THE EVENT HORIZON

ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

VOLUME 29, Issue 8
August, 2019

Gravitational Waves: Astrophysics Final Frontier

by

Marco Cavaglia

University of Missouri Science and Technology

Dr. Marco Cavaglia of the Missouri University of Science and Technology will be featured at the August meeting of the Saint Louis Astronomical Society. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way. Free yellow zone, Bearly commuter, red zone spaces along Forsyth and garage parking spaces are available. The event, cosponsored by NASA's Missouri Space Grant Consortium at Washington University, is open to the public free of charge.

Einstein's Theory of General Relativity predicts the existence of gravitational waves. These are ripples of space caused by changes in gravity. Even for major changes in gravity, such as the merging of black holes, the gravitational waves produced are extremely weak and very hard to detect. Dr. Gavaglia will talk about the nature of gravitational waves and how they are detected, both indirectly and finally, in 2016, directly. He will also talk about efforts to map the dark, gravitational universe, including black holes and neutron stars.

Dr. Marco Cavaglia is a Professor of Physics at Missouri University of Science and Technology in Rolla, MO. His research interests include both experimental and theoretical gravity physics. During his career, Dr. Cavaglia, has been awarded research grants totaling over $ 2.5 million dollars and has authored over 200 scientific publications.

Upcoming Presentations for 2019

September 2019 Don Hampton,PhD Aurora Borealis & Steve - University of Alaska: Fairbanks (Zoom)
October 2019 Abigail Bollenbach Edwin Hubble and his Telescope - Bartlesville Astronomical Society
November 2019 Claire Chandler, PhD Super-Earths and the Formation of the Solar System - National Radio Astronomy Observatory (Zoom)
December 2019 Duncan Lorimer, PhD Fast Radio Bursts: "Lorimer Bursts" - University of West Virginia (Zoom)

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SLAS Membership Votes to Purchase the Moody Observatory to be Placed at Jefferson College Observatory

The SLAS membership voted without opposition to purchase the Sandy Moody family observatory for $15,000 including the Sirius 3.5 meter dome, a Meade 16in LX200GPS telescope and pier with electronic focuser, and an additional $1000 to facilitate moving and installing the observatory. Thanks so much for all the people who came to the meeting specifically to support this purchase! See the press release by Jefferson College later in this newsletter.

Annual SLAS Star-B-Q Announced for Sunday, September 22nd.
See the Article on Page 3 in this Newsletter for More Information!

SLAS Meeting Video Site has Been Launched!
See the Article Inside for More Information

SLAS to Launch Recognition Program This Year.
See the Article on Page 4.

Presidents Corner *by* Jim Small

"My life is now complete. The St. Louis Blues won the Stanley Cup and SLAS now has an observatory!!"

No truer statement could be made. The excitement this has created among SLAS members is high. Numerous people came to me before and after the meeting making sure I knew about their support for the action. The Moody's are excited about it. Jim Moody's good friend Doug Azwell is excited about it and has helped us a lot with the drawings for the architect. We had a meeting last week with Jefferson College and they are REALLY excited about it. See their press release later in this issue. The sequence will be just as things were laid out in last months issue of the Event Horizon. Priority for the project will be construction of the base for the Moody Observatory. It will be the first to happen, regardless of how much money is needed.

We have also planned many dates to have events at the site this fall to draw attention to the observatory. They will be listed on NSN. They will mostly be Sunday night events.

Thanks **so much** for all the people who showed up for the 50th Anniversary of the Apollo 11 landing last month. SLAS had numerous volunteers and MANY people came through the McDonnell Planetarium. See the article with pictures in next months newsletter along with other star parties and SLAS events.

ALCON last month was terrific. Although, if I do another cruise, I will definitely NOT be in conjunction with a meeting. It just gets in the way too much to enjoy all the ship has to offer. We met first at the Holiday Inn in Titusville and had a good business meeting. We approved three new observing programs and those will be explained in next months newsletter. The first day of the conference was spent at the Kennedy Space Center and could have easily taken two days! (just have to go back) We boarded the ship the next day and had time to settle in before the first meeting in the conference room. There was lots of time devoted to on shore activities for Saturday and Sunday and the meeting was over on Sunday. We returned to port on Monday. All three nights we did binocular observing on the forward helipad which had benches to sit on AND the ship agreed to turn out the forward lights to facilitate observing. Certificates of participation were awarded based on three levels: participation, locating 25 objects, and locating 50 objects off the 54 object list provided. Maybe we should make such a list for the Star-B-Q next month!

More articles were submitted but due to lack of room this month, next month's newsletter will be full!

SLAS Membership Votes to Purchase Moody Observatory

SLAS Members, at the July 19, 2019 meeting at the regular location at Washington University, voted to approve the motion below. The vote was unanimous among those persons who voted. There may have been a number of abstensions, but there were no opposing votes. The motion will authorize the Board to spend $16,000 for an observatory on the Jefferson College campus in Hillsboro, MO. Thank you for coming to the July meeting and showing your support for this motion. The press release from Jefferson College about the Jefferson College Observatory is found on later pages of this newsletter.

