

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

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

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Mid States Region



The Search For Planets of Other Suns

by

Dr. Catarina Ubach

Dr. Catarina Ubach will be featured at the October meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, October 17, in McDonnell Hall, Room 162.

More than 900 “exoplanets” are now known to orbit other stars. That number will continue to increase as telescopes both on the ground and in space search the skies. Dr. Ubach will outline the history of planet searching, and review what has been discovered since the first exoplanets were detected in 1995. She will also explain the likely nature of future technologies. Advanced devices will reveal the chemical composition of the atmospheres of exoplanets, as well as provide direct images of Earth’s distant cousins. They may even detect traces of life on other worlds.

Dr. Catarina Ubach obtained her PhD at Swinburne University of Technology in Astrophysics and is an astronomer interested in public outreach programs as well as research. Her own research is focused on the early stages of planet formation, particularly on the growth of rocky dust grains in the clouds from which new stars and planets form.

Upcoming meetings

November: Dark Matter, Dark Energy, and the Accelerating Universe - Dr. Bharat Ratra of Kansas State University

Library Telescope Build Session Huge Success

by

Jim Small

Congratulations and many thanks to all those who volunteered on October 4th for the first build session for Library Telescopes. In all, the group built 18 telescopes for placement in local libraries, including one telescope for training purposes.

The day started at 9 am at Don Fickens house. The 6 tables we borrowed from World Bird Sanctuary were put in place in the garage to set up stations for the various jobs required to modify the telescopes for use in a library. The modifications included removing the collimation screws from the back of the mirror and replacing them with hex set screws, modifying the eyepiece so it will remain in the telescope, modifying the finder for AA batteries, applying stickers like a moon map and sun warning to the telescope, then collimating the telescope and aligning the finder. The group managed to do all of that work by 4 pm or a little later!

Thanks to the following people who participated in the event: Paul Baldwin, John Beaury, Sharon Bertram, Brent Buch, Larry Campbell, Wayne Clark, Cook Feldman, Don Ficken, Donna Ficken, Bob Fisher, Ed Frey, David Hammock, Rich Heuermann, Rich Jennings, Mark Jones, Grant Martin, Rick Menendez, Brian Mills, Jim Small, Ann Trull, Jim Trull, Ben Winningham, and Bill Winningham. See the group photo on the next page! Visit [Library Telescope Movie](#) for a sped-up version of the build! Enjoy! (It’s worth the download time)

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President's Corner

by Jim Small

It's been *another* great month for SLAS! It will get even better when we do the press release for the installation of the Library Telescope Program on November 10th. We are expecting some good media with this operation. I can't wait to see how the program works when it's put into place, either.

We will be conducting training for library staff in the next two weeks or so to get them ready to check out the telescopes and to be able to explain how to use them. Many thanks to Don and Donna Ficken for hosting the build party for us at their home. Don's garage provided a perfect place to get the work completed and Donna worked hard to provide us with a great chili lunch along with other snacks. The group shot with all of the telescopes is below.

Orion telescope will be publishing an article about the operation in the next issue of their catalog. This will be some terrific publicity for SLAS and the Library Telescope program. I hope it has a great positive effect on the Society! In addition, the Reflector wants an article about the program for their next issue.

Thanks so much to Mark and Cyndie Jones for putting together the Star-B-Q at the Alto Shelter in Babler State Park on September 22. As always, a good time was had by all at the event. The observing wasn't much to sneeze at, but a few people did some work. Perhaps more can be done at the Night Skies Over Babler event we will have Saturday

night, October 18th. Many thanks to John Beaury for putting together the annual Star-B-Q Quiz for the event. Some nice prizes were given away to the winners.

John Lakey will be hosting a meeting for the 2017 Solar Eclipse committee with the idea of putting together a local workshop for area communities to begin planning for their events for the eclipse. Thanks to Don Ficken for helping to set that up.

Mark Jones will be conducting an event for the October 23rd Solar Eclipse at Monk's Mound in Cahokia. **AND, if you attend this month's meeting and/or join this month, you will be eligible for a FREE solar eclipse viewer!** It is likely some press will be there. See the article elsewhere for more details.

As usual, we have a lot of star parties coming up, so please check night sky network and see if you can volunteer for them. If you have not volunteered for a star party before and you would like some help, don't hesitate to contact me or anyone else whose contact information is on the back page of the newsletter for help.

