

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

VOLUME 27, Issue 3
March, 2017

Astronomy With A Microscope: Studying Stardust in the Laboratory

by
Dr. Christine Floss
Washington University

Dr. Christine Floss of Washington University will be featured at the March meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, March 17, 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 street parking are available to the audience.

Presolar grains are dust-sized particles that are older than the solar system. They formed in stars that existed before our sun was born, and so they can tell us about those stars. Presolar grains provide information about how the heavier elements were created, as well as how stars and galaxies have evolved since they were formed. Dr. Floss will review the

history of how presolar grains were discovered and what we have learned from them in the last thirty years.

Christine Floss is a research professor in the Department of Physics at Washington University. Her research focuses on laboratory studies of extraterrestrial materials such as star dust, comet dust, and meteorites to better understand the origin and evolution of the dust cloud from which the sun and planets formed.

ASTRO 101:
Zana Dujmovic: St. Louis LED Roadway Lighting: Dark Sky Recommendations

Upcoming Meetings:

April - Kevin Evans, PhD - Weaubleau Impact Structure - Missouri State University

May - Kara Kundert - Cosmic Epoch of Re-ionization "Skype" - UC Berkeley

June Panel on Solar Eclipse (Meeting will be at Queeny Park!)

Mid States Region



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A RAFFLE for

Dr Neil deGrasse Tyson

Peabody Opera House

Wednesday

May 18, 2017, 7:30pm



For SLAS members only

The raffle is for TWO tickets to this event. The drawing will be held at the **April SLAS monthly meeting**. You do not need to be in attendance to win.

Contact person:

Bradley R Waller

SLAS Vice President

bwaller@stlouisco.com

314-481-7250

1 ticket: \$2.00

Buy 5 tickets for \$10.00 and get a 6th one free!!!

Presidents Corner - Jim Small

Things are really moving along with the Eclipse Expo. The St. Louis Eclipse Task Force held its meeting last night at the Queeny Park facility where the event will be held. We got a look at the size of the huge facility, which will likely be filled with thousands of people come Saturday, June 17. Be sure to sign up to volunteer for the event; we will need people to man tables, help set up on Friday and tear down tables Saturday at 5 pm when the expo ends.

The June meeting will be held Friday June 16 at 7:30 pm AT THE QUEENY GREENSFELDER CENTER FACILITY where the expo will be held. It will be a panel discussion and will also provide an opportunity to talk to some of the vendors if you arrive between 6 and 7:30pm. Be sure to mark the change on your calendar!

Homemade Fest went well despite folks not attending because of clear skies on a Dark Sky Weekend. We'll try not to have that conflict next year! I missed Cook's Chili! Good presentations and good food, the usual good time. If you weren't there, take a look at the drawings by Thane at the meeting this month!

Many thanks to Rich Heuermann and Don Ficken for writing yet another grant that pulled in \$5000 for SLAS to implement another outreach program for schools. See the article on page 4!

Note the motion below to be voted upon at this month's meeting.

Motion regarding the International Space Development Conference May 26-29 2017

Motion: The Board proposes that SLAS participate in the ISDC in the following way: make monetary donation \$150 in support of the conference, conduct one or more star parties, publicizing of ISDC on our website and newsletter and our communication, contribute one or more door prizes (not to exceed \$120). In return SLAS members can qualify to a \$25 conference registration fee. (normally priced at \$330 ISDC non-member, \$230 member) by contributing 6 additional volunteer hours directly to the ISDC committee. Food and special events are not included.

Motion by Brad W second by Tom N. Motion passed will be taken to General membership for vote. Board further agrees that posting motion in Newsletter and through NSN messaging that Motion will be voted on at the March meeting.



Below: Outreach volunteers who served at 5 or more events received their Night Sky Network Outreach Pins at the February meeting for SLAS. There were 26 members over all that received the award which also included a certificate.

In addition to the pins and certificates, Bill Neubert provided nice laser pointers to the top ten members in terms of outreach events.

Thanks to Bill so much for that generous donation. They will be put to good use by members pointing out the stars to the public (watch out for those airplanes!)

Left: Members playing with the new lasers at the meeting!



SLAS Doppelganger? Contest!

Greetings SLAS Collective! The Borg Collective has discovered a possible "Doppelganger" in the SLAS Collective. If you are wondering who this is, he is Archbishop Marcel Lefebvre, of the Society of St Pius X. If you can identify the SLAS Doppelganger, you will win a gift certificate to have one of your shirts (which YOU supply) embroidered with the SLAS Logo by Heads 'n Threads. If there is more than one correct entry, a drawing will be held at the February SLAS Meeting.



