THE EVENT HORIZON

ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

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A Sky Full of Satellites: Implications for Professional and Amateur Astronomers

by

Harry Krantz
University of Arizona

Harry Krantz of the University of Arizona, will be featured at the March meeting of the Saint Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, March 17 in McDonnell Hall, Room 162, on the Danforth campus of Washington University, Saint Louis, MO 63105. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way. Free yellow zone and garage parking spaces are available. The event will also be available via Zoom online conference.

With the creation of new networks of low Earth-orbit satellites for global communications, astronomers face a severe problem. As many as 100,000 bright satellites will streak through night skies, leaving tracks which can ruin photographic images, both scientific and aesthetic. While many are concerned with how to avoid these new satellites, Mr. Krantz is intentionally observing them to measure their brightnesses and to evaluate current and future plans for reducing their interference. Through an extensive observational survey now totaling more than 15,000 individual sightings, he is measuring the brightness of each satellite and creating all-sky maps that show how bright astronomers can expect satellites to be in whichever region of the sky they look, whenever they look.

Harry Krantz is a graduate student in the Department of Astronomy at the University of Arizona. His research focuses on observing and characterizing satellites and debris in Earth orbit. With a background in engineering and systems development, Mr. Krantz creates new instruments, telescope systems, and methodology to overcome the challenges of observing despite satellite interference. His projects include characterizing rotating bodies with high-speed cameras, rapid object discrimination based on color, and characterizing the brightness of new low Earth orbit satellites.

Upcoming Meetings
April Jonathan Katz Radio Bursts, or other Wash U.
May William McKinnon Missions to Jupiter's Moons Wash U.

March Meeting will be In Person and Zoom

The SLAS meeting for March will be in-person and via Zoom. The Zoom room will be open from 7-10 pm.

To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone: Just click the link: https://zoom.us/j/8604505790 Meeting ID: 860 450 5790

MSRAL 2023 Registration is Live!

Registration for the 2023 MSRAL Convention hosted by the Astronomy Club of Tulsa is now open. Dates for the event are June 9-11. StarBQ Friday night, meetings all day Saturday with Banquet Saturday night, and final meetings Sunday morning. Meeting concludes at Noon Sunday.
Link for all information and registration is **https://www.msral2023.org/**

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President's Corner

by

Jim Small

Well, we are back again to moving the light to a later time via Daylight Savings Time, the astronomers bane. Not only does it force people to wake early, but some are advocating to make it permanent! DON'T DO IT. It was tried in the 70's with lots of problems. NO ONE wants it to still be dark in the winter at 8:30 am. Best to quit changing, but make it permanent STANDARD time, not daylight savings. It will be much preferred. Check into all the health effects if we made DST permenent. Lots of issues. Permanent standard time would be great! We would no longer have to wait so late for star parties in the summer. We could enjoy fireworks an hour earlier in the summer. And it doesn't interfere with activities, just ask people in Arizona. No problem with golf, anytime of the year. So, in my personal opinion, we should stick with permanent standard time. Give us our hour back in the fall and just leave it there!

MSRAL 2023 Registration is now LIVE. Dates are June 9-11 in Tulsa, Oklahoma. Website is www.MSRAL2023.org Hope to see you there! Looking forward to hanging with other people in the region once again. You can let us know you're coming by RSVP on Night Sky Network. Check the emails sent out.

For those that have never attended a conference, it's a great way to meet other amateurs and learn from them. The way the weekend is set up makes it convenient to drive the 5-6 hours or so to Tulsa. Everything starts Friday evening, then meetings all day Saturday, banquet on Saturday night, then final meetings until about noon on Sunday… Two nights in a motel total and an easy drive home Sunday afternoon. Lots of interaction with members of other clubs, usually plenty of good speakers. Hope you give it a shot!

This month's meeting falls on St. Patrick's Day! I'll have to see if we can get something green going on for the occasion Friday night. The meeting will be in person AND on Zoom. It IS attendance prizes this month, so be sure and come to the meeting for a chance at some goodies to take home! Looking forward to that.