The Motion: I move that the SLAS Board approve the observatory budget for $16,000 and recommend its approval to the general membership. The approval of this motion by SLAS membership, will authorize the purchase of the Moody Sirius Observatory, Meade 16" LX200GPS telescope, mount and pier, electronic focuser and associated equipment for $15,000. Also, that SLAS membership will authorize the Board to spend up to a $1,000 limit for necessary expenditures related to moving and making operational the observatory on campus. Expenditures may include: (1) a Moody Family plaque acknowledging the family's commitment to this project; (2) truck/trailer and equipment rentals to move the observatory; (3) miscellaneous parts and materials for mounting the dome to the foundation and for connecting the electricity source; (4) and security related items such and locks and bolts to theft-proof the observatory. Further, SLAS membership agrees that the purchased observatory will remain SLAS property and responsibility. That Jefferson College in providing a location on campus and their investment in site preparation for the SLAS-owned observatory, including the concrete pad and pier mount, will have full access and shared usage rights to the observatory. Motion by Mark Jones and seconded by Tom Nickelson. Motion passed.

If you have any question about the observatory purchase or the Jefferson College Observatory project, don't hesitate to call Jim Small or Mark Jones at the numbers in the contact information in the back of the newsletter. Don Ficken is the SLAS coordinator for the Jefferson College Observatory project.

17th Annual SLAS Star-B-Q (and Sky Orienteering)

Sunday, September 22, 2019

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 horseshoes if you wish to bring them. We will observe from the ball fields.*** Don't have a telescope? Don't worry this is a great chance to see other member's telescopes.

Remember: Members should bring **drinks** and a favorite **side dish** or **dessert**. Meat will be provided by SLAS!

Don't forget to bring your telescope or binoculars, chairs and bug spray!

Schedule of Events

2 pm Setup
3 pm – Picnic begins
4 pm-6 pm Food line open
5 pm - 6 pm Trivia Contest (with prizes)
7 pm Sunset
7:30pm- Midnight Observing at picnic site

We chose September 22 for the Annual Star-B-Q for a number of reasons:

1. It's a third quarter Moon so dark sky viewing should be good.

2. It's a Sunday rather than a Saturday to allow members to do their normal dark sky viewing on Saturday

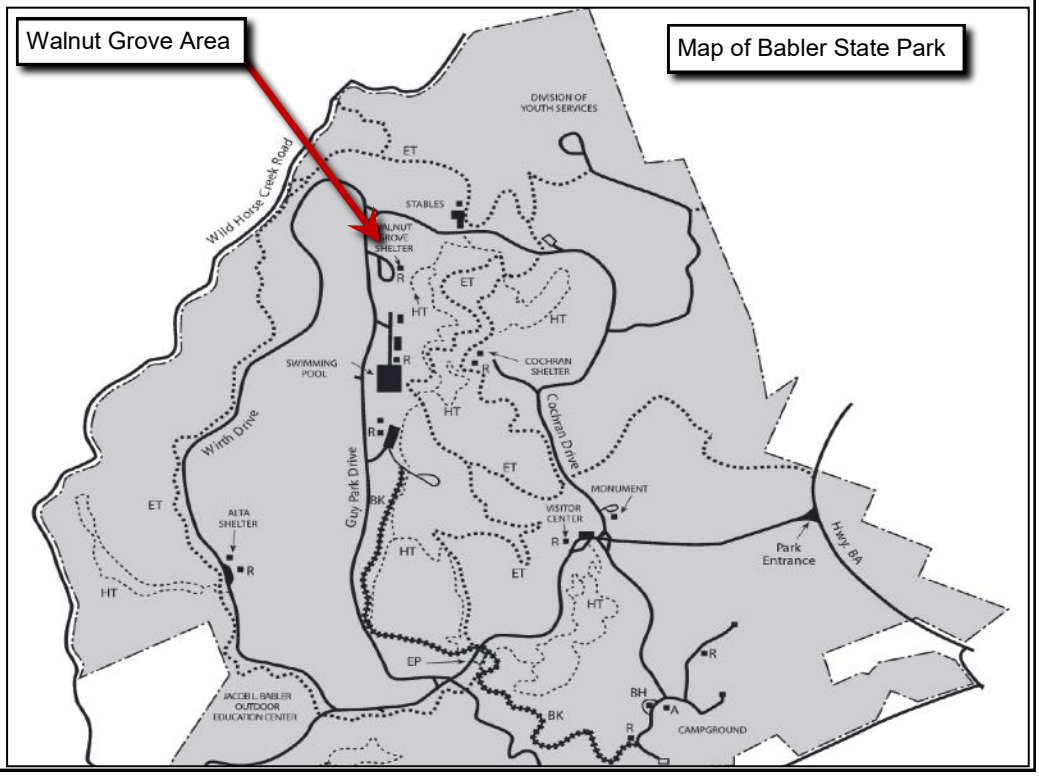
3. It's later in the year so it should be cooler with fewer bugs but not so cool that it wouldn't be good for a picnic

4. It avoids conflicts with other meetings

5. It's the normal night for Sky Orienteering

6. We are considering having an object list to find for the event for a certificate. We will discuss this at the next two meetings to see if there is interest.