On another note, we will be needing some more manpower to help organize star parties for the society. Please contact me directly if you would like to help with this effort. Experience is preferred for this position.

We will see you all at the meeting on Friday and the Night Skies Over Babler event on Saturday night. Let us know your plans for the solar eclipse for October 23rd.

Below: The telescope crew from the October 4th gathering to modify the telescopes for the Library Telescope Program.



**SLAS Star-B-Q
September 22, 2014**

**by
John Beury**

Thanks to Mark and Cyndie for their time and efforts to organize our 2014 Star-BQ in Babblers State Park. They did a great job. It was a fine affair with good food and many friends to enjoy the day with. The only caveat to this is there seems to be a chair thief amongst us. My chair kept growing legs and moving to a new spot when I was not sitting in it to hold it in place.

I have uploaded photos of the Star-BQ to a new album in the PHOTOS section of this group for your viewing pleasures. The album can be accessed at:

<https://groups.yahoo.com/neo/groups/SLASdialogs/photos/albums/1592313269>

(be sure to log into SLASdialogs first)

I have included a copy of the Star-BQ Quiz with Answers and various corrections to text and grammar errors noted to me by quiz takers. The corrections are noted in green text. Remember, the Quiz Master's decisions are final.

The Quiz had 57 questions in it. Quiz takers were scored for the number of correct answers they provided. The greatest number of correct answers was awarded First Place. The second highest number earned Second Place and so-on. Each ranked place was given the opportunity to select from available prizes the prize of their choice.

Prizes included: Two 18" X 24" photos of the Space Shuttle, A \$25 Gift Card to Steak 'n Shake (donated by Steak 'n Shake in Valley Park), a Pocket Sky Atlas and Binocular Highlights book donated by Sky and Telescope, and a number of Sci-Fi and astronomy theme books. Photos of the prizes are included in the Star-B-Q 2014 Photo Album.

The Quiz Prize Winners are ranked as follows:

- 1) Wayne Clark (51) Correct answers
- 2) Mark Jones (50)
- 3) Jim Trull (48)
- 4) Rick Menedez (46) & Cook Feldman (46)
- 5) Bill Winingham (45)
- 6) Greg Rigelmann (44)
- 7) Thane Bopp (43)
- 8) Larry Campbell (42)
- 9) Paul Baldwin (41)
- 10) Bruce Logan (39)

The competition was tight. We have some knowledgeable people in the group. They should be a great resource as mentors to newer members in SLAS. Good job guys.

Thanks to all who attended this Star-BQ.

-John Beury



Folks enjoying the day at the Alta Shelter before the food is served.



Above: Some of the fabulous food served at the Star-B-Q. Thanks to all who brought the delicious dishes!

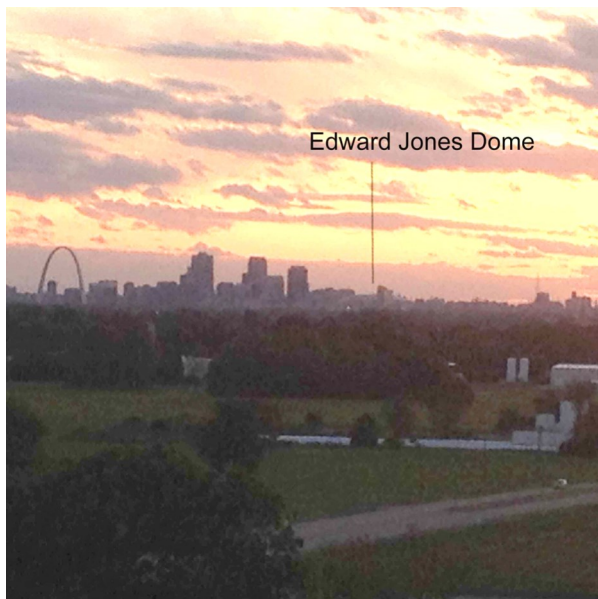
Below: Attendees taking the Annual Star-B-Q Quiz. Thanks to John Beury for the work.