**International Space
Development Conference
Coming to St. Louis
May 25-29**

by
Rich Heuermann

The International Space Development Conference[®], hosted by St. Louis Space Frontier, will be held at Union Station Thursday, May 25 through Monday, May 29. This event is produced by the National Space Society for space enthusiasts of all types – engineers, scientists, managers, educators, business people, and the general public. “The schedule of events will begin with pre-conference seminars and tours on Thursday, May 25, 2017. The conference will continue all day on Friday, Saturday, and Sunday. Each day will open with a plenary session at 9:00 AM followed by multiple concurrent tracks. The conference will include a large Exhibit Midway bustling with aerospace companies, innovative makers, authors, artists, and vendors. The conference will end on Monday with morning programming and lunch.” (excerpted from Conference web site)

Speakers include scientists, engineers, pilots, and space-oriented business and government executives. Conference registration is \$330 for adults who are not National Space Society members, and \$230 for members. Meals and special events require additional fees.

Volunteers who work at least six hours on Conference tasks and duties may register for the basic conference for \$25, and attend regular Conference events when not working. Meals and special events are not included in the \$25 registration rate.

SLAS is providing two telescope viewing sessions and is staffing a display table as part of its sponsorship of the Conference. Time spent at the star parties or staffing the SLAS table does not count toward the six hours of conference service.

Those interested in non-SLAS activity Conference work should contact Rich Heuermann (richheuer2@gmail.com or 314-775-9137) to get the link to the ISDC Volunteer form (which ISDC stipulates we cannot post on line).

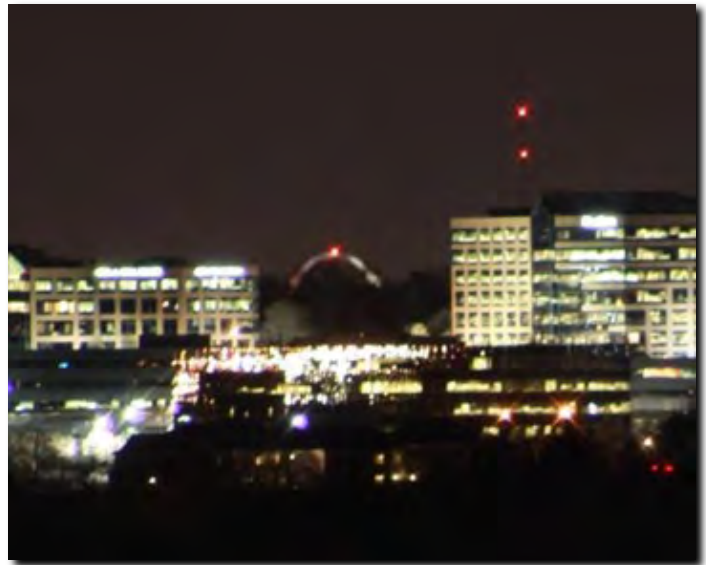
Volunteers for the SLAS participation (star parties, exhibit table) can soon sign up on the Night Sky Network. We will then forward the volunteer names to ISDC to get exhibitor passes for them.

For more information, including a list of speakers and exhibitors and the registration details, please visit <http://isdc2017.nss.org> .

Eclipse Expo!
Saturday, June 17, 2017
www.eclipseexpo.org

This is one event you DON'T want to miss! We already have great exhibitors and speakers like nothing St. Louis has seen before. Be sure to sign up on the website for your FREE tickets for the expo! They are free as long as you sign up before the day of the expo! We already have nearly 2000 people signed up to attend at this writing! Here is the link for tickets!

<http://eclipseexpo.org/index.php/tickets>



**Photographing the Rising Moon with
the St. Louis Arch in the Foreground**

by
Mark Jones

Clear skies last night gave me opportunity to photograph the Arch from West County. Off MO-141 and Manchester Rd. Arch is seen next to foreground buildings located at I-270 and Manchester. Arch is 17.7 miles from this location. From this distance the 630ft tall Arch would subtend an angle of 0.39 degrees, slightly less than the diameter of the Full Moon. The azimuth angle for this location is 84.67 degrees to the Arch. Therefore the Arch would be silhouetted by a rising Moon having a declination of +5.33 degrees. The next opportunity will be this Sunday at 7:36pm when a 16-day old gibbous Moon rises within 0.5 degrees of this location. Anyone interested in joining me Sunday for this photo-op let me know. (*editors note: It was attempted on 3/11, but clouds made it impossible to get an image of the Moon rising in the Arch. Look for more to come!*)

PARKING PERMIT FOR MARCH 29, 2017 PUBLIC LECTURE
YELLOW ZONES ONLY



MCDONNELL CENTER
FOR THE SPACE SCIENCES

PLUTO EXPLORED!