On the observatory front, we are having trouble with the RA motor again and the techs at Meade suggested the issue might be with the encoders for the motor, so they are sending us new encoders which we will install. Hope it works! It will be a relatively inexpensive solution if it does. AND we can install it ourselves and won't have to send the telescope back to Meade.

Looking forward to the meeting Friday night. It will be great to see all of you there!

jrs

SLAS Memberships Expiring in March

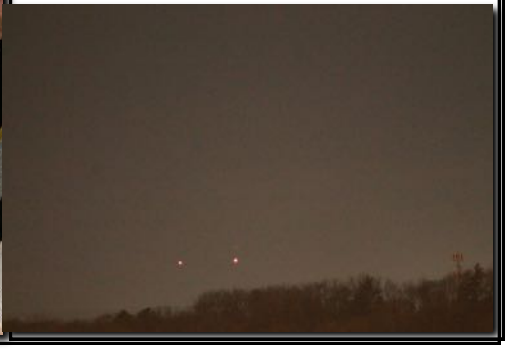
Benjamin	Winningham
William	Winningham
Robert	Goddard
Mary	Barteau
Steve	Weaver
Jeff	Kisslinger
Nick	Bodi
Chris	Althen
Joseph	Abs
Ashvik	Chilakala
Arianna	Riggs
Jamie	Johnson

SLAS Memberships Expiring in April

Alfred	Schovanez
John W.	King
Lynn	Fee
Major Michael	Thompson
Carl	McCullough
Brad	Crow
Kenneth	Hirsch
James	Malke
Kumar	Challa
Deborah	Lemar
Ken	Hargrove
Allex	Goh
Eric	West

Left: A couple of photos of the latest telescope build that took place on March 11 at the Oak Bend Library. More than a dozen scopes were modified to be used in the Library Telescope program with various libraries. If you like working with equipment, there is plenty of work available to keep up with the program and we are always looking for more people to get involved. Training is available for those who wish to get involved. Everything from eyepiece or red dot finder preparation to general telescope repair, cleaning and collimation. Check with Don Ficken if interested.

Below: Mark Jones managed to capture Jupiter and Venus as they pass each other in the night sky in early March. Venus is the brighter object.



Meteorite or Meteor Wrong? | *by* Bill Biermann

The science fair at Incarnate Word grade school was a bustling affair. Anyone who has conducted a grade school science fair knows how active, excited (and noisy) these affairs can be. And if you are clouded out, you really have to be creative to hold everyone's attention.

Above: Stephen Kelly (left) and Dennis Latinette (Right) show off the library scope and binos

(Above) Buz McCollough (left) and Bill Biermann (right) engage a group of future scientists about Meteorite Identification

Above: Annalise Biermann shows her heat/air pressure experiment

Fortunately, we had 5 volunteers, with 5 different activities, and were successful in keeping the participants engaged. Dennis Latinette brought some binoculars, and kids enjoy looking at their friends across the room. Stephen Kelly staffed the library scope. Dennis and Stephen had taped some galaxies and the moon on the wall across the hall, and the participants had to track them down and view them. Buz McCollough printed out quite a few handouts about the night sky, and was able to engage some of the more mature participants about the night sky. Annalise Biermann brought an experiment from her science bag of tricks, which demonstrated heat transfer into a tube (ie body heat from your hand), which resulted in unequal air pressure pushing liquid up a tube, against the force of gravity!! Finally, Bill Biermann used one of the night sky kits called "Rocks from Space" to identify true meteorites from "meteorwrongs." (I may do a separate write up on these Night sky kits in the future). Over 185 participants enjoyed the activities, and we had just as much fun as the participants.