7. Join us and have some fun!!



SLAS Board to Implement Recognition Program This Year

At the August Board meeting we decided to develop a recognition program approximately 5 named awards. Each recognizing a different area of contribution to SLAS. We decided on the following process.
1. Nominations will be done by completing form downloaded from SLAS website. Deadline established as December 1st.
2. Nomination forms would valid for 3 years after submittal, similar to MSRAL Amateur of the Year Award system
3. Not every award must be given every year
4. Target Feb meeting for handing out awards
5. Each awardee would be give a personal-size plaque or trophy as at momento
6. A SLAS cumulative plaque will be updated each year with new awardee names. This plaque would be displayed at SLAS meetings
7. Additional recognition would be posted on SLAS recognition award webpage and on updated member name tags
8. Award process to be reviewed and approved at September Board meeting for publishing in Sep newsletter to open nominations
9. 2020 Budget will include funding of the awards under the recognition committee
10. Membership and Hospitality Board position will be on the committee, Larry Campbell is current officer
11. Other members will be asked to join the committee and will work the selection process

The next step is to expand the criteria and description of each award and create nomination form for each award. Award definitions and nomination forms must be complete and ready for review by Sep Board meeting. Please note that after more research I have renamed the Founders award after Albert Obrecht rather the Stuart O'Byrn.Here is my first draft. I need your help in setting selection criteria we are looking for for each award This will help set up a nomination form for each award category

1. The Albert M. Obrecht, Founders Award - In January, 1936, Albert Obrecht founded the St Louis Amateur Astronomical Society. Albert and a small group of members established the first Constitution and By-Laws. Officers and committees and budgets were established to provide the perpetual structure for stability and growth. The mission of society was established in the Preamble of the Constitution as: "..to promote and diffuse the knowledge of astronomy...". Albert remained a member until at least 1954. The society's was renamed St Louis Astronomical Society during Albert's tenure and SLAS remains committed to the legacy handed down by these original founders. In the spirit of Albert M. Obrecht, the Founder Award should be given to board or committee person for their service to SLAS. The nominee must be a SLAS member. The nominee should have past or current positions as an officer or committee member. The nominee should demonstrate their contribution to the operation, stability and growth of the society.

2. The Lois D. Fitter Outreach Award - Lois Diane Fitter (1943-2016) served SLAS in many capacities. Lois was a member of SLAS from 1985 until her death in 2016. Lois was a former SLAS President and Committee chair and a telescope maker. Lois will be remembered for her enthusiastic astronomy outreach events. In a time when no one really kept track of volunteer hours. Lois was out there showing kids and adults views through one of her homemade telescopes, creating a sense of wonder and excitement wherever she went. She was certainly not afraid of the dark and would take her Subaru to dark sites around the area to work on her own projects and hone her skills. She was very capable astronomer and speaker. Lois setup the original outreach plan for coordination with schools and organizations. She logged her events and established long lasting relationships with these organizations. In the spirit of Lois D. Fitter, the Outreach Award should be given to a SLAS member with most dedicated or most improved public outreach impact as a participant or coordinator.

3. The Richard D.Schwartz Supportive Faculty Award - Richard Dean Schwartz, PhD (1941-2001), was professor of Astronomy at University of Missouri- St Louis from 1975 to 2003. When Dick arrived at the University of Missouri-St. Louis in 1975, he was the only astronomer in the Department of Physics. He built the astronomy program and initiated the B.S. in physics with an astrophysics option. Dick compiled a distinguished record of research that gave him an international reputation as an astrophysicist. During his career, Dick pioneered a new research area studying the energetic mass loss in young stars, there have been over 2000 citations to his 80 scientific papers. In 1999 he received the Chancellor's Award for Research and Creativity for his distinguished research record. Dick became a member of SLAS shortly after coming to St Louis and would present his research at SLAS meetings. In the spirit of Richard D. Schwartz, the Supportive Faculty Award should be given to local educator at HS or college level who support SLAS' mission by providing astronomy-related talks to SLAS or the St Louis area. Nominee does not have to be SLAS member.

4. The Robert E. Cox Popular Astronomy Award – Robert E Cox (1917-1989) moved to St Louis in 1960 to work for e McDonnell Aircraft Co.. His optical shop produced prototypes in connection with flight testing of Voodoo and Phantom fighter planes, as well as for the Mercury and Gemini spacecraft. Optics from his shop flew on all American manned space missions up through Gemini 8. Cox retired from McDonnell-Douglas in 1982. Bob was Sky and Telescope's

(Continued on page 5)

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"Gleanings for ATMs" column editor from 1956 to 1977. Bob received the Astronomical League Award in 1962 and the Cliiford Holmes Award in 1980. Bob was a member of SLAS from 1960 until his death in 1989. Bob was an early supporter for the building of the McDonnell Planetarium and taught numerous classes at the planetarium after it opened. Through his talks and articles Bob help popularize astronomy and telescope making locally, nationally and internationally. In the spirit of Robert E Cox, the Popular Astronomy Award should be given to person having major contribution to popularizing astronomy at the national or international level. Nominee does not have to be SLAS member.

5. The Alfred L. Woods Mentoring Award – Alfred L. Woods (1911-2004) was a member of SLAS since the mid-1960's and was elected to a term as a board member at large to the board of directors. Al was the 1993 Amateur of the Year for the Mid-States region of the Astronomical league. Al was a gifted telescope maker and optical fabricator. Al could grind and polish mirrors and lenses to ultimate precision. Al fabricated a number of very difficult telescope designs including 2 and 3-mirror Schiefspiegler telescopes. Al mentored amateur telescope makers across the globe. Al would educate his follow amateurs at the annual SLAS Homemade Fest. Al's design were featured on Amateur Telescope Making magazine and other publications. In the spirit of Alfred L Woods, the SLAS Mentoring Award should be given to a SLAS member for mentorship in astronomy, telescope and gadget making to their fellow amateurs.