NASA's Epic Voyage to the Edge of the Solar System

Washington University's McDonnell Center for the Space Sciences cordially invites the St. Louis community to the McDonnell Lecture.

March 29 | 7:00 p.m. | Whitaker Hall, Room 100



William B. McKinnon

Professor of Earth and Planetary Sciences
Washington University in St. Louis

We have reached Pluto, the last of the classical planets and the most remote world yet explored by humankind! Far from being dark, cold, and dead, Pluto and its family of moons are bright and variegated, if not gloriously, geologically alive. From giant floating mountains of water ice, to mysterious cryovolcanoes, to valleys carved by now vanished glaciers of solid nitrogen, to towering blades of sun-burnt solid methane, Pluto has expanded the very meaning of geology and the definition of planethood. And while modest in stature, Pluto has played a key role in revolutionizing our understanding of the early history of the Solar System.

Dr. Ramanath Cowdik, Director
(314) 935-5332 | janf@wustl.edu | mcsc.wustl.edu
This flyer in your car window serves as a parking permit valid in yellow zones only.
Additional flyers may be printed at mcsc.wustl.edu/events.

Left: Flyer for the the McDonnell lecture coming up on March 29. You may use the flyer as a parking permit to use in yellow zones. **Below:** Flyer for the ISDC conference in May.

Find your *Spirit* of
Exploration & Discovery

From the first steel alloy bridge,
To the first transatlantic flight,
To the first manned US orbiter,
And beyond...

Meet me in St. Louis
Meet me at ISDC 2017

International Space Development Conference®
May 25 - 29, 2017
St. Louis Union Station Hotel
isdc.nss.org/2017

Hosted By
National Space Society

SLAS Receives \$5000 Grant to Expand Eclipse Awareness and Library Telescope Program

1. Project Title: Eclipse Awareness and Library Telescope Program Expansion for Pre-collegiate Educators

2. Description of events/activities and target audiences: The grant will extend eclipse awareness information and equipment to pre-collegiate level educators located in rural areas or areas serving predominantly underrepresented minorities. This project will continue long after the eclipse event.

“Sunspotter” refracting telescopes would be circulated by the libraries, along with a packet of information about the eclipse, safe solar viewing practices, and activities suitable for classroom and schoolyard use. Sunspotters are dedicated solar telescopes, designed to deliver views of the sun safely by projecting the solar image onto a viewing surface within the telescope. The Sunspotters, as well as the night-sky library telescopes provided separately by SLAS and libraries, would be checked out from library branches located

either in areas serving underrepresented minorities or rural populations with few resources for science education. The information packet would be compiled by the Eclipse Task Force, using content from national and local sources. Educators can keep the instrument for up to one month. Participating libraries are already, via the Library Telescope program, experienced in the logistics and publicity involved in circulating scientific instruments to the public. At least twenty eclipse awareness programs will be conducted for educators and school groups prior to the eclipse date and twelve Sunspotter telescopes will be used by at least twenty educators by August 21.

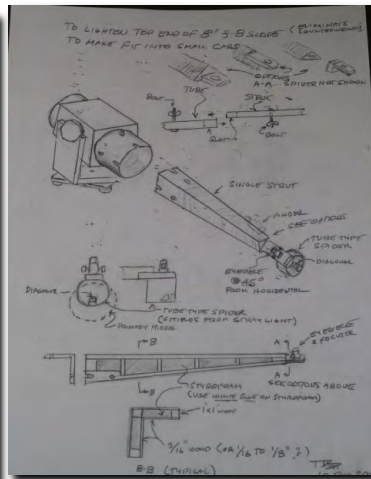
3. URL of the project's website: The St. Louis Eclipse 2017 task force website is www.stlouseclipse2017.org Information about this educators' resource program will be posted as program details are finalized and presentations are scheduled. The website currently includes a list of all eclipse activities known to be planned for this region, including presentations for schools and the general public.



Enjoying the food at Homemade Fest on February 25.



Sharon Bertram presenting about her refractor. Anyone need a scope?