SLAS Special Awards Nominations for 2023 are Open

The annual SLAS Special Awards nominations are open for 2023. There are five awards to be presented as follows
The Albert M. Obrecht, Founders Award
The Lois D. Fitter Outreach Award
The Richard D. Schwartz Supportive Faculty Award
The Robert E. Cox Popular Astronomy Award
The Alfred L. Woods Mentoring Award

The Obrecht, Fitter and Woods awards must be SLAS members, the Schwartz and Cox awards are not restricted to SLAS. For the full form to nominate, including definitions of awards, see this link: **https://www.slasonline.org/files/award/SLASAwardNominationForm.doc** The deadline for nominations is Sep 1st The completed form should be attached to an email and sent to awards@slasonline.org with the subject line Award Nomination Form Submission. Committee members are Chairman – Larry Campbell, Sharon Bertram, Bill Biermann, Richard Heuermann, Mark Jones, Joe Marcus, Grant Martin, Fred Schovanez, Jim Small, and Bill Neubert

Star Party at Laumeier Sculpture Park
March 4, 2023
by Bill Breeden

SUNSET HILLS, MO. I was thrilled when I received a request from Laumeier Sculpture Park for the St. Louis Astronomical Society (SLAS) to conduct a star party. Laumeier is one of the nicest parks in the St. Louis area, and my wife and I walk there regularly. I had always regarded the field near the large red sculpture *The Way* as a possible and wonderful place to stargaze, except that this park is closed at night. So, I jumped on the chance to lead a star party there! What a great way to kick off my own 2023 stargazing season!

Sarah Harford, Studio Practice Coordinator for Laumeier, reached out to SLAS and asked for a star party in October,

Setting up for an evening of astronomy at Laumeier Sculpture Park. The sculpture titled The Way *by Alexander Liberman appears at far right. Photo by Bill Breeden.*

the night before the upcoming annular solar eclipse. I suggested that she select another date, and she chose March 4. Wow, that is right around the corner! The Moon would be up, along with Venus, Mars, Jupiter, and Orion, so there would certainly be plenty of exciting objects to observe. I accepted the date, and volunteered to lead this one. This would fulfill my long-held desire to stargaze from this terrific park.

All set up and ready to go! Cook Feldman's 8" Dobsonian telescope (left), and my 8" SCT (right).

Cook Feldman and his wife Carol joined my wife Rita and me at the park at 5:30PM, and we got to work setting up our 8 inch telescopes on the field near *The Way* sculpture. It is atop a gentle hill, and presents a mostly wide open sky for access to most celestial objects. The weather cooperated fully for early March, with temperatures at sunset about 55°F and not a cloud in the sky! I only wish the weather was this good for Messier Marathons!

We had several visitors that were still in the park before the official event began, so we shared views of the 12 day old waxing gibbous Moon. Sarah and additional staff of Laumeier kept us company, enjoying views of the Moon during twilight. The view was marvelous in my 8"SCT with a 32mm Meade Plössl eyepiece. The entire Moon was visible, filling 80% of the field of view. Many visitors expressed their excitement with a loud "Wow!" Cook mesmerized visitors with views of the Moon through his 8" Dobsonian reflector.

Visitors milling about and enjoying the night sky. Photo by Bill Breeden.

Venus and Jupiter dominated the western sky, stacked vertically with Venus about 3° above Jupiter. They were truly a stunning sight by naked eye in the deep blue, crystal clear sky. Cook swung his Dobsonian over to Jupiter, and I could hear the excitement of observers taking in that view! I slewed to Venus, which is currently in gibbous phase. The remaining day-use visitors in the park enjoyed views of both planets. Three of Jupiter's moons were visible tonight: Callisto (above Jupiter), Ganymede and Europa (both below Jupiter).

Once darkness fell, day-use visitors had left the park, and event attendees began filing in. What an enthusiastic crowd! Mostly parent and kids of all ages; the kids were all very interested in what they were viewing. I actually found the kids' questions fascinating and challenging. A visiting dad had me laughing when he said he was here "for his son," although he was obviously just as excited as his kid. I told him it is okay to be excited about astronomy at any age, LOL. A group of three teenage girls rotated though viewing Mars, the Great Orion Nebula (M42), the Pleiades