Oct. 23, 2014 Solar Eclipse – Q&A



NOTE TO SLAS MEMBERS – SLAS has purchased 100 Eclipse Viewers. Every member who attends the October SLAS Meeting will receive a free viewer! SLAS invites members to observe the eclipse from the top of Monk’s Mound in Cahokia State Park, Illinois. From this location, we will watch the eclipsed Sun set behind the St. Louis skyline. Specifically, the Sun will set behind the Edward Jones Dome with the Arch slightly South (left) of the Sun. See photo below.



When is this eclipse visible from St. Louis?

The eclipse will begin at in the late afternoon at 4:40pm with the Sun only 16 degrees above the southwestern horizon. Maximum eclipse will occur at 5:47pm with approximately 50% of the Sun covered by the Moon. The Sun will set at 6:07pm with eclipse is still underway and more than 40% of the Sun covered by the Moon.

Where is the best place to observe the eclipse?

The eclipse will be visible over most of the United States. Since the eclipse occurs near sunset, the Sun will be low on the SW horizon. You must find an unobstructed location to view the eclipse. See the following NASA website for more information on the Oct. 23rd eclipse.

<http://eclipse.gsfc.nasa.gov/OH/OHfigures/OH2014-Fig04.pdf>

Can I safely view the eclipse?

There are several safe methods for viewing the Sun. These methods are described on the internet and found in books at your local library. Safe methods include: special “eclipse glasses”; and pin-hole projection. **UNSAFE methods** include: Sunglasses; Mylar Balloons or Food Wrappers; Smoked Glass; X-Ray Film; Film Negatives; and CDs. See the following NASA Website for more safety information.

<http://eclipse.gsfc.nasa.gov/SEhelp/safety2.html>

Can I safely photograph the eclipse?

Still or video photography can be an enjoyable way to document the eclipse. Protect your camera the same as your eyes, use only special “solar filters” when photographing the Sun. Photography guidebooks can be found at your local library, camera shop, or on-line.

Edward Jones YMCA Stargazing

Date: Tuesday, October 7, 2014

Setup Time: 7:00 – 7:30 pm

Time: 7:30 – 10:00 pm (2.5 hours)

SLAS Volunteers: Don Ficken (Lead), Tom Keutzer, Jim Trull

Non-SLAS Volunteer: Donna Ficken, Official Counter-Guests: About 91 adults and kids (maybe add ½ more since one lady was pregnant)

A beautiful night with a 94% Waxing Gibbous Moon shining very brightly in the eastern sky. The evening temperature was in the low 60’s and very comfortable with very few clouds in the sky and no wind. The Moon was our first target even before full darkness set in. There were an unusually large number of pre-teen children who had many questions about the Moon’s features and the solar system in general. As typical in this location, many of the visitors stayed around to view many objects. Mizar and Alcor in the Big Dipper (part of the constellation of Ursa Major) were targets, along with the beautiful double star Albireo in the constellation of Cygnus the Swan. Also targeted was the Owl Cluster (NGC 457) located in the constellation Cassiopeia. There were many questions about the October 8 Total Lunar Eclipse, sometimes called a blood moon, which was in the news, and upcoming solar eclipses. Overall, an enjoyable evening with guests very appreciative of the chance to look at the night sky through a telescope and to get questions answered.

Clear Skies, Don Ficken

SLAS Edward Jones YMCA Stargazing Lead

Announcing the 2014 Robert M. Walker Distinguished Lecture Series

The Robert M. Walker Distinguished Lecturer for 2014 is Dr. Ramesh Narayan, FRS who holds the position of Thomas Dudley Cabot Professor of the Natural Sciences at Harvard University. He is an elected fellow of the Royal Society (London) and of the National Academy of Sciences (USA). Professor Narayan is a versatile scientist with interests ranging from condensed matter physics to image processing and onto several branches of high-energy astrophysics related to pulsars and black holes. In the recent decade, the focus of his work has been on black holes and their observations in binary systems and in the cores of galaxies. As the chairman and member of several important committees, he is playing a key role nationally in guiding the progress of Astrophysics and Cosmology Ramesh will deliver a colloquium which will be held on Wednesday, October 22nd in the Department of Physics, Crow Hall, Room 204 at 4:00 PM and a public lecture at 7:00 PM on Thursday, October 23rd in Whitaker Hall, Room 100. As usual, you will have the opportunity of meeting with the speaker over coffee before the colloquium on Wednesday, October 22nd. The abstracts for each of his lectures are below.

