the task force will end its work at the end of October. It has been a great experience and wonderful opportunity to meet area leaders of schools, cities, parks, businesses and other organizations. The task force also help to raise the visibility of St. Louis area at the national and international level as a region that many might consider a role model in promoting the science of astronomy.

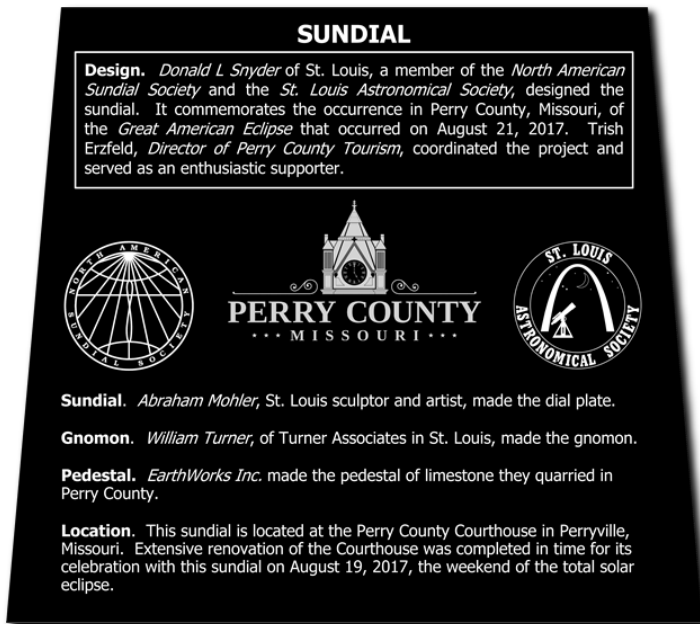
Thank you for making me be proud to be a member of the St. Louis Astronomical Society.

Don Ficken

## Eclipse Sundial Installed in Perry County

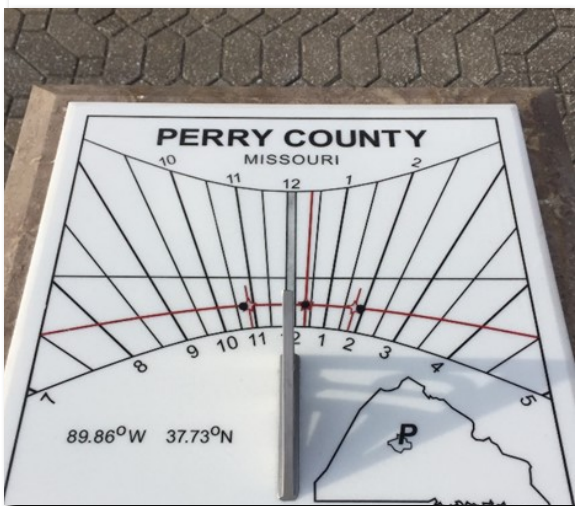
by Don Snyder

A new sundial that commemorates the total solar eclipse experienced in Perry County on August 21 was unveiled at the Courthouse in Perryville during the SolarFest event organized there by Trish Erzfeld, who serves a Director of Tourism for Perry County and who is a member of SLAS's St. Louis Eclipse Task Force chaired by Don Ficken. The dial was designed by SLAS member Don Snyder, also a member of the North American Sundial Society (sundials.org). St. Louis sculptor and artist Abraham Mohler made the dial plate of milk glass, and St. Louis metalsmith Bill Turner of Turner Associates made the stainless-steel gnomon. The 2500-pound pedestal is made of Gabouri limestone, which was quarried, shaped and polished by Earthworks Stone Co. in Perry County. The design of the horizontal sundial has two special features. One is a pierced gnomon that results in a letter P being in the gnomon's shadow projected onto the dial plate. The other is an August 21 solar-declination line highlighted in red on the dial plate. The tip of the triangular gnomon serves as a nodus that traverses along this line throughout the day on Aug. 21. As it does, the nodus encounters time markers which indicate the time of onset of the partial eclipse, the time of totality, and the time the partial eclipse ends. Three plaques are mounted on the pedestal. One (TIME) explains the relation between solar and civil time; another (ECLIPSE) explains the declination lines for solstices, equinoxes, and Aug. 21; and, the third (SUNDIAL) indicates the people and organizations involved with making the dial, including SLAS.



SUNDIAL plaque displays the logos of SLAS, NASS and Perry County

Perry County Sundial at the Courthouse in Perryville (photo: Mike Mohundro, KFVS-TV photojournalist)



<— Dial plate showing projected gnomon at 6:00 PM CDT on Aug. 19 when daylight time is in effect (add 1 hour to the dial's solar time) and the equation of time is about -3.5 minutes (add 3.5 minutes to solar time). (photo: Abraham Mohler)

## 2017 Total Solar Eclipse by John Newcomer

Hello; it's been a while. I've been a member for some sixteen years now, but it's been many of those years since I've been active in the society. As we all have, I've been aware of the eclipse for quite a while. My wife and I decided not to "go to a place" for the event, as they'd all likely be crowded and there would be traffic and such, so we decided on our own backyard.