We expect the membership to discuss these awards and offer any updates, corrections or other suggestions. We are exited about this program and we will implement it this year. The first awards will be presented after the beginning of the year. If you are interested in serving on the committee for this program, contact Larry Campbell.

Aiming for the Stars: Jefferson College Observatory to Become a Reality Through Partnership with St. Louis Astronomical Society

Editors note: The following is an official press release by Jefferson College with the announcement of the Observatory.

Jefferson College and the St. Louis Astronomical Society (SLAS) are working together to develop an astronomical observatory in phases near the Softball Field on the College's Hillsboro campus.

The observatory's purpose is to engage the community to learn more about the science of astronomy and physics. It will become the first public observatory in Jefferson County affiliated with SLAS. Regular stargazing and solar viewing events for the public will be hosted by Jefferson College and SLAS. A variety of events such as eclipses, transits, comets, and meteor showers are expected to draw large audiences. Educators and students of K-12 schools will be encouraged to make use of the observatory for educational projects.

When complete, the observatory site will feature several buildings equipped with ready-to-use telescopes of sufficient aperture (light gathering ability) to allow for college level research and community educational events. A patio viewing area will be available to amateur astronomers and enthusiasts to explore the night sky and our closest star, the Sun.

Members of the St. Louis Astronomical Society will also use the observatory to host public and private events.

Observatory Facilities The observatory will be developed in phases over several years as funding is secured.

Long-term plans include three observatory buildings to house permanently mounted telescopes and provide storage for portable astronomy equipment accessories, a patio viewing area with electrical hookups for the public and amateur astronomers to bring their own telescopes, and a wall to protect the viewing area from vehicle headlights of those that are visiting the site. The location makes use of paved parking that already exists next to the site. Restrooms are available within a short walking distance.

When complete, the observatory facility will include:

An "observatory dome" owned by SLAS that will house a permanently mounted 16-inch telescope with a motorized dome.

A patio with telescope "pads" for the public and amateur astronomers to use their personal equipment. Each pad will have electrical hookup to facilitate equipment set up.

A wall designed to shield vehicle headlights.

Additional buildings large enough to house telescopes ranging up to 30" in aperture and host 10-15 visitors at a time, while providing storage for portable astronomy equipment accessories. Telescopes will be permanently mounted in each building, with motorized, "roll-off" roofs to simplify operation and reduce wear/tear of equipment.

Observatory Location

The observatory will be located north of the Jefferson College Hillsboro campus (on Farm Road) near the Softball Field

(Continued from page 5)

and share a paved parking lot, making the site especially attractive to astronomers from across the region due to its location outside the immediate St. Louis area and the associated light band.

The convenient location of the observatory site at Jefferson College is expected to draw visitors from Jefferson County and the surrounding region. Visitors from the St. Louis metropolitan area will find the observatory just a 30-minute drive on southbound Highway 21 from the intersection of Interstate 270 in St. Louis County.

Funding – Timing – Construction Phasing

Jefferson College and the St. Louis Astronomical Society will partner to raise funds to develop the site. Observatory project funds will be raised from public donations, grants, and corporate sponsors. Project rollout will be determined by available funding for each phase. Each phase of the project will be functional on its own, making the observatory useful from the outset. Estimated costs of each phase will not be available until architectural drawings are complete.

Development of the observatory is planned to proceed in the order shown on the architectural rendering: Structure #1 (observatory dome), followed by structure #2 (viewing patio), followed by structure #3 (headlight shield wall), followed by structures #4 and #5 (buildings with retractable roofs).

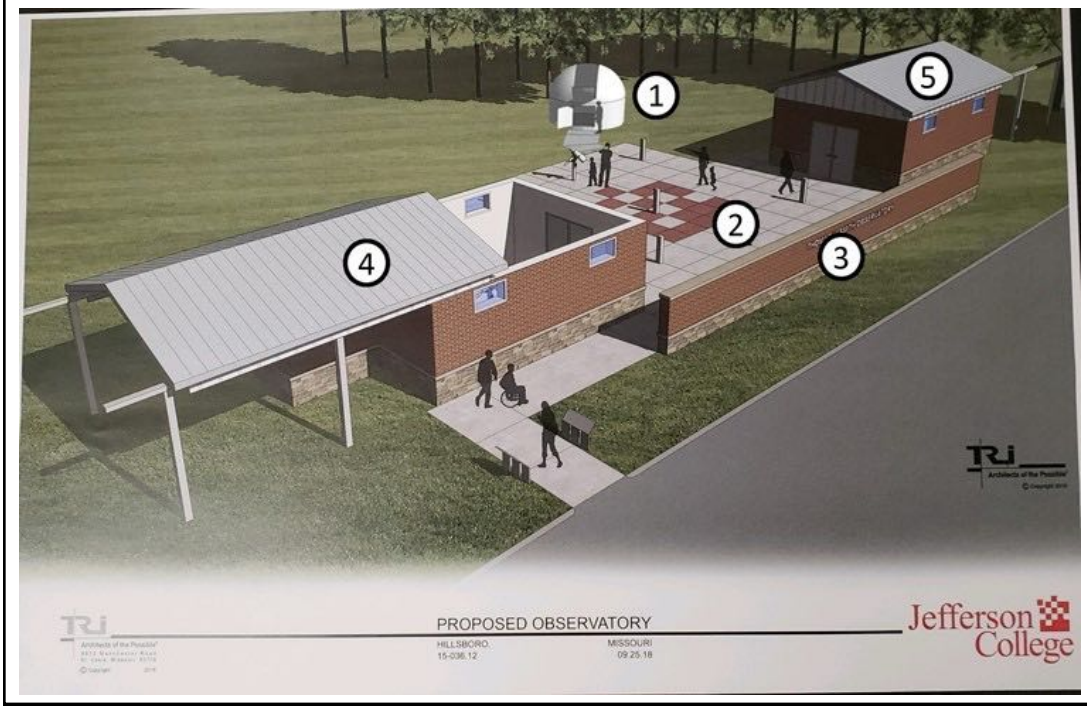
An initial amount of $38,000 in Capital Project Funds has been approved by Jefferson College and will be allocated according to the following priority order illustrated on the site plan:

1. Construct platform for the SLAS-owned dome and telescope
2. If funding remains, construct concrete patio for individual telescope set up/viewing
3. If funding remains, construct headlight shield wall

The St. Louis Astronomical Society has purchased adequate equipment and accessories to be placed in the observatory buildings being developed.

Donations of All Amounts Encouraged

Although the Jefferson College Observatory will be FREE to all visitors, donations of all amounts are needed to enable construction and site maintenance. Anyone interested in supporting the Observatory can make a tax-deductible donation through the Jefferson College Foundation, a separately incorporated 501 (c)(3) nonprofit organization, whose purpose is to increase resources, raise funds, and cultivate friends and partnerships to support Jefferson College and its mission. There are a variety of ways to make an impact with a donation of any amount. Contributions can be made through the Jefferson College Foundation at https://jeffco.ejoinme.org/JeffcoObservatory



Additional Information
Jefferson College Observatory website – https://www.jeffco.edu/Observatory

Jefferson College Observatory - Facebook

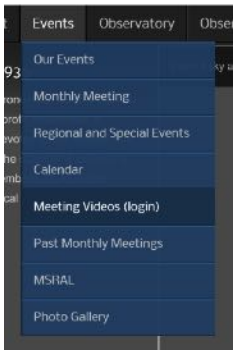
St. Louis Astronomical Society - https://www.slasonline.org/

Jefferson College Observatory Architectural Rendering of Construction Phases

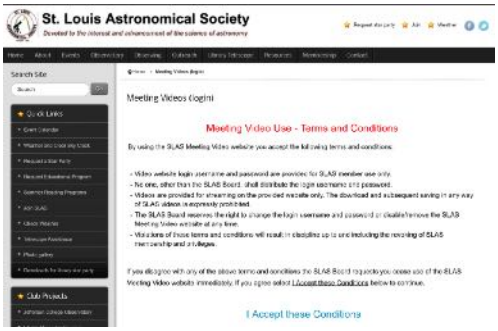
Missed a Meeting? Here are Instructions for the Updated Meeting Video Section of the Website

Brent Buch has done yeomans work to update and make available meeting videos on our website. Be sure to thank him for this effort. The username and password will be sent to all SLAS members via Night Sky Network. Ask Brent if you have any difficulties accessing the videos. Thanks again to Brent for the work!

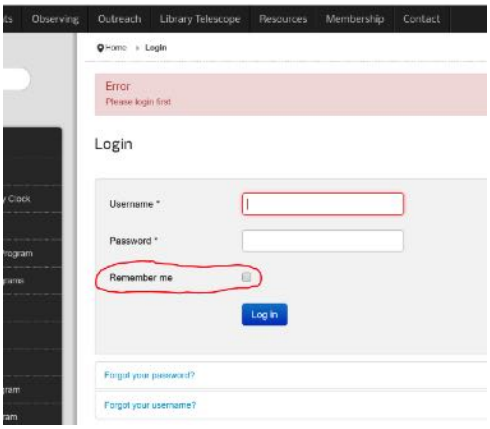
1. You will receive login Username and Password details from a Night Sky Network notification.
2. Select Events à Meeting Videos (login) from the main menu.



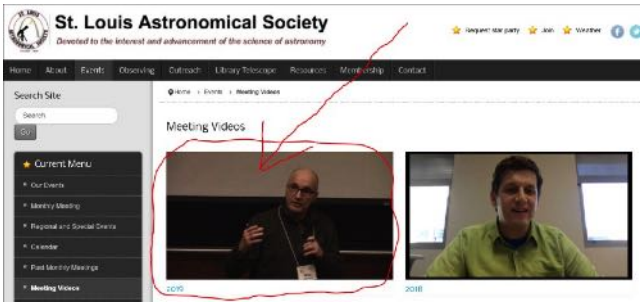
3. Read the Terms and Conditions for use of the Meeting Videos website. If you agree, select I Accept these Conditions.