Left: Thane demonstrating how to hold binoculars steady with a tripod. **Above:** One of Thanes detailed drawings about modifications of a Dobsonian. **Above Right:** Mark Jones demonstrating a modification of a Galileoscope to view the Sun. **Below left:** Brad and Liz draw raffle tickets for the prizes for the evening. **Below Right:** Winners of the Sunoculars: Don Ficken, Mark Jones, Jim Small (it wasn't rigged! Promise!



SLAS Executive Board Meeting Minutes February 2, 2017

1. Opening Activities: Meeting open at 7:08pm Attending: Jim Small, Bill Winningham, Tom Nickelson, Mark Jones, Brad Waller Minutes from January meeting distributed before meeting. Motion to approve minutes with changes made by Bill W and second by Brad W. Minutes were approved

2. External Business Next board meetings: Mar 9, Apr 6, May 4, Wed, Jun 7, Jul 6, Wed, Aug 9, Sep 7, Oct 5, Nov 9, Dec 7

3. Director Reports:

President – Jim Small: Homemade Fest set for Feb 25 Discuss ISDC plans – Rich Heuermann was not at meeting, expect further updates next month.

Eclipse Expo. Update. Speakers set. Nearly 1000 tickets “sold” Exhibitors: - Lunt, Daystar, Creve Coeur Camera, etc on board contract for both days set. Saturday: Need SLAS volunteers for SLAS table and ticket table

June SLAS monthly Meeting will be moved to Queeny Park. Send special press release. May require separate tickets for Friday. Agenda Friday night panel, preview exhibits. Doors open to at 630pm and the meeting is at 700pm

Bradley R Waller Speakers for 2017: *February: Pamela Gay, PhD “**CosmoQuest: Mapping the Moon & Planets on Home Computers**” *March: Christine Floss, PhD “**Astronomy with a Microscope: Studying Stardust in the Laboratory**” *April: Kevin Evans, PhD “**Weaubleau Impact Structure**” *May: Kara Kundert “**Skype Event**” “**First Light: Observing the Cosmic Dawn with Paperclips and a Supercomputer**” *June: Expo Speaker Panel: Angela Speck, Mike Reynolds, Michael Zeiler, Mitzi Adams, John Weis *July: Ryan Clegg-Watkins, PhD “**Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers**” *August: TBD *September: “**Results from TSE**” *October: TBD *November: William McKinnon, PhD “**PLUTO**” *December: Amy E Kimball, *Skype Event* “**Radio Quasars & the VLA**”

Astro 101 *February: Christine Nobbe “Apollo 12” *March: Ameren UE on LED lighting *April: Solar Filters

Membership initiatives - Membership Initiative Prizes:

Inventory *4 Books: “How I Killed Pluto...” Mike Brown (Signed) *2 Eris photos signed by Mike Brown *1 book: “An Astronauts Guide to Life on Earth” Chris Hadfield (Signed) *1 CD: “Space Sessions” Chris Hadfield (Signed) *Jim and Mark may have some books for give away *Welcome aboard new members meeting still planned for each month. *Neil deGrasse Tyson, Peabody Opera House, 18 May 2017. 2 tickets were purchased for a raffle event. Eleven tickets sold so far. *Purchased 4 Lunt Sunocoulers for Attendance Prizes at 1) HMF 2017 2) The Spring Equinox and Summer Solstice SLAS Meetings.

Secretary – Mark Jones: No report

Treasurer/ALCor – Bill Winningham: Budget Financials will be ready next week Need to get quotes on new insurance. Our coverage is too low for the size of our club

Hospitality – Larry Campbell: No report

Board member at large reports

Tom Nickelson: (2017) – No report

Brent Buch (2018) – No report. Jim S will ask Brent to send February video to Dr. Plavchan

Rich Heuermann (2019) - No report

4. Committee Reports: If needed

Library Telescope Program: No new build scheduled yet

Membership – our count to 157 members

Merchandise – Infini-tees shirts for sale - \$20, Mugs \$7

Librarian – Started using the CLZ app to record books/videos

Newsletter – send articles in ready to go format! Plan to have newsletter out this Sunday.