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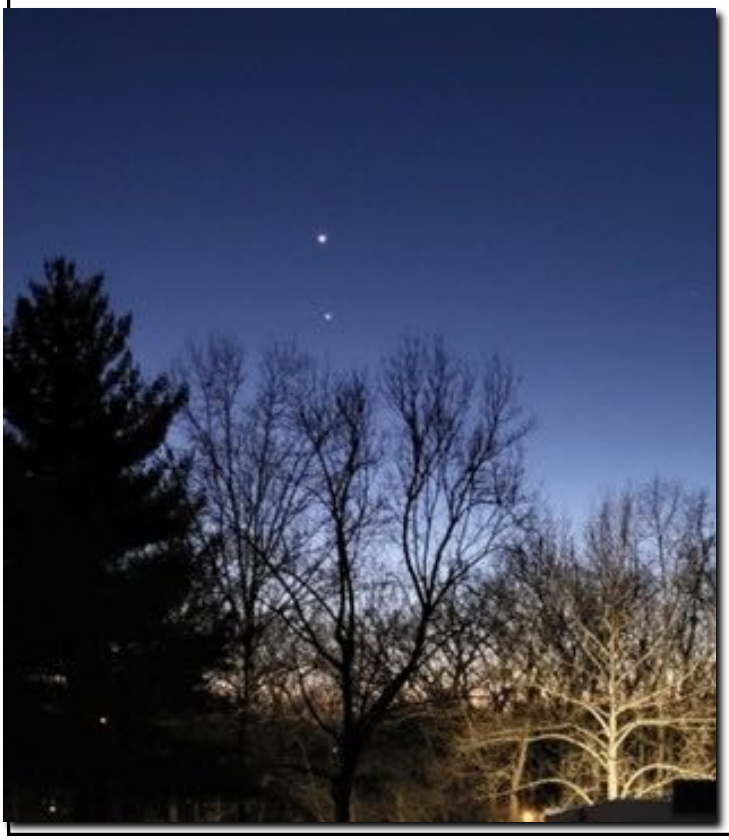
(M45), and Rigel at my telescope. They had many interesting questions about space and astronomy in general. They even seemed genuinely interested in my dry descriptions of distances of different types of deep-sky objects. Their enthusiasm was appreciated!
Another family brought their son, who I estimate at about

A guest observing The Great Orion Nebula (M42) through Cook's Dobsonian telescope.

14 years of age. He observed M42 though my telescope, and said that it looked just like the photographs that he had seen. I was flattered, but a bit confused. Most people compare our views to color astro-photos, and wind up a bit disappointed. It turns out that this young man is currently studying the Messier objects, and is familiar with their appearance in an amateur telescope. He then pointed toward the northwestern sky, quite low in altitude. "The Andromeda Galaxy should be about *there* right now. That is Messier 31." I selected M31 on my telescope keypad, and *whirrrr*—it slewed to precisely where he had pointed. A very large, dim smudge appeared in the eyepiece. He proceeded to give *me* details about the galaxy, and was *amazed* with this faint view. We discussed many Messier objects at length –what a treat!
Mars was an unexpected winner tonight! Despite its small apparent size on the sky (5 arcminutes and shrinking), not one person who observed it was disappointed. I downplayed it in order to manage expectations, and this turned out to be unnecessary. Mars appeared reddish orange through my 9mm Orion Expanse 66° eyepiece, and this turned out to be a great choice. Parents and kids were mesmerized at viewing the Red Planet *in person*. Although Jupiter and Saturn typically hog the spotlight, Mars has an undeniable hold on people. Science fiction and talk of terra-forming and colonization all work to keep up Mars' reputation in the mind of the public. Everyone was fascinated by it, and a few even noticed a bright area near the edge – a Polar Cap!
This was an outstanding evening of astronomy! Thank you to Sarah Harford and Laumeier Park for inviting SLAS to present astronomy here. It was an unforgettable evening. A few photos follow.
----Bill Breeden



Venus and Jupiter dazzled visitors in the western sky. Brighter Venus shines above Jupiter, demonstrating the vertical direction of the ecliptic on the sky tonight. Photos by Carol Feldman

St. Louis Astronomical Society
Devoted to the Interest and Advancement of the Science of Astronomy
Executive Board Meeting Minutes 2/2/2023