We bought our eclipse glasses a month or so ago, and on the 20th (the day before), I was finally motivated to get my telescope out of its box to use for solar projection. Let's see...it's around here somewhere. Ah yes. Wow, it sure is dusty! I cleaned it up a bit, took it outside, and put the tube on the base upside down so the eyepiece would point downward. I have a small white-board that I can prop up to display the projection. I got it all set up, then pointed it at the sun. I had done that before, on the most recent Venus transits. This time, something new happened. I saw smoke coming out of the focuser! WHAT?!? Good thing I used a cheap eyepiece!



[PHOTO 1 – Burned Eyepiece]

It started coming back to me...Collimation is a thing. I need to ensure the optics are properly aligned; that the light path is down the center of both the tube and focuser. Ah, yes. I have tools for

that. I found my cheshire, fiddled with the knobs back by the mirror, and tried again. More smoke. I found a youtube video on collimating a newtonian reflector. Actually, I found several resources, and the all referenced a laser collimator. The batteries on mine had worn out long ago, but couldn't figure out how to get to them. Eventually, I found a blog post from 2004 that had a link to the user manual, and I found how to open it up. Off to the store to get replacements.

With the laser collimator, I discovered my secondary was badly out of whack. So I fixed that up as best I could, then fiddled with the primary until the laser was pretty close to going back in the focuser at the same point in came out. Ok; no more smoke, so I used a slightly better eyepiece, and tested it out.



[PHOTO 2 - Testing]

My daughter is at Mizzou, so she took a few pairs of glasses and planned to round up her friends. Being a good dad, I sent her info on when the eclipse would start and end; when totality would start and end, and to

watch for Baileys Beads. I set up just before noon, and found a small cookie bite out of the projection. I tried putting the solar glasses to my cell phone to take a picture, but it didn't work very well.



[PHOTO 3 – Cookie Bite]



[PHOTO 4 – Through Eclipse Glasses]

As the eclipse progressed, we looked from time to time through the glasses, and at the projection. Some neighbors joined us. One person (won't say who) put a pair of eclipse glasses up to the eyepiece (fortunately not their eye!) and burned a hole in the foil. Very visible lesson to all!



[PHOTO 5 – Burned Glasses]

In the final moments before totality, our mailman drove up. I invited him to join us in the backyard, and he did. We greatly enjoyed the twilight that settled on us, and we watched the solar prominence, and saw Mercury and Saturn appear in the sky. Again, my cell phone camera did not get very good results during the totality, so we will have our memories only of the event. The cicadas chirped throughout the darkness. The neighbors had their dog with them. He could tell something was up, but the relative calmness of his owner kept him reasonably pacified.

As totality ended, we saw the diamond ring effect, and that got the loudest "wows" of the day. I told everyone to put their glasses back on. One person said "but look at it without them!" In that fleeting moment, the brilliance was dazzling. We put the glasses back on to look up, and took them off to watch the projected crescent grow. As the daylight returned, we all knew we had seen something very special. Maybe not the mind-blowing, life-changing exaggerations hyped on the news, but special nonetheless.

While I didn't have equipment to take quality photos of the sun during totality, I did use my cell-phone to take a video from just before totality to just after. Below are some screen caps of that video.



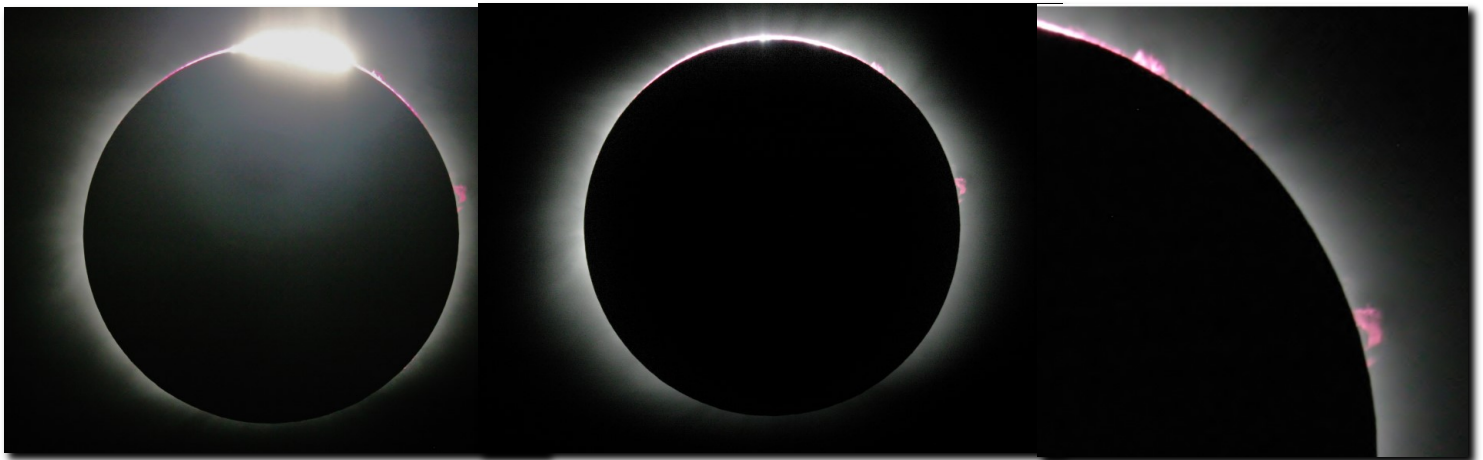
Here's what I was able to capture of the sun:

Others will have much better photos... (please share)





I chose Bloomsdale so I could get away from clouds that were expected to form further North. Bloomsdale is about 50 miles south on H/W 55 from St. Louis. My plan almost backfired since the sky there near the time of totality was partly cloudy. I got off 9 cloud-free digital frames showing the outer atmosphere of the sun, the Corona. See figure 1. Some of the streamers extend outward from the sun of over 2 million miles. Right after the nine frames, a large cloud partially covered the eclipsed sun. One frame taken then shows a "24-caret" diamond ring. See figure 2. Best wishes, **Jim Melka**



**Jim Timper, SLASmember.** I was able to photograph the solar eclipse From my employers location in Freeburg, Illinois. The sky cooperated and the event was, great. I used a celestron c8 with a rich field adaptor And a Canon EOS 10D. I was able to capture the corona, diamond ring, and a few solar flares. Our location only allowed 44 seconds of totality which was not much but it was fantastic.



My picture of totality from Festus, MO. I had a great time there. David Schultz, Professor Editor, Journal of Public Affairs Education (JPAE) Hamline University Department of Political Science  
Right: Another photo from Jim Melka



Photographer: Michael Patrick/ STL Homegrown Productions  
 Gear: Nikon D750 / 300mm f/4 / Steady tripod / Remote shutter / Focus locked  
 Exposure: 1/160th second / ISO - 2500 / f-stop /11  
 Location: Ochoco National Forest / Oregon, US  
 Date/Time: 8/21/17 at 10:22 a.m. PST

Photos above by Michael Patrick Photos below by David Mount



Photos by Grant Martin

Comparison of nighttime lunar photograph  
 and a  
 coronal photograph during a total eclipse



Lunar image taken 4 August 2017 at 2330 CST (age 12.78 days, 93.7% illum.  
 Coronal image taken 21 August 2017 at 1330 CST (age 0.0 days, 0.0% illum.)  
 Data from Aflun:  
 Lunar distance on 4 Aug was 398,796km with an apparent diameter of 29.96'  
 Lunar distance on 21 Aug was 366,383km with an apparent diameter of 32.61'  
 Both exposures were taken with the same Canon T6S connected to  
 an Orion 80mmED F7.5 refracting telescope.  
 Both exposures were made at 1/125sec at ISO 100.



HDR post processing by William Neubert  
 Images taken by Grant Martin



21 August 2017

Time files...

1:22:40

...then you panic!

## 21 August 2017, The Total Solar Eclipse in Missouri

### by Carl Masthay, St. Louis, Missouri

Last November I asked Suzanne (and Lee) Bouchard if I could come down to the eclipse centerline passing over Hillsboro, Missouri, 35 miles south of me, on eclipse day and bring my Questar 3½-inch telescope. She was delighted. The months passed. Gary Sudin with friends wanted to go with me and take pictures of it. Suzanne was fine with that.

That August morning it turned out that Gary's friend from Florida and a married-couple friends living in Kirkwood resulted in five of us in two cars. I packed up a whole mass of edible stuff and fruits I had bought. We worried about traffic and went early with little problem on Tesson Ferry Rd, Route 21, to the Bouchards' in a hidden 100-acre plot of scenic land off a long gravel road (with their open gate). I had been there maybe 12 to 15 years ago only once. They had maybe 40 guests, mostly from La Société Française (such as Isabelle and Dave Mount of course). Pleasant Lee is now 88 and rather quiet and helpful.

I set up my Questar with electricity fed by my wind-up cord, which went thru the screen with a small torn hole with four rips that a falcon once made but got stuck in until Suzanne appeared, and it quickly flew away. The rest of the guests set up on the downside parking area of the house including a Spanish-bilingual Joanna Fuente dressed in white who had an excellent Celestron telescope but did not know how to use the electronic hand-held device to align on the sun. Well, I tried and failed because I had no clue about what to do to help her, but later patient technocrat Dave Mount made a bunch of test changes and eventually got it to work.