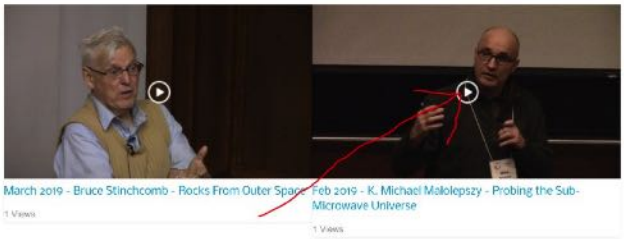
4. Fill in the Username and Password and press Log In. You may also check remember me as shown below to make logging in easier from the same computer/ mobile device and web browser in the future.



5. Select which year of videos you wish to browse through.



6. Finally select a video and it will start playing! All players have a full screen feature. On PC this is in lower right.



7. If you experience a problem we recommend you try with Google Chrome browser. Flash player is NOT required.

New Astronomy Shop Open in Illinois!!!!

Hold on to your hats! Randy Harrison has opened a new Astronomy Store !!!
Here is the info on the shop!

Lookin Up Optics
1261 US Highway 40
Vandalia IL 62471

https://lookinup.info/

St. Louis Astronomical Society Executive Board Meeting Minutes July 11, 2019

1. Opening Activities: Attending: Jim Small, Larry Campbell, Tom Nickelson, Brad Waller, Brent Buch, Mark Jones, Bill Winningham. Meeting opened at 7:01pm. June minutes distributed before the meeting. Motion by Tom to approve the June minutes, second Larry. Motion passed, minutes were approved
2. External Business: Apollo 50th anniversary at JS McDonnell Planetarium on July 20. Jim has astronomy materials collected from AAS meeting to hand out. SLSC we have 3 tables; 5 volunteers, need brochures, Need to get SLAS banner
Next board meeting: Meetings posted on NSN. Board meetings will be held at Nicoletti's Restaurant in Valley Park until further notice. Dates left for 2019: Aug 1, Sep 5, Oct 3, Nov 7, Dec 5

3. Director Reports:
President: Jim Small: Brown Hall was a success as alternate meeting room. Easy to access and find from McDonnell Hall.
Vice President: Bradley R Waller

SLAS Monthly Meetings **Presentations 2019**

Month	Name	Topic	Sponsor
19-Jul-2019	Craig O'Mara	Flying SOFIA	NASA
16-Aug-2019	Marco Cavaglia, PhD	Gravitational Waves	UM: S&T
20-Sep-2019	Don Hampton,PhD	Aurora Borealis & Steve	UAF
19-Oct-2019	Abigale Bollenbach	Hubble and His Telescope	Bartlesville Astronomical Society
15-Nov-2019	Claire Chandler, PhD	Super-Earths and the Formation of the Solar System	NRAO
20-Dec-2019	Duncan Lorimer, PhD	Fast Radio Bursts: "Lorimer Bursts"	UWVA-Skype

Event
NRAO: National Radio Astronomy Observatory
UAF: University of Alaska: Fairbanks
UWVA: University of West Virginia

***Astro 101:** *Welcome Aboard Meetings for new members are still planned for each month as needed.
Secretary: Mark Jones: Jefferson College Observatory update and motion to purchase Moody Observatory and telescope by SLAS. Motion: I move that the SLAS Board approve the observatory budget for $16,000 and recommend its approval to the general membership. The approval of this motion by SLAS membership, will authorize the purchase of the Moody Sirius Observatory, Meade 16" LX200GPS telescope, mount and pier, electronic focuser and associated equipment for $15,000. Also, that SLAS membership will authorize the Board to spend up to a $1,000 limit for necessary expenditures related to moving and making operational the observatory on campus. Expenditures may include: (1) a Moody Family plaque acknowledging the family's commitment to this project; (2) truck/ trailer and equipment rentals to move the observatory; (3) miscellaneous parts and materials for mounting the dome to the foundation and for connecting the electricity source; (4) and security related items such and locks and bolts to theft-proof the observatory. Further, SLAS membership agrees that the purchased observatory will remain SLAS property and responsibility. That Jefferson College in providing a location on campus and their investment in site preparation for the SLAS-owned observatory, including the concrete pad and pier mount, will have full access and shared usage rights to the observatory. Motion by Mark Jones, second by Tom Nickelson. Motion passed. Yes-6 votes, No-1vote

Treasurer/ALCor: Bill Winningham Financial reports as of June 30, 2019 were sent out before meeting. Assets $89,553, net income for year is $12,992, $880 in donations, spending $1600 under budgeted expenses.
Hospitality: Larry Campbell Larry plans to buy a Moon cake for July meeting to celebrate Apollo 11.

Membership recognition: Plan to recognize SLAS member John Beaury at July meeting with a plaque for his hard work on the Library Telescope Program.