Physics Colloquium on Wednesday, October 22, 2014

Astrophysical Black Holes

Astrophysicists have discovered two populations of black holes in the universe: stellar-mass black holes with masses in the range of 5 to 20 solar masses, and supermassive black holes with masses in the range of a million to several billion solar masses. According to the general theory of relativity, each black hole is completely described with just two parameters: its mass and its spin. Measuring these two parameters for individual black holes and relating the measured values to specific observational manifestations of the holes is a major area of research. The talk will describe some recent progress in the field.

Public Lecture on Thursday, October 23, 2014

Black Holes

A black hole is an object which is so compact, and whose gravitational pull is so strong, that nothing--not even light--can escape from its interior. The concept of a black hole is very bizarre and one feels that something in physics ought to prevent the formation of such objects. But this is not the case. On the contrary, the universe contains countless numbers of black holes; some that weigh only about ten times the mass of the Sun and others as much as a billion times more. Even though light cannot escape from inside a black hole, gas flowing into the hole does emit very intense radio

waves, light, X-rays and gamma rays. Astronomers study such radiation on a daily basis with telescopes based on the ground and those launched into space. This talk will describe the kinds of black holes that have been discovered, their observational manifestations, and what they teach us about the formation of such compact objects in nature.

Editors note: The colloquium is generally for researchers in the field and the public talk is geared to a more general audience.

Lunar Eclipse



This image was captured during mid eclipse. That bright point to the left? Yeah, that's the planet Uranus. Interesting note - This picture was taken at 6:02 AM. The light that was reflected off Uranus and was captured in this image left the sun 5 hours and 9 minutes earlier at 12:53 AM. I hadn't even packed up and left the house yet. Grant Martin



© Grant Martin 2014

See how it's pink at the top then there is a distinct change to blue? That pink band is called the 'Belt of Venus'. That blue area from the horizon up to the Belt of Venus is the earth's shadow through our atmosphere! You can actually see all this just before sunrise and just after sunset whenever it's really clear. BUT, you need to look in the direction exactly opposite from where the sun is rising or setting.

So in this one photograph you get to see the Belt of Venus and TWO shadows of the Earth: The shadow as it leaves the Earth and the one that hits the Moon!"

FYI, here's the link to the definition of the belt of Venus: http://en.wikipedia.org/wiki/Belt_of_Venus Grant Martin

Gateway Arch Star Party Report

Date: Saturday, October 2014 Setup Time: 6:45

Time: 7:00 - 10:00 pm (3.0 hours)

SLAS Volunteers: Larry Campbell, Cook Feldman, Don Ficken (Lead),

Guests: About 75 adults and kids

We had had enjoyable star party under the Gateway Arch. The temperatures were cool (mid-40's) with a slight breeze. The skies were a little hazy, but the guests enthusiastic. Most of the guests were from out-of-town including a large group of teen girls from North Carolina (sports event), but we did have a few international visitors (South America). Some guests wore only short sleeved shirts/blouses but managed to stay around 30-45 minutes asking questions about the night sky. Even before dark, we were able to easily find the 71% waxing gibbous Moon in the Eastern sky. When darkness set, we managed to find Saturn low on the horizon in the Southwestern sky but we were able to only use low magnification due to the haze. We managed to get a clear view of the Big Dipper in the Northwestern sky which took us to Polaris which was located just to the right of the Northern leg of the Arch. We then star hopped to the constellation of Cassiopeia (the vain Queen) in the Northeastern Sky. Directly above us was the constellation of Cygnus the Swan which helped us imagine where we might find the Milky Way if we were in darker skies.

All-in-all, a beautiful evening under the Gateway Arch. But sadly, this may be the last evening under the Arch for some time. The Arch construction is creating challenges for star parties in the immediate future. One more star party might be held under the Arch on November 1st, but the chances of this star party being held are not good due to the construction and the low turnout expected as result of the cold weather. It is unclear if the star parties will be held on the Arch grounds after construction is complete.

Many thanks to those have who have participated in the Gateway Arch events and a special thank you to SLAS member and Park Ranger Rich Fefferman who has championed our relationship with the National Park Service.