There were lots of sunspots that the moon slowly covered. I let others view the changing image in my scope till the eclipse was near second contact, at which point I had to take possession as I had previously cautioned them I would. At that point and bad timing Maryanne O'Reilly's big dog Amie ('friend') came wishfully between me and my telescope at the very moment I had to take off my chromium filter and yell out that everyone can take his or her filter off. Someone successfully by voice got the dog to go inside. The Celestron woman, not having heard me, didn't realize she needed to take off her filter and was sorely disappointed later. Mars was obvious 8° just west of the sun, but bright Venus, not searched for, was four times farther westward. Mercury's position was similarly opposite but too weak to see. (Leo's Regulus, unnoticed, was about 1° left, east, twice the sun's diameter.)

Gary also brought his expensive white drone to provide celestial buzzing "music" droning on and on as it sat in the air. Yes, it got dark with only the slightest of hazy blue sky, but it never really was "like night." There were too many trees but for the wonderful open valley of the Bouchards' distant trees southward, and so the expected strange sickly olives, oranges, and dark colors did not really appear. There were no shadow waves unless I just

missed them. I got to see a quick diamond ring morph into quick Bailey's beads (caused by moon valleys) morphing right into the normal totality. The wispy grace of the million-degree white corona encircled the sun (differing from the wide tufts left and right with wisps at the solar north and south polar areas seen with the solar maximum to the 11-year sunspot cycle). This was near the solar minimum time. I must not forget to mention the electric pink chromosphere with its several loopy pink prominences beautifully perched around the moon's perimeter. Since the eclipse for Hillsboro was only 2 minutes and 38 seconds (1:16:43 to 1:19:21 PM), everyone had only a 3-to-5-second view thru my telescope, unfortunately not enough for emotional vision learning, but, hey, there were many persons in line. The last person was a tall pretty teenaged neighbor girl, Kensey, but I had to tell her to move away because the moon was off third contact, and the vastly brilliant view could damage her eyes for a long while; however, she might have seen Bailey's beads and the diamond ring safely at that moment before I put my filter back on.

There were massive food choices to eat and the drinking of wine, water, and beer and friendly conversations, often in French, inside away from the now cooler outside. I passed around copies of my 1975 compilation of *Sun and Moon in More Than 1450 Languages of the World* to help bore the unsuspecting guests, or not. Gary inside played his guitar with crowd appreciation.

We packed up and made the trip back with Glenn Novack driving and Gary at shotgun position as before. After Gary was dropped off to go to his regular racquetball fun and exercise, Glenn and Jay and Victoria came to my place, where I gave them my usual tour.

This was now my sixth solar eclipse: 4 total, 2 annular, and a failed seventh one in Salem, Massachusetts, 1959, when it rained. Gary Sudin's eclipse video of 21 August 2017 is now available on YouTube (two URLs):

<https://www.youtube.com/watch?v=ltFMLdglOPc> (This time-lapsed one is short at 44 seconds. Carl Masthay's telescope is at upper left. Gary Sudin's telephoto camera tripod is near the white car we came in. In the beginning Carl is wearing the bright red shirt and moving up and over to the scope.)

<https://youtu.be/tAGUmlC0yBE>

(Gary's drone provides a constant 2.39 minutes, but the earth is making the image move rightward, and so Gary moved it leftward and then the moon's movement eventually produced the diamond ring.)





## SLAS Executive Board Meeting Minutes August 2, 2017

**Opening Activities: Attending: Jim Small, Larry Campbell, Brad Waller, Michelle Birch, Mark Jones, Bill Winningham, Rich Heuermann** Meeting called to order at 7:07pm July meeting minutes were distributed before meeting. Brad made motion to approve the July minutes, second by Larry July minutes were approved

**2. External Business Next board meeting:** Sep 7 (Thurs), Oct 5, Nov 9, Dec 7

**SLSC:** First Friday this week. August 18 meeting set for Planetarium. Doors open 6-10. Meeting starts 7:30pm Cindy Preszler will preside. Eric can do ½ hour presentation.

### 3. Director Reports:

**President – Jim Small:** Eclipse glasses distributed to schools today at the Planetarium. Most glasses were distributed. 55,000 were distributed at the planetarium part of the Glasses for Kids program August meeting set at Planetarium, Cindy Preszler MC, presentation of weather, Eric will present simulation of eclipse.