Board member at large reports
Tom Nickelson (2020): no report
Brent Buch (2021): The new video use terms and conditions page has been added to the website. It was inserted between the existing links and the login video access page. Brent provided a brief demo at meeting. A minor page flow adjustment is still needed on the events menu. I will adjust that after I finish configuring a new video page entry point. After that the page should be ready for member use per board approval.
John Newcomer (2022): no report
4. Committee Reports:
Library Telescope Program: Our binocular checkout program has been more popular than we could have imagined. The program's initial launch will include 116 binoculars of which 107 are binocular kits and nine are "binoculars only" for use in programming support. Details of the distribution by library can be found at https://www.slasonline.org/library-telescope/binocular-program nnWe had a work session June 28th to assemble the kits. All went according to plan, we started distributing the binocular kits the next week. We appreciate the tremendous support that has grown our library checkout program to 167 telescopes and 116 binoculars. our next order for library telescopes and binoculars are due August 1st
Membership: From Don Ficken: Our member count at the end of June 2019 was 189 members which is the highest count that I have recorded. We have fewer new members added this year at 18 vs 20 last year. The membership gain appears to be driven by improved member retention. Good work!
Newsletter: Please forward articles to newsletter@slasonline.org
Website: Current speaker list is on SLAS website, 2019 speakers updated.
Social Networking: Public Facebook page has over 400 followers. SLAS member only page has 44 members
Night Sky Network: Message groups updated to reflect current board members
Loaner Scopes: Cable to reprogram our Meade Autostar II hand controllers was purchased.
Publicity: Per Rich Heuermann, the Press release for the July meeting will go out by July 9th
Observing Programs: One SLAS member received their NASA lunar award earlier this month
Star Parties: Per SLAS star party coordinator, Bill Breeden - Scheduling events looking GREAT! There are only 2 Pending events on our calendar. Fantastic! Thank you to all of the volunteers for stepping up to lead so many events!
5. Old Business: none
6. New Business: See motion above
7. Closing Activities:**None** Motion to adjourn by Mark J, second by Tom N. Meeting adjourned at 9:06pm

9:19 PM
08/13/19
Accrual Basis

St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through July 2019

	Jan - Jul 19	Budget	$ Over Budget
Ordinary Income/Expense			
Income			
Loaner Telescope Sales	75.00	0.00	75.00
Total Magazine Subscription*	1,029.70	1,006.75	22.95
Membership Dues	2,965.00	2,635.00	330.00
Total Income	4,069.70	3,641.75	427.95
Cost of Goods Sold			
Total Magazine Subscriptions*	1,037.50	1,006.75	30.75
Merchandise		100.00	(100.00)
Total COGS	1,037.50	1,106.75	(69.25)
Gross Profit	3,032.20	2,535.00	497.20
Expense			
1-Programs & Events	625.58	2,002.33	(1,376.75)
2-Newsletter	148.62	295.00	(146.38)
3-Library expense	80.00	352.50	(272.50)
4-Astronomical League Dues		825.00	(825.00)
5-Loaner Scopes	79.94	58.00	21.94
6-Brochures		360.00	(360.00)
7-Insurance	825.00	825.00	
8-Website	179.40	285.00	(105.60)
9-Administrative Expenses	123.59	180.83	(57.24)
Total Expense	2,062.13	5,183.66	(3,121.53)
Net Ordinary Income	970.07	(2,648.66)	3,618.73
Other Income/Expense			
Other Income			
Total Donations	1,136.70	0.00	1,136.70
Interest Income	209.38	58.00	151.38
LTP Receipts	18,088.82	0.00	18,088.82
Proceeds from Lens Sales	300.94	0.00	300.94
YMCA Trout Lodge Scope Proceeds	450.00	0.00	450.00
Total Other Income	20,185.84	58.00	20,127.84
Other Expense			
LTP Disbursements	17,442.08	0.00	17,442.08
LTP Escrow Funding	500.00	500.00	0.00
YMCA Trout Lodge ESCROW Expense	838.50	0.00	838.50
Total Other Expense	18,780.58	500.00	18,280.58
Net Other Income	1,405.26	(442.00)	1,847.26
Net Income	2,375.33	(3,090.66)	5,465.99

* Astronomy Magazine cost of goods vs revenue received difference due to inconsistent pricing of the publisher.

St. Louis Astronomical Society
Balance Sheet
As of July 31, 2019

	Dec 31, 18	Jul 31, 19
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	9,990.59	11,154.46
Deposit, Certificate of	20,239.11	15,792.47
Library Telescope Escrow*	91.35	151.27
PayPal	0.00	1,510.82
Savings - First Bank	46,379.35	51,085.37
YMCA Trout Lodge Escrow	627.87	14.21
Total Checking/Savings	77,328.27	79,708.60
Other Current Assets		
Inventory Asset	821.53	821.53
Undeposited Funds	105.00	100.00
Total Other Current Assets	926.53	921.53
Total Current Assets	78,254.80	80,630.13
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	78,254.80	80,630.13
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	65,418.58	69,757.14
Net Income	4,338.56	2,375.33
Total Equity	78,254.80	80,630.13
TOTAL LIABILITIES & EQUITY	78,254.80	80,630.13

* There is an additional $811 of LTP Escrow Funds in the Paypal account as of the end of July.

We could use articles for the newsletter. The following topics are fine for submission.

1. Star party reports. Let us know how a star party you attended went! Photos would be most welcome in addition to the article.