1. Opening Activities a. Attendance: Jim Small, Mark Jones, Bradley Waller, Bill Winningham, Brent Buch, Larry Campbell, Will Snyder b. Open Meeting: Meeting opened at 7:06pm c. Approval of last month's meeting minutes. Motion by Jim second by Larry. Minutes approved d. Next Board meeting date: Feb 2, Mar 2, Apr 6, May 4, June 1, July 6, Aug 3, Sep 7, Oct 5, Nov 2, Dec 7 Meetings will be via Zoom until further notice: See good news about telescope viewing at the Planetarium see below. We will be adding these dates to our SLAS calendar page soon. SLSC has enough staff to cover these events however, SLAS members are invited to volunteer and bring their telescopes. SLSC Will Synder SLSC Update Events for Solar Sundays and First Fridays have been established. Planetarium entrance still closed for general admission but everyone will be able to go in//out for telescope viewing. For First Friday on Feb. 3 we will set up in circle entrance, people can come out through doors. Start time 6-9pm. Volunteers can park in planetarium parking lot or circle. Telescope viewing will be promoted with Indoor signage and at planetarium shows. This should be the routine for next several months until ecliptic drops lower and we need to move further from the building. SLAS can set up table inside like Space Frontier and the Moon Society. Solar Sunday events are 11am-3pm. In June SLSC will have full-size model of the Perseverance rover and Ingenuity Helicopter! These will be on display through 2023. JPL will be sending engineers for public talks and we will work on a possible joint SLAS meeting at SLSC. Action: Mark to send spreadsheet calendar to Will and Board. Action: Mark to send link to RF HDMI trans/rcvr to Will Action: Will to send SLAS dates and times for each event so we can add to NSN calendar and ask for volunteers_Action: Brad to ship mug to Stephen Hummel, still in work. UPS was expensive. Brad will send USPS Action: Brad to submit invoices for Stephen Hummel postage. Bopp 1952; Melka, 1954, Davis 1956 Action Jim to purchase plaques or 3 anniversary plaques for members with more than 50 years for presenting at January meeting.

2. Upcoming General Membership meeting topics:
a. **Speaker**: Haojing Yan, PhD b. Special Awards needed: 3 anniversary plaques for members with more than 50 years for presenting at February meeting. 30 NSN pins and certificates c. Speaker Press Release: Needs to be released Action: Rich will issue press release for February as a hybrid meeting. d. Special Business – no e. A101 – John Strebeck "Astronomy in the Badlands"
Standing Action: Jim to display list of expiring memberships at start of Monthly General Meeting f. Hospitality: Plan of coffee, cookies, snacks Action: Larry will not be at March SLAS Meeting, need someone to step in as Host

3. SLAS Financial Report (as of Dec 31) a. Balance Sheet: Total Investments $76.9K; Assets: $91K b. Profit/Loss report: Ordinary Income $11,171; Expenses $10.231; Net Income: $6340; 2022 Over Budget Income: $12,279 c. Annual Budget meetings: None planned until September d. Corporate filings: not due until MayAction: Bill will adjust depreciation of scope and dome based on replacement cost

4. Speaker Committee a. Budget – 2023 Budget $400 b. Upcoming speakers:

SLAS Monthly Meeting Presentations 2022-2023

Month	Name	Topic	Sponsor
Jan-20-2023	Rich Heuermann	Far Encounters – Robot Spacecraft Visits to Planets, Moons, Asteroids and Comets	
Feb-17-2023	Haojing Yan	Pushing the Redshift Frontier with JWST	UM-Columbia
Mar-17-2023			
April-21-2023	Jonathan Katz	Arrokoth's Necklace, Boyajian's Star	Washington U.
May-19-2023	William McKinnon	Missions to Jupiter's Moons	Washington U.