#### Vice President: Brad Waller

|              |                         |  |         |      |
|--------------|-------------------------|--|---------|------|
| *15-Sep-2017 | SLAS Collective         | Solar Eclipse Results  |         |      |
| *20-Oct-2017 | Henric Krawczynski, PhD | Exploring the Space-time around Supermassive Black Holes w/ Gravitational Lenses |         |      |
| *17-Nov-2017 | William McKinnon, PhD   | PLUTO Wash U   |         |      |
| *15-Dec-2017 | Amy E Kimball           | Radio Quasars & the VLA  | "Skype" | NRAO |

#### 2018 Speakers

|                |                         |  |                  |
|----------------|-------------------------|--|------------------|
| *19-Jan-2018   | Carl Bender, PhD        | Black Holes and Hawking Radiation  | Wash U           |
| *16-Feb-2018   | Ryan Ogliore, PhD       | From Stardust to the Solar System  | Wash U           |
| *16-Mar-2018   | Michael Medford         | Discovering Planet 9 (10)  | "Skype" Berkeley |
| *20-Apr-2018   | Kun Wang, PhD           | New Evidence for the Origin of the Moon                                      | Wash U           |
| *18-May-2018   | Ryan Clegg-Watkins, PhD | Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers |                  |
| *20-July-2018  | Erika Gibb, PhD         | Comets, UMSL   |                  |
| *21-Sept- 2018 | Francesc Ferrer, PhD    | In the wake of the Higgs, what will the next breakthrough at the LHC?        | Wash U           |
| *16-Nov-2018   | Michael C Bouchard      | Mars 2020 Rover  | Wash U           |

**Astro 101 – No A101 for August**

**Secretary – Mark Jones: No report**

**Treasurer/ALCor – Bill Winningham:** Bill will have financial report by next week. Expiration of expo funds should not be an issue but balance would revert to SLAS general fund

**Hospitality – Larry Campbell:** No refreshment on the Planetarium. An "Eclipse Cake" is planned for the September meeting, featuring an eclipse photo taken by a SLAS member. Larry presented another eclipse talk (#4) on Wed., July 26th to about 20 neighbors and family members. Larry has another eclipse talk scheduled for Mon., Aug. 7th for another church group.

**Membership recognition –** Pins have been received. Membership service recognition will be in October Need article for newsletter to remind people to come to Oct meeting. Pins will be available for 5,10,15,20,25, and 30years. Pins for 35 years and up were not available from Mfr.

#### Board member at large reports

**Brent Buch (2018) no report**

**Rich Heuermann (2019)** AAS Grant award invoice for Sunspotter telescopes was sent to AAS on July 20<sup>th</sup> (\$5000) Final report due shortly after the eclipse Sunspotter Telescopes sent to Libraries. Collecting data via survey

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

### 4. Committee Reports: If needed

#### Library Telescope Program:

**Membership –** No new member meeting for August will plan for October. 26 new members from Jan-June 2017.

**Merchandise –** Infini-tees shirts for sale - \$20, TSE mug

**Newsletter –** Articles and pictures (especially pictures) are welcome by next week

**Website** July visits 121,000. Aug average visits so far is 3577/day

**Social Networking –** Michelle Birch) Facebook page is doing well. I just checked the Insights page and we are up to 50 followers as of this afternoon. The home page says 51 but if you go under the Insights tab it says we got a new one today that hasn't processed yet. I re-posted Rich's article he released to the press about MasterCard donating the solar eclipse glasses, and we got 117 hits, and an article I re-posted called "your eyes will fry with normal sunglasses during 2017 eclipse" got 108 hits. We were "tagged" in two posts recently, which means they hyperlinked our Facebook page to theirs by mentioning SLAS in a post they did on their own page. The first one was from a real estate agent from Lake St Louis, who saw our eclipse event scheduled at Manchester United Methodist Church for August 9th, so she posted it on her own Facebook page; she has about 153 followers. The second tag was from Webster Groves Public Library who posted a thank you to SLAS for the eclipse presentation we did last week; they have 920 followers, so those two tags alone put SLAS in front of 1073 people. I thought this was funny so I wanted to share---we aren't just getting hits from the bi-state area, but we're actually getting world-wide attention. Facebook has it built into the program so that you can see statistics on not only who is following, but age group ranges, male or female, what time of day they're on your site, and what country they stated that they live in when they registered their account. So far, we've reached 528 people in the US (from Missouri, Maryland, Wisconsin, Ohio, Indiana, Illinois, California, Colorado), 6 in Germany, 3 in Turkey, 3 in Italy, 2 in Canada, 1 each in Switzerland, South Korea, Netherlands, Austria, Bangladesh, Israel, Pakistan, Ghana, and Viet Nam! I'm thinking most of the people reached from outside the U.S are either researchers/students from Wash U or they were from the booth we had at International Space Development Conference.