2. Observing reports. Actually made it out observing? Let us know how it went. Taken some astro photos? Please submit!

3. Bought something or built something? How about a review or an article!

Send to newsletter@slasonline.org

Upcoming Star Parties and Other Events

For details on these and other upcoming events, check out the Night Sky Network Calendar linked on the Home Page for SLAS at
http://www.slasonline.org

SLAS Executive Board Meetings *Location will be at Nicoletti's Restaurant in Valley Park* All meetings are on First Thursdays unless noted.
Aug 1, Sep 5, Oct 3, Nov 7, Dec 5

Dark Sky Observing Dates
Aug 3, Aug 31, Sept 28, Oct 26, Nov 23, Dec 28

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon
7/10, 8/7, 9/4, 10/2, 10/30

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park
July 21, Aug 25, Sept 22, Oct 20, Nov 17, Dec 15

Please RSVP if you plan to come!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month Planetarium shows start at 7pm
Jul 5, Aug 2, Sep 6, Oct 4, Nov 1, Dec 6

Pattonville Observatory Public Viewing Dates
See you in the fall !!

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.

SLAS EVENTS

	July
19 Fri	SLAS Regular Meeting
20 Sat	Apollo 11 50th Anniversary - SLSC
20 Sat	A Tourists Guide to Mars
21 Sun	SLAS Sky Orienteering
24 Wed	A Flag on the Moon - NASA
26 Fri	Brentwood Public Library
30 Tues	A Flag on the Moon
30 Tues	A Tourist Guide to Mars
	August
1 Thurs	SLAS Board Meeting
1 Thurs	A Warp 10 Tour of the Universe
2 Fri	SLSC Public Telescope Viewing
3 Sat	SLAS Dark Sky Observing
5 Mon	Moon & Stars from Your Backyard
5 Mon	Natural Bridge Library
6 Tues	Stargazer at Kitun Park
7 Wed	Francis Park Stargazing
7 Wed	Indian Trails Library
8 Thurs	Florissant Valley Library
9 Fri	Universe of Stories
10 Sat	Space Science Explorer
10 Sat	Perseids Over Babler
11 Sun	Missouri Botanical Garden
13 Tues	Rock Road Library
16 Fri	SLAS Regular Meeeting
17 Sat	Sidewalk Solar Observinjg SLSC
17 Sat	Stargazing at the Arch
24 Sat	Library Telescope Maintenance
25 Sun	SLAS Sky Orienteering
31 Sat	SLAS Dark Sky Observing
	September
4 Wed	Francis Park Stargazing
4 Wed	Daniel Boone Library
5 Thurs	SLAS Board Meeting
6 Fri	SLSC Public Telescope Viewing
7 Sat	Stargazing at the Arch
7 Sat	Stargazing SunCrest Festival
8 Sun	Missouri Botanical Garden
9 Mon	Lewis and Clark Library
11 Wed	Meramec Valley Library

SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at **Headz n Threadz at** **https://hnt.threadthis.com/**

There are two locations:
Galleria: 2495 St. Louis Galleria, St. Louis, MO 63117 Telephone: 314.862.2695
galleria@headznthreadz.com

Simply take the garment, hat, etc you wish to have embroidered and they will take care of it. They have the SLAS logo on file. You may make modifications to the colors if you wish.

SLAS Logo is also available at Infini-tees

SLAS MEMBERSHIP APPLICATION

Name: Last _____

First, Middle Initial _____

Address _____

City, State, Zip Code _____

email address _____

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

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 **$**_____

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

SLAS OFFICERS

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

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

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

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

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

Board Members at Large:

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board20 at slasonline.org

Brent Buch 314-239-0329
board21 at slasonline.org

John Newcomer 314-496-4636
board22 at slasonline.org

ALCOR ***Bill Winningham*** 636-357-2763
(Astronomical League Correspondent)
treasurer at slasonline.org

MSRAL Rep. ***Jim Small*** 314-909-7211
msral_rep at astroleague.org

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

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librarian at slasonline.org

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

Loaner Equipment ***Greg Gaines*** 314-277-3082
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Merchandise ***Vacant***
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Social Media *Vacant*

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dialogsmoderator at yahoo.com

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Telescope Making ***Bill Davis, Jim Melka*** 314-469-3061
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Webmaster ***Jim Small*** 314-909-7211
webmaster at slasonline.org

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

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

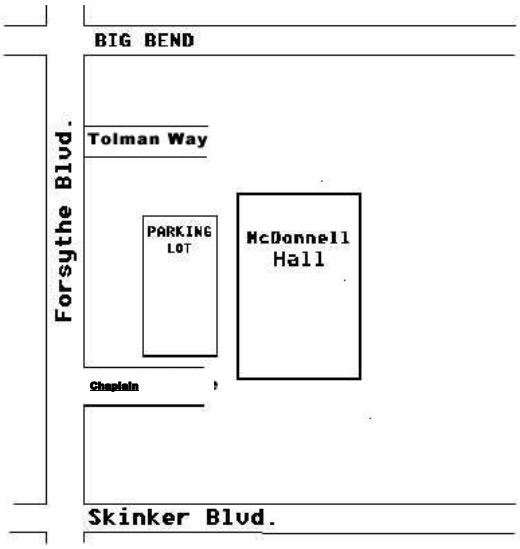
Follow us on
Twitter: @stlastro
Facebook: @stlastro

Who We Are and What We Do

St. Louis Astronomical Society is a not-for-profit organization established in 1936. SLAS is devoted to the interest and advancement of the science of astronomy. Our mission is to promote an understanding of the science of astronomy to our members and to the public. Membership is open to any-one 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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