Clear Skies, Don Ficken

SLAS Gateway Arch Stargazing Lead

Outreach event at New Halls Ferry Elementary School

On September 26, six SLAS members provided telescope viewing to the students of New Halls Ferry Elementary School in the Ferguson-Florissant School District. The large playground behind the school provided a perfect view to the western sky where the Moon, Saturn and Mars

were visible. We had to battle high clouds and bright twilight but the students and their parents were rewarded with great views. In addition to telescopes, SLAS displays a couple of meteorites from it collection. Thank you to Jim and Ann Trull Frank Mack, Larry Campbell, Rich Heuermann and Mark Jones for participating. The school gave SLAS a \$200 donation and wants us to come back in the Spring.

Ann Trull shows student how to observe the Moon with binoculars.



A parent looks through Frank Mack's 10" telescope.



How to Volunteer for Star Parties!

If you've never volunteered for a star party, you are in for a real treat! You do not need any experience, you don't even need a telescope or binoculars. If you log into Night Sky Network, on the right side, you will see a link for "Sharing the Universe" videos. If you don't know how to log into NSN, just click this link: <http://www.astrosociety.org/SharingTheUniverse/index.html> and it will take you to the page with the videos. Click on the [Getting Started With Outreach](#) link. On the page you will see a link for a video and a link for tips. The tips are great! The video is also well done and will get you inspired to work with the public! If you like the first video, you will certainly enjoy the rest of the videos for Sharing the Universe! Then, just RSVP for any star party and lets get started! Other SLAS members will be there to help you get going! We look forward to all the joy you will have sharing the universe with the public!

Ray Arvidson and 37 more to Speak at Gateway To Space 2014, Nov 7-9



Come join the fun from music to a movie to even a fashion show!

Come, join with people and experience **Gateway To Space 2014!** The cost is only \$10 at Boeing on November 7th. The rest can be purchased separately as you like on Saturday November 8th and Sunday November 9th.

There are three speakers to choose from and experience at any one time at Gateway To Space. You can choose from different speakers on asteroids for example, or the Lynx spacecraft, the new CST-100 Capsule which won the NASA contract from Boeing to go the International Space Station and more. More Informative talks on space tourism with Lynx and Spaceship Two in competition to launch from you or 60,000 applicants into space starting next year. Ray Arvidson will bring us up to date on Curiosity and the latest on Mars. The option to see 38 speakers and ask questions or just see Lunarcy the movie for fun. Revisit how Mercury and Gemini were built by the McDonnell Douglas team as they talk about their experience building the spacecraft that put Americans into space for the first time—ask the workers all questions if you want to know what it was like to build a spacecraft and how it was done. See the Gemini full scale spacecraft that was used as an engineering tool in the Prologue Room at Boeing along with models of all the aircraft, ISS model, Skylab model and over a hundred Boeing product models as you mingle with the speakers and public interested in space and astronomy. See real space memorabilia and artifacts on display. Go to GatewayToSpace.org and engage it is easy to reserve your night of fun. Engage in part or all of the conference as you like—you will see people you know at Gateway To Space because they have signed up and you can meet new people as you like. There will be space games and even a fashion show and music. Food is available and there are always restaurants nearby for your enjoyment.

We are all a great wonderful part of the Universe including you.

Visit <http://gatewaytospace.org/speakers/> for a complete list of speakers for this event.

Visit <http://gatewaytospace.org/registration/> to register.

Visit <http://gatewaytospace.org/schedule/> for a complete

St. Louis Astronomical Society Executive Board Meeting Minutes - September 11, 2014

1. Opening Activities Jim Small, Paul Baldwin, Brad Waller, Larry Campbell, Mark Jones Meeting called to order at 6:55pm July minutes reviewed and approved with changes. Motion by Brad Waller, second by Larry Campbell. Minutes approved August minutes reviewed and approved. Motion by Brad Waller, second by Larry Campbell. Minutes approved

2. External Business SLSC October “What Makes a Monster”
Next board meeting: 10/9, Board meeting dates for the year are confirmed from the YMCA: 11/6, 12/11.