**Loaner – Scopes** - Donation letters being sent by Bill Winningham next week. All 3 LT are checked out. The 100mm short tube refractor is checked out

**Publicity –** Rich Heuermann will send out Press Release for Aug meeting. Parking rules have changed

**Star Parties:** Review of outreach events next 3 months

**5. Old Business** Board agrees to table the proposal to Membership committee. Recognition Proposal from December 2016. An annual membership recognition award called "The Lois Fitter Lifetime Outreach Award" be created to recognize long-time outreach volunteers who have volunteered for 5 or more years of outreach for the society with a minimum of 5 events per year. A nomination form and selection committee will be created by the membership recognition chair and the award will be presented (if nomination

*(Continued on page 10)*

6:11 PM  
09/07/17  
Accrual Basis

**St. Louis Astronomical Society  
Profit & Loss Budget vs. Actual  
January through August 2017**

**St. Louis Astronomical Society  
Balance Sheet  
As of August 31, 2017**

|   | <u>Jan - Aug 17</u> | <u>Budget</u>     | <u>\$ Over Budget</u> |
|---|---------------------|-------------------|-----------------------|
| <b>Ordinary Income/Expense</b>            |                     |                   |                       |
| <b>Income</b>                             |                     |                   |                       |
| Total Magazine Subscription               | 1,172.64            | 539.15            | 633.49                |
| Membership Dues                           | 2,955.00            | 1,895.00          | 1,060.00              |
| <b>Total Income</b>                       | <b>4,127.64</b>     | <b>2,434.15</b>   | <b>1,693.49</b>       |
| <b>Cost of Goods Sold</b>                 |                     |                   |                       |
| Total Magazine Subscriptions              | 1,111.25            | 539.15            | 572.10                |
| Merchandise                               |                     | 45.00             | (45.00)               |
| <b>Total COGS</b>                         | <b>1,111.25</b>     | <b>584.15</b>     | <b>527.10</b>         |
| <b>Gross Profit</b>                       | <b>3,016.39</b>     | <b>1,850.00</b>   | <b>1,166.39</b>       |
| <b>Expense</b>                            |                     |                   |                       |
| 1-Programs & Events <sup>2</sup>          |                     |                   |                       |
| 1-Programs & Events <sup>2</sup>          | 1,338.34            | 1,991.00          | (652.66)              |
| 2-Newsletter                              | 120.83              | 116.00            | 4.83                  |
| 3-Library expense <sup>1</sup>            | 49.95               | 200.00            | (150.05)              |
| 4-Astronomical League Dues                |                     | 670.00            | (670.00)              |
| 5-Loaner Scopes                           | 5.00                | 50.00             | (45.00)               |
| 7-Insurance                               | 825.50              | 380.00            | 445.50                |
| 8-Website                                 | 179.40              | 170.00            | 9.40                  |
| 9-Administrative Expenses                 | 293.54              | 1,099.00          | (805.46)              |
| <b>Total Expense</b>                      | <b>2,812.56</b>     | <b>4,676.00</b>   | <b>(1,863.44)</b>     |
| <b>Net Ordinary Income</b>                | <b>203.83</b>       | <b>(2,826.00)</b> | <b>3,029.83</b>       |
| <b>Other Income/Expense</b>               |                     |                   |                       |
| <b>Other Income</b>                       |                     |                   |                       |
| Donations                                 | 1,450.00            | 0.00              | 1,450.00              |
| Eclipse Escrow Receipts <sup>5</sup>      | 17,114.24           | 0.00              | 17,114.24             |
| Interest Income                           | 30.00               | 66.67             | (36.67)               |
| LTP Receipts                              | 8,359.84            | 0.00              | 8,359.84              |
| Proceeds from Lens Sales                  | 16,518.81           | 0.00              | 16,518.81             |
| <b>Total Other Income</b>                 | <b>43,472.89</b>    | <b>66.67</b>      | <b>43,406.22</b>      |
| <b>Other Expense</b>                      |                     |                   |                       |
| Eclipse Escrow Disbursements <sup>5</sup> | 21,399.78           | 0.00              | 21,399.78             |
| Eclipse Escrow Funding <sup>3</sup>       | 1,500.00            | 1,500.00          | 0.00                  |
| LTP Disbursements                         | 8,601.94            | 0.00              | 8,601.94              |
| LTP Escrow Funding                        | 1,000.00            | 1,000.00          | 0.00                  |
| <b>Total Other Expense</b>                | <b>32,501.72</b>    | <b>2,500.00</b>   | <b>30,001.72</b>      |
| <b>Net Other Income</b>                   | <b>10,971.17</b>    | <b>(2,433.33)</b> | <b>13,404.50</b>      |
| <b>Net Income</b>                         | <b>11,175.00</b>    | <b>(5,259.33)</b> | <b>16,434.33</b>      |