Website – www.slasonline.org/joomla Facebook page created, Eclipse Expo website created

Night Sky Network – Pins arrived. New website for NSN. Many updates

Star Parties: Review of outreach events next 3 months

5. Old Business

ISDC – Rich H. coordinating with Christine Nobbe. ISDC’s parent organization does lobbying. Board agreed we should support ISDC like we support IDA which conducts lobbying. Christine to present A101 to SLAS in Feb. Need Rich H to prepare overview of ISDC and SLAS contribution and benefits to SLAS members. Solar binocular, or LTP Rich is going to talk to Christine about prizes ideas. Draft proposal from Dec 2016: The Board proposes that SLAS participate in the following way: sponsor one exhibitor table (\$100), make monetary donation \$150, conduct one or more of star/solar parties, publicizing on our website and newsletter and our communication, contribute one or more door prizes (need \$ amount), provide volunteers for conference logistics including registration.

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 nominations 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 committee 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

Proposed Motion by Jim Small: “Funds paid to SLAS for Eclipse Programs presented to the St. Louis County Library District and the Mississippi Library System will be transferred to the Eclipse Committee escrow account to purchase eclipse glasses for schools. Total funds received is \$400 from Mississippi Library and expected to be \$500 from the St. Louis County Library. Both donations are per signed agreement to conduct eclipse presentations to these libraries” Second by Tom Nickelson Motion approved Treasurer will transfer funds to eclipse escrow account after it is received.

7. Closing Activities Motion by Mark adjourn second by Tom

Meeting adjourned at 9:00pm

6:50 AM
03/09/17
Accrual Basis

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

	<u>Jan - Feb 17</u>	<u>Budget</u>	<u>\$ Over Budget</u>
Ordinary Income/Expense			
Income			
Total Magazine Subscription	157.79	0.00	157.79
Membership Dues	970.00	230.00	740.00
Total Income	<u>1,127.79</u>	<u>230.00</u>	<u>897.79</u>
Cost of Goods Sold			
Total Magazine Subscriptions	161.75	0.00	161.75
Total COGS	<u>161.75</u>	<u>0.00</u>	<u>161.75</u>
Gross Profit	966.04	230.00	736.04
Expense			
1-Programs & Events	487.21	681.00	(193.79)
2-Newsletter	13.03	29.00	(15.97)
3-Library expense		50.00	(50.00)
5-Loaner Scopes	5.00	25.00	(20.00)
8-Website	179.40	170.00	9.40
9-Administrative Expenses	47.63	299.00	(251.37)
Total Expense	<u>732.27</u>	<u>1,254.00</u>	<u>(521.73)</u>
Net Ordinary Income	233.77	(1,024.00)	1,257.77
Other Income/Expense			
Other Income			
Donations	50.00	0.00	50.00
Eclipse Escrow Receipts	5,449.83	0.00	5,449.83
Interest Income	2.37	16.67	(14.30)
LTP Receipts	1,015.00	0.00	1,015.00
Total Other Income	<u>6,517.00</u>	<u>16.67</u>	<u>6,500.33</u>
Other Expense			
Eclipse Escrow Funding	1,000.00	1,000.00	0.00
LTP Escrow Funding	1,000.00	1,000.00	0.00
Total Other Expense	<u>2,000.00</u>	<u>2,000.00</u>	<u>0.00</u>
Net Other Income	<u>4,517.00</u>	<u>(1,983.33)</u>	<u>6,500.33</u>
Net Income	<u>4,750.77</u>	<u>(3,007.33)</u>	<u>7,758.10</u>

**St. Louis Astronomical Society
Balance Sheet
As of February 28, 2017**

	<u>Dec 31, 16</u>	<u>Feb 28, 17</u>
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	3,957.19	2,022.58
Deposit, Certificate of	20,148.49	20,148.49
Library Telescope Escrow	799.33	1,814.33
PayPal	126.42	1,206.45
Savings - First Bank	29,755.97	29,758.34
SLAS Eclipse Conference Escrow	6,259.97	10,907.97
YMCA Trout Lodge Escrow	542.87	482.87
Total Checking/Savings	<u>61,580.24</u>	<u>68,341.01</u>
Other Current Assets		
Inventory Asset	1,380.92	1,380.92
Total Other Current Assets	<u>1,380.92</u>	<u>1,380.92</u>
Total Current Assets	<u>62,961.16</u>	<u>67,701.93</u>
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	<u>62,961.16</u>	<u>67,701.93</u>
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,137.68	8,137.68
Retained Earnings	24,813.28	54,813.50
Net Income	30,000.24	4,750.77
Total Equity	<u>62,951.16</u>	<u>67,701.93</u>
TOTAL LIABILITIES & EQUITY	<u>62,951.16</u>	<u>67,701.93</u>

Wanted: Volunteers!