3. Director Reports:

President: Library Telescope Program: Telescope for YMCA purchased and partially set up. Meeting with St. Louis County was 9/11 at 2 pm, Kirkwood Library and St. Louis City Library meetings on 9/15. Telescope will be brought to the board meeting

Vice President –Paul Baldwin: September: Dr Jack Fishman—SLU and Dr. William Smith-WU: Solar impact on earth’s weather—two opposing viewpoints. Due to the unusual format the Board discussed the best way to field audience questions. The Board decided on the following format: ½ hour each speaker, followed by ½ hour of audience questions. Cards will be handed out for people to put their name on if they want to ask questions. Names will be selected by random drawing. Limit one question per person.

October Astro 101: Topic: Mark Jones will present: “Predictions for October Lunar and Solar Eclipses” Speakers for October possibly Dr Catarina Ubach; Nov. Dr Bharat Ratra on Dark Matter; Dec. Open, possible Telescopes for Christmas.

Secretary – Mark J Eclipse Conference held August 21/22 Columbia, MO. Report will be made to general membership at future meeting. Star-B-Q will be September 20th at Babler State Park

Treasurer/ALCor – Books for MSRAL 2014 closed. Monthly financial reports submitted. Report now includes the annual budget for each item. Work needs to begin on 2015 Budget .

Hospitality – Grant M no report submitted

Board member at large reports

Larry Campbell – Will not be at the October Board meeting or Regular meeting. Larry will volunteer to do hospitality for September.

Tom Nickelson – All equipment received for the handicapped equipment. Putting together cases now.

Brad Waller – Brad has been researching prices for gift coffee cups for speakers. Discount Mugs. 16oz mug one color. \$6.48 each+\$50 setup charge+\$28shipping. Jim suggests trying local sources like Office Max for comparative pricing.

4. Committee Reports: If needed

Membership – Report submitted. Total membership is 154, up from 151 on January 1st

Merchandise – no report - Telescope Making – no report submitted

Librarian – No changes **Newsletter –** No report **Website –** No report **Night Sky Network –** We qualified and won and Mars Globe for our club use!

SLASdialogs – no report submitted **Dark Site –** Next dark sky dates are Sep 27 and Oct 25 **Loaner Equipment –** No report

Publicity – Press release for October lecture sent to media outlets

Observing Programs –

Star Parties: Details for the next month's confirmed events below. Edward Jones September 9th and October 7th

5. Old Business – Library Telescope program committee established.

6. New Business – No new business

7. Closing Activities Motion to adjourn the meeting by Mark Jones, seconded by Larry Campbell. Meeting adjourned at 9:00pm

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*

11/6/2014
12/11/2014

Dark Sky Observing Dates

Sep 27
Oct 25

Francis Park Events: These events are on **Wednesdays** the week nearest the first quarter Moon

October 1 (7 day old Moon) (1st Wed.)
October 29 (6 day old Moon) (5th Wed.)

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

October 3
November 7
December 5

YMCA Edward Jones Star Parties

Pattonville Observatory Public Viewing Dates

November 7, 2014	Friday 7:00-9:00 p.m.
November 14, 2014	Friday 7:00-9:00 p.m.
December 5, 2014	Friday 7:00-9:00 p.m.
December 12, 2014	Friday 7:00-9:00 p.m.
January 9, 2015	Friday 7:00-9:00 p.m.
January 23, 2015	Friday 7:00-9:00 p.m.
February 13, 2015	Friday 7:00-9:00 p.m.
February 27, 2015	Friday 7:00-9:00 p.m.
March 13, 2015	Friday 8:00-10:00 p.m.
March 27, 2015	Friday 7:00-9:00 p.m.
April 10, 2015	Friday 8:30-10:30 p.m.
April 24, 2015	Friday 9:00-11:00 p.m.
May 1, 2015	Friday 9:00-11:00 p.m.
May 22, 2015	Friday 9:00-11:00 p.m.