**ASSETS**

|   | <u>Dec 31, 16</u> | <u>Aug 31, 17</u> |
|---|-------------------|-------------------|
| <b>Current Assets</b>                       |                   |                   |
| <b>Checking/Savings</b>                     |                   |                   |
| Checking - First Bank                       | 3,957.19          | 2,520.22          |
| Deposit, Certificate of                     | 20,148.49         | 20,168.54         |
| Library Telescope Escrow                    | 799.33            | 368.71            |
| PayPal                                      | 126.42            | 8.74              |
| Savings - First Bank                        | 29,755.97         | 46,284.73         |
| SLAS Eclipse Conference Escrow <sup>4</sup> | 6,259.97          | 2,681.43          |
| YMCA Trout Lodge Escrow                     | 542.87            | 482.87            |
| <b>Total Checking/Savings</b>               | <b>61,590.24</b>  | <b>72,493.24</b>  |
| <b>Other Current Assets</b>                 |                   |                   |
| Inventory Asset                             | 1,360.92          | 1,360.92          |
| Undeposited Funds                           | 0.00              | 272.00            |
| <b>Total Other Current Assets</b>           | <b>1,360.92</b>   | <b>1,632.92</b>   |
| <b>Total Current Assets</b>                 | <b>62,951.16</b>  | <b>74,126.16</b>  |
| <b>Total Fixed Assets</b>                   | <b>0.00</b>       | <b>0.00</b>       |
| <b>TOTAL ASSETS</b>                         | <b>62,951.16</b>  | <b>74,126.16</b>  |
| <b>LIABILITIES &amp; EQUITY</b>             |                   |                   |
| <b>Equity</b>                               |                   |                   |
| Opening Bal Equity                          | 8,137.66          | 8,137.66          |
| Retained Earnings                           | 24,813.26         | 54,813.50         |
| Net Income                                  | 30,000.24         | 11,175.00         |
| <b>Total Equity</b>                         | <b>62,951.16</b>  | <b>74,126.16</b>  |
| <b>TOTAL LIABILITIES &amp; EQUITY</b>       | <b>62,951.16</b>  | <b>74,126.16</b>  |

1 Reflects expanded insurance coverage over prior years

2 Outreach budget reflects \$150 approved by membership vote as a donation towards the International Space Development Conference.

3 Includes \$500 in St. Louis County Library donations associated with Eclipse related events.

4 Speaker fees include an additional \$200 as voted on by Club Membership (for the August Speaker)

\* Any excess Eclipse Escrow funds will revert to SLAS in September of 2017

(Continued from page 9)

tions are available) when outreach volunteer recognition pins are presented. Discussion took place with Board. Proposal was moved to Recognition Committee for development of a comprehensive recognition program that goes beyond Outreach. Prior to meeting Mark Jones sent out the following ideas for recognition awards for members and non-members who support our mission:

The Lois Fitter Outreach Award - given to most dedicated or most improved outreach participant or coordinator must be a SLAS member

The Stuart O'Byrne Founders Award - given to board or com-

mittee person for service to SLAS, must be a SLAS member

The Dick Schwartz Supportive Faculty Award - given to local educator at HS or college level who support SLAS mission don't have to be SLAS member

The Robert Cox Popular Astronomy Award - given to person having major contribution to popularizing astronomy does not have to be SLAS member

The Al Woods Mentoring Award - given to local amateur contributing to mentorship in astronomy, telescope and gadget making.

**6. New Business** none

**7. Closing Activities** Motion to adjourn the meeting by Brad W second by Larry C Meeting was adjourned at 8:25pm

## 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 the Edward Jones YMCA* All meetings are on Thursdays unless noted.

2017: Sep 7; Oct 5; Nov 9; Dec 7

#### Dark Sky Observing Dates

See you when it gets warmer!! Use SlasDialogs or Facebook to coordinate winter events!

**Francis Park Events:** These events are on **Wednesdays the week nearest the first quarter Moon** July 26, August 30, September 27, October 25

**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!

2017-09-17 7:00 PM 2017-10-15 6:30 PM  
2017-11-12 6:00 PM 2017-12-10 5:30 PM

**SLSC Public Telescope Viewing Events:** These events are held the first Friday of the month Planetarium shows start at 7pm

**YMCA Edward Jones Star Parties** (generally third Mondays)

**Pattonville Observatory Public Viewing Dates**

**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

15 Fri SLAS Regular Meeting  
16 Sat SLAS ANNUAL STAR-B-Q!  
16 Sat SLAS Dark Sky Observing  
16 Sat Family Campout  
17 Sun SLAS Sky Orienteering  
18 Mon Edward Jones YMCA  
19 Tues Rock Road Library  
21 Thurs Mapelwood Library  
22 Fri Family Camp Out  
26 Tues SLPL Central Library  
27 Wed Francis Park Stargazing  
27 Wed Eureka Hills Library  
28 Thurs Cliff Cave Library  
28 Thurs Natural Bridge Library  
30 Sat Astronomy Day  
30 Sat Faith Academy at Blackburn Park  
30 Sat Ballwin Family Campout  
30 Sat Stargazing at Crestwood Park