Jun-16-2023 21-Jul-2023 18-Aug-2023 15-Sep-2023 20-Oct-2023 17-Nov-2023 15-Dec-2023 d. Topics of interest: FAST speaker Brad will contact SLAS member is a retired JPL scientist about giving a talk Action – John Strebeck looking into Univ of Arizona speakers e. Stipends f. Travel

5. Membership Initiatives a. Budget – 2023 Budget $600 b. Welcome Aboard Meetings – Most information is being sent to new members c. Raffles – None planned d. Attendance prizes – Send suggestions for Brad. Next prizes in March Action: Randy to send list of possible prizes to Brad. Brad will meet up with Randy at first Friday

6. Membership Recognition a. Total Budget 2023 Budget $500 b. NSN Outreach Awards: February Meeting. Cost of pins was $60. c. Membership Report: January 2023 membership report showing 240 members for SLAS. Membership declined by 10 members this month but is 12 members over last January. Notable is the continued decline in family memberships which peaked in 2021 at 90 members but now stand at only 74 members. Standing Action: Bill to provide list of expiring memberships to SLAS Board and Jim for newsletter d. Member anniversary – Awards presented at November meeting and +50year plaques to be presented at February meeting e. New Award program- 1. Special Award Committee report: Chairman – Larry Campbell, Jim Small, Mark Jones, Sharon Bertram, Fred Schovanez, Bill Neubert. 2. Special Award deadlines: Current Nomination deadline is May 1st Action: Larry to setup recognition committee meeting to discuss Special award process that has been documented and approved for possible changes. Larry will set up meeting for Monday 13 Board recommends inviting Rich Heuermann, Grant Martin, Joe Marcus, Bill Breeden, Bill Biermann 3. Nomination reviews: 4. Award selection:
5. Awards presented at December meeting

7. Outreach - a. Budget – 2023 Budget $500 b. Member Training Program Status: All documents on SLADIAlogs c. Purchase of T-shirts for volunteers completed training d. Purchase of lawn signs: e. Upcoming outreach events: f. Awards/recognitions – At February meeting g. NSN Outreach hours YTD: 207 events and logged 1288.9 hours for NSN events (83 in-person event; 23 virtual events, 3 Library Telescope Maintenance events; and 98 Badlands events.

8. Old Business: From October 2022 Board meeting. Order has been placed and Bill sent logo. $3056 invoice will be sent. They will send us proof to sign-off on before they print. Action: Bill to purchase eclipse glasses. Bill will send check comes from 2023 (outside budget)

9. New Business: Action: Jim Small to contact Wash U about parking remedies.

10. Other Committee Reports: If needed

A. SLSC Business: a. First Friday actions – Dates established b. Other immediate business

B. SLCL Business a. Annual contract – b. Upcoming events -

C. Jefferson College Business: a. Committee Meeting report: 2023 Capital budget request for $28,500 was approved. b. Upcoming Outreach Event: Feb 5th Action: Jim to purchase new Handbox for 10" LX200 from Meade, still on backorder From September 2022 Board Meeting - Telescope at observatory still having RA motor issues. Have done several fixes. Working ok atm. Consensus decision is if repair work is needed, to have the system upgraded to Explore Scientific's PMC-Eight system. It would be a complete replacement of the electronics and motors/encoders for the scope. – Cost about $3000, approx 3 months down time. We would drive the scope to the company. We would need board approval for the operation and member approval for the funds. To avoid unneeded down time in case it comes to that, I move that the board approve the installation of the PMC-Eight system and that it be brought before the membership as well to be pre-approved. Both of these votes are *IN CASE* we need to do the upgrade, sort of a pre-approval in case we need to pull the trigger on the operation, we can act without the delay of notification and voting by the membership. That will create the least down time for the observatory. *Motion: The SLAS board approves the upgrade of the Meade 16" LX200 telescope for the observatory to the Explore Scientific PMC-Eight system electronics at a cost of $3000 plus transportation costs if needed. The motion will be brought before the membership for pre-approval.* September Board Meeting – Motion "On Hold" Jim has solicited firm quote spe-

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St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through February 2023