October

17 Fri	SLAS Regular Meeting
18 Sat	Night Skies Over Babler
23 Thurs	Partial Solar Eclipse Event at Monk's Mound
23 Thurs	Solar Eclipse Event at Master Card (private event - see Rich Jennings)
25 Sat	SLAS Dark Sky Observing
29 Wed	Francis Park
30 Thurs	St. Louis Science Center Halloween Event

November

1 Sat	Faith Academy Larson Park
6 Thurs	SLAS Board Meeting
7 Fri	Public Telescope Viewing SLSC
7 Fri	Pattonville Observatory
8 Sat	Kirkwood Public
14 Fri	Wildwood Middle School
14 Fri	Pattonville Observatory
21 Fri	SLAS Regular Meeting

December

5 Fri	Public Telescope Viewing SLSC
5 Fri	Pattonville Observatory
11 Thurs	SLAS Board Meeting
12 Fri	Pattonville Observatory
19 Fri	SLAS Regular Meeting

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. For more information about events, such as Moon phase, clear sky clock, weather report or a map of what's up, see the calendar online.



SLAS MEMBERSHIP APPLICATION



Name: Last _____
 First, Middle Initial _____
 Address _____
 City, State, Zip Code _____
 email address _____

Youth @ \$10.00 / 1 year (18 yrs or younger) \$ _____
 Individual @ \$25.00 / 1 year \$ _____
 Family @ \$40.00/1 year \$ _____
Publications with discount available with your SLAS membership:
 Sky and Telescope @ \$32.95 / 1 year \$ _____
 (S&T may also be renewed at their website:
<http://www.skyandtelescope.com>)
 Astronomy @ \$34.00 / 1 year \$ _____
TOTAL ENCLOSED \$ _____

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

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

SLAS OFFICERS

President	Jim Small	314-307-0692
president at slasonline.org		
Vice President	Paul Baldwin	314-596-6738
vicepresident at slasonline.org		
Secretary	Mark Jones	636-394-2342
secretary at slasonline.org		
Treasurer	Bill Winningham, (Don Ficken - membership)	636-225-0269
treasurer at slasonline.org		
Hospitality	Grant Martin	
hospitality at slasonline.org		
Board Members at Large:		
	Tom Nickelson	
board17 at slasonline.org		
	Larry Campbell	636-244-2867
board15 at slasonline.org		
	Bradley Waller	314-481-7250
board16 at slasonline.org		
ALCOR	Bill Winningham	636-225-0269
(Astronomical League Correspondent) treasurer at slasonline.org		
MSRAL Rep.	Jim Small	314-909-7211
msral_rep at astroleague.org		

COMMITTEE CHAIRS

Membership	Don Ficken	636-225-0269
membership at slasonline.org		
Publicity	Rich Heuermann	314-962-9231
publicity at slasonline.org		
'SLASdialogs' Moderator	Mark Jones, Rhonda Whelan	
dialogsmoderator at yahoo.com		
Webmaster	Jim Small	314-909-7211
webmaster at slasonline.org		
Newsletter Editor	Jim Small	314-909-7211
newsletter at slasonline.org		
Loaner Equipment	Greg Gaines	314-277-3082
loaner at slasonline.org		
Merchandise	Vacant	
merchandise at slasonline.org		
Librarian	Jim Small	314-909-7211
librarian at slasonline.org		
Library Telescope Program	Don Ficken	636-851-9630
librarytelescope at slasonline.org		
Star Party Coordinator	Mike Malolepszy	314-781-4701
starparty at slasonline.org		
Dark Site Coordinator	Mark Jones	636-394-2342
darksite at slasonline.org		
Observing Programs	Mark Jones	636-394-2342
observing at slasonline.org		
Telescope Making	Bill Davis, Jim Melka	314-469-3061
telescope 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>

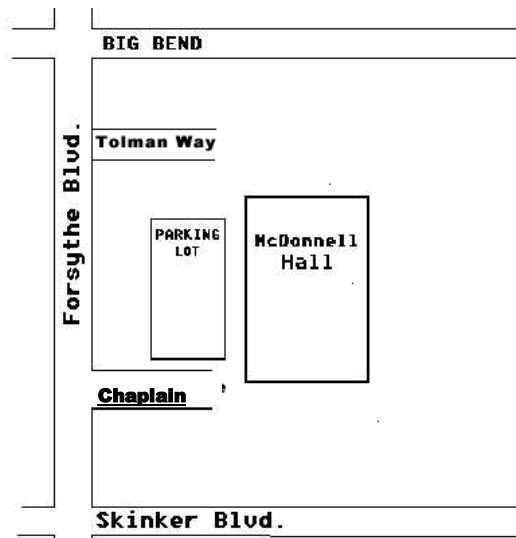


Who We Are and What We Do

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