### October

4 Wed Lewis and Clark Library  
5 Thurs SLAS Board Meeting  
5 Thurs Indian Trails Library  
6 Fri SLSC Public Telescope Viewing

### 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

**Delmar:** 6662C Delmar Blvd St. Louis, MO 63130 Telephone: 314.863.2695 delmar@headznthreadz.com

[Delmar Map](#)

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> <i>Jim Small</i>                                   | 314-307-0692 |
| president at slasonline.org   |              |
| <b>Vice President</b> <i>Brad Waller</i>                            | 314-481-7250 |
| vicepresident at slasonline.org                                     |              |
| <b>Secretary</b> <i>Mark Jones</i>                                  | 636-394-2342 |
| secretary at slasonline.org   |              |
| <b>Treasurer</b> <i>Bill Winningham, (Don Ficken - membership)</i>  | 636-225-0269 |
| treasurer at slasonline.org   |              |
| <b>Hospitality</b> <i>Larry Campbell</i>                            | 636-244-2867 |
| hospitality at slasonline.org                                       |              |
| <b>Board Members at Large:</b>                                      |              |
| <i>Rich Heuermann</i>   | 314-962-9231 |
| Board19 at slasonline.org   |              |
| <i>Brent Buch</i>   | 314-239-0329 |
| Board18 at slasonline.org   |              |
| <i>Tom Nickelson</i>  | 314-346-9565 |
| board17 at slasonline.org   |              |
| <b>ALCOR</b> <i>Bill Winningham</i>                                 | 636-225-0269 |
| (Astronomical League Correspondent )<br>treasurer at slasonline.org |              |
| <b>MSRAL Rep.</b> <i>Jim Small</i>                                  | 314-909-7211 |
| msral_rep at astroleague.org  |              |

## COMMITTEE CHAIRS

|   |              |
|---|--------------|
| <b>Dark Site Coordinator</b> <i>Mark Jones</i>                  | 636-394-2342 |
| darksite at slasonline.org                                      |              |
| <b>Librarian</b> <i>Jim Small</i>                               | 314-909-7211 |
| librarian at slasonline.org                                     |              |
| <b>Library Telescope Program</b> <i>Don Ficken</i>              | 636-851-9630 |
| lirbrarytelescope at slasonline.org                             |              |
| <b>Loaner Equipment</b> <i>Greg Gaines</i>                      | 314-277-3082 |
| loaner at slasonline.org  |              |
| <b>Merchandise</b> <i>Vacant</i>                                |              |
| merchandise at slasonline.org                                   |              |
| <b>Membership</b> <i>Don Ficken</i>                             | 636-225-0269 |
| membership at slasonline.org                                    |              |
| <b>Newsletter Editor</b> <i>Jim Small</i>                       | 314-909-7211 |
| newsletter at slasonline.org                                    |              |
| <b>Observing Programs</b> <i>Mark Jones</i>                     | 636-394-2342 |
| observing at slasonline.org                                     |              |
| <b>Publicity</b> <i>Rich Heuermann</i>                          | 314-962-9231 |
| publicity at slasonline.org                                     |              |
| <b>Recognition</b> <i>Larry Campbell</i>                        | 636-244-2867 |
| recognition at slasonline.org                                   |              |
| <b>Social Media</b> <i>Michelle Birch</i>                       | 636-373-1102 |
| social at slasonline.org  |              |
| <b>'SLASdialogs' Moderator</b> <i>Mark Jones, Rhonda Whelan</i> |              |
| dialogsmoderator at yahoo.com                                   |              |
| <b>Star Party Coordinator</b> <i>Bill Breden</i>                | 314-276-3613 |
| starparty at slasonline.org                                     |              |
| <b>Telescope Making</b> <i>Bill Davis, Jim Melka</i>            | 314-469-3061 |
| telescope at slasonline.org                                     |              |
| <b>Webmaster</b> <i>Jim Small</i>                               | 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

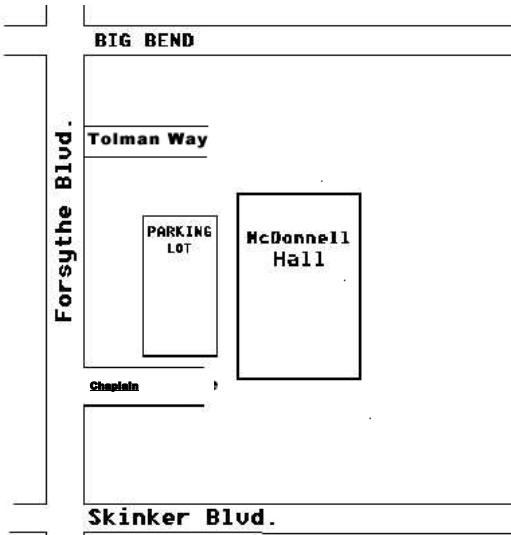


### Who We Are and What We Do

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