	Jan - Feb 23	Budget	$ Over Bud...
Ordinary Income/Expense			
Income			
Events Income	100.00	125.00	(25.00)
Magazine Subscription	725.45	867.40	(141.95)
Membership Dues	870.00	980.00	(110.00)
Total Income	1,695.45	1,972.40	(276.95)
Cost of Goods Sold			
Magazine Subscriptions	741.25	840.40	(99.15)
Total COGS	741.25	840.40	(99.15)
Gross Profit	954.20	1,132.00	(177.80)
Expense			
1-Programs & Events	535.00	520.00	15.00
2-Newsletter		125.00	(125.00)
5-Loaner Scopes	680.95		680.95
8-Website	325.28	250.00	75.28
9-Administrative Expen...	592.14	633.80	(41.66)
Total Expense	2,133.37	1,528.80	604.57
Net Ordinary Income	(1,179.17)	(396.80)	(782.37)
Other Income/Expense			
Other Income			
Interest Income	5.20	5.00	0.20
Total Other Income	5.20	5.00	0.20
Net Other Income	5.20	5.00	0.20
Net Income	(1,173.97)	(391.80)	(782.17)

St. Louis Astronomical Society
Balance Sheet
As of February 28, 2023

	Dec 31, 22	Feb 28, 23
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	16,660.91	12,740.37
Deposit, Certificate of	15,976.91	15,981.75
Library Telescope Escrow	2,459.77	2,469.69
PayPal	494.39	534.88
Savings - First Bank	41,153.95	41,154.31
SLAS Eclipse Conference Escr...	0.00	3,394.76
Total Checking/Savings	76,745.93	76,275.76
Other Current Assets		
Inventory Asset	675.61	675.61
Undeposited Funds	375.00	225.00
Total Other Current Assets	1,050.61	900.61
Total Current Assets	77,796.54	77,176.37
Fixed Assets	12,460.24	11,906.44
TOTAL ASSETS	90,256.78	89,082.81
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	75,243.71	81,759.12
Net Income	6,515.41	(1,173.97)
Total Equity	90,256.78	89,082.81
TOTAL LIABILITIES & EQUITY	90,256.78	89,082.81

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cific to our 16" telescope to know exactly what the upgrade **will** include. Board has decided to delay sending motion to general membership until firm quote can be received and reviewed Action. Jim to contact Explore Scientific and get firm quote for upgrade, it has been requested but not received Jim has fan cord on ordered for 16".

D. Library Telescope Committee a. Budget – 2023 Budget none requested, expenses will be covered by escrow balance of $2460 b. Upcoming builds or maintenance events Feb 11 c. Maintenance budget – none requested d. Mileage re-imbursement – see above e. Promotional materials - none requested

E. SLAS Social Eventsa. Budget – 2023 Budget $365, b. Homemade Fest - 2023 budget $125, projected date is Saturday February 18t Doors open at 4pm We will begin eating at 6pm.Formal Opening and presentations begin at 6:30pm. Larry - will provide the soda, ice, coffee and paper goods. Jim – will provide attendance prizes will be drawn throughout the evening c. Star-B-Q – 2023 budget, $240 Other

F. SLAS Brochuresa. Budget 2023 $600 b. Quarter cards – Possibly print new cards with JCO, Arch, Tower Grove events

G. Loaner scope Program a. Budget – 2023 Budget $ 100 b. New donations: None this monthc. Replacement Parts for the LPTs d. Items for sale several: Action: Mark has put together listing of telescopes for sale. Ready to broadcast info

H. SLAS Library a. Budget – 2023 Budget $500 b. Other – Action: Jim to give Mark all the 2022 books so he can add to inventory list

I. Merchandise New coffee mug design (JCO logo, SLAS Logo) - www.startorialist.com We used Discountmugs.com in 2018 Action: Mark to finish artwork for send to mug company

J. Telescope Making

K. Newsletter a. Budget 2023 $,

L. Website - a. Budget 2023 $,

M. Social Networking

N. Night Sky Network

O. SLASdialogs

P. Dark Site

Q. Observing Programs

R. Star Parties Donation: None for this month

11. Closing Activities Motion to adjourn the meeting by Larry second by Brent meeting adjourned at 9:45pm.

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 All meetings are on First Thursdays unless noted. ***Note: Board meetings will be via Zoom until further notice.*** Dates for 2023: 4/6, 5/4, 6/1, 7/6, 8/3, 9/7, 10/5, 11/2, 12/7

SLAS Dark Sky Observing Dates

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon
4/26, 5/24, 6/21, 7/26, 8/23, 9/20, 1018

Aim for the Stars Public events held on 1st Sundays at the Jefferson College Observatory and Patio.
4/2, 5/7, 6/4, 7/2, 8/6, 9/3, 10/1, 11/5, 12/2

Stargazing at the Arch Events for the public held at the Gateway Arch
See you next year!