Be sure to sign up on Night Sky Network for upcoming star parties. Lead volunteers need to know who will be there so they can tell where we are falling short. If you aren't sure how to RSVP, please ask anyone at the meeting and we can show you how on the computer after the meeting. Or contact any board or committee member to find out. See you at the next star party!

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: Apr 6; May 4; Jun 7 (Wed); Jul 6; Aug 9 (Wed); 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 April 5, May 3, May 31, June 28, 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!

2017-03-19	6:30 PM	2017-04-23	7:30 PM
2017-05-21	8:00 PM	2017-06-18	8:30 PM
2017-07-16	8:00 PM	2017-08-13	8:00 PM
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:

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.

March

17 Fri	SLAS Regular Meeting
18 Sat	Sidewalk Solar Observing
18 Sat	Mastodon Science Fair
19 Sun	SLAS Sky Orienteering Event
20 Mon	Edward Jones YMCA
22 Wed	Visitation Academy MS STEM Night
25 Sat	SLAS Dark Sky Observing
29 Wed	SLCL Grand Glaize Library Eclipse Awareness Program
30 Thur	Pacific Library Star Party
30 Thur	Cliff Cave Library Star Party
31 Fri	Webster Groves Library Star Party

April

4 Tue	Glen Carbon Library Star Party
4 Tue	Sullivan Library Star Party
5 Wed	Francis Park Stargazing
5 Wed	North Glendale Elementary Scouts
6 Thur	SLAS Board Meeting
7 Fri	Forder Elementary
7 Fri	SLSC Public Telescope Viewing
8 Sat	Indian Trails Library Solar Program
10 Mon	Prairie Commons Library
11 Tues	Weber Road Library
15 Sat	Sidewalk Solar Observing SLSC
17 Mon	Edward Jones YMCA
18 Tues	Wild Horse Elementary STEAM
20 Thur	Manchester Parks and Recreation
21 Fri	SLAS Regular Meeting
21 Fri	Kirkwood Park Snores and Smores
22 Sat	SLAS Dark Sky Observing
23 Sun	SLAS Sky Orienteering Event
29 Sat	National Astronomy Day
29 Sat	Ballwin Family Campout

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

President <i>Jim Small</i>	314-307-0692
president at slasonline.org	
Vice President <i>Brad Waller</i>	314-481-7250
vicepresident at slasonline.org	
Secretary <i>Mark Jones</i>	636-394-2342
secretary at slasonline.org	
Treasurer <i>Bill Winningham, (Don Ficken - membership)</i>	636-225-0269
treasurer at slasonline.org	
Hospitality <i>Larry Campbell</i>	636-244-2867
hospitality at slasonline.org	
Board Members at Large:	
<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	
ALCOR <i>Bill Winningham</i>	636-225-0269
(Astronomical League Correspondent) treasurer at slasonline.org	
MSRAL Rep. <i>Jim Small</i>	314-909-7211
msral_rep at astroleague.org	

COMMITTEE CHAIRS

Dark Site Coordinator <i>Mark Jones</i>	636-394-2342
darksite at slasonline.org	
Librarian <i>Jim Small</i>	314-909-7211
librarian at slasonline.org	
Library Telescope Program <i>Don Ficken</i>	636-851-9630
librarytelescope at slasonline.org	
Loaner Equipment <i>Greg Gaines</i>	314-277-3082
loaner at slasonline.org	
Merchandise <i>Vacant</i>	
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Star Party Coordinator <i>Bill Breeden</i>	314-276-3613
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Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

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

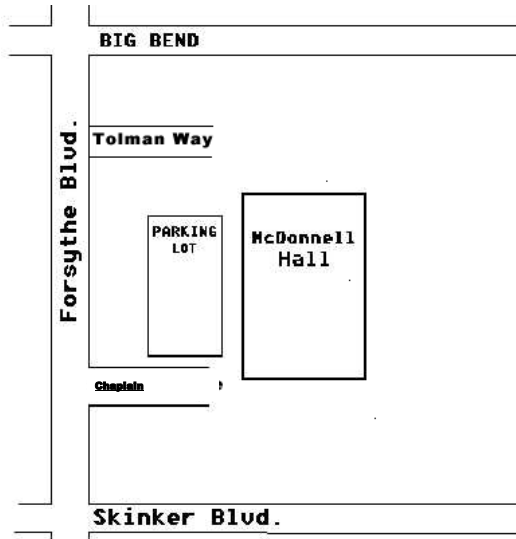


Who We Are and What We Do

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
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