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park (BSP) or at the Jefferson College Observatory (JCO) 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

Pattonville Observatory Public Viewing Dates 2022-2023: 3/31, 4/14, 4/28, 5/5, 5/12

Broemmelsiek Astronomy Park Public Viewing
Every Friday

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

March

17 Thur	SLAS Regular Meeting
18 Sat	NCBW-STEAM
18 Sat	SLAS Dark Sky at Danville
18 Sat	SLAS Dark Sky at Jefferson College
22 Wed	Bluebird Park
23 Thur	Zoom-SLAS new member
25 Sat	Mastodon Fair
28 Tue	Festus Public Library
30 Thur	LaSalle Springs Middle School
30 Thur	Samuel C. Sachs Library
31 Fri	Jefferson County Library
31 Fri	Cub Scout Campout

April

2 Sun	Aim for the Stars
6 Thur	SLAS Board Meeting
7 Fri	First Friday SLSC
11 Tue	Star Party for Bethal 44
15 Sat	SLAS Dark Sky at Danville
15 Sat	SLAS Dark Sky at Jefferson College
21 Fri	SLAS Regular Meeting
24 Mon	SLSC Solar Public Telescope
24 Mon	STEMSTL Star Party
25 Tues	Manchester Park
26 Wed	Francis Park
27 Thur	Carpenter Library Star Party
27 Thur	Zoom: SLAS New Member
29 Sat	Tower Grove Stargazing
29 Sat	Stacy Park Stargazing

May

4 Thur	SLAS Board Meeting
5 Fri	First Friday Telescope View SLSC
7 Sun	Aim For the Stars Jefferson College
19 Fri	SLAS Regular Meeting

For other events, watch the calendar on the website. Virtual stargazing events and other online activities will be registered there. We hope you can join us for some of these activities!

SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at **Headz n Threadz at www.headznthreadz.com**

There is now only one location:
1065 Regency Parkway, St. Charles MO 63303
Telephone: 314.528-8100
sales@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 www.Infini-tees.com

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 @ $43.95 / 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
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secretary at slasonline.org

Treasurer ***Bill Winningham, (Don Ficken - membership)***
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Hospitality ***Larry Campbell*** 636-244-2867
hospitality at slasonline.org

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board23 at slasonline.org

Brent Buch 314-239-0329
board24 at slasonline.org

Randy Harrison 618-267-1659
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ALCOR ***Bill Winningham*** 636-357-2763
(Astronomical League Correspondent)
treasurer at slasonline.org

MSRAL Rep. ***Peggy Walker*** 918-640-0832
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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

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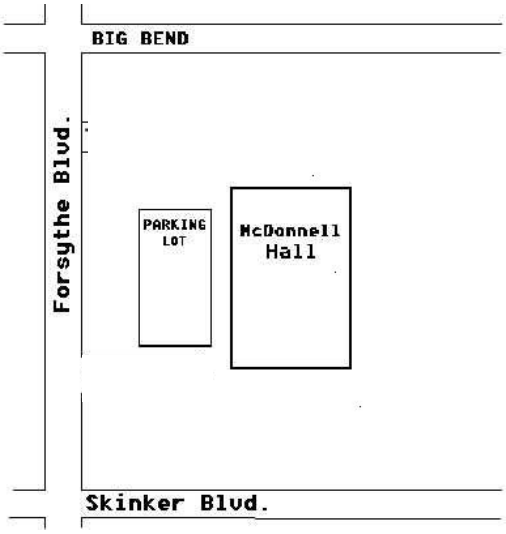
Who We Are and What We Do

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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