THE EVENT HORIZON

ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

VOLUME 33, Issue 5
May, 2023

At the Pad: New Missions to Jupiter's Moons
by
Dr. William B. McKinnon
Washington University

Dr. William B. McKinnon of Washington University will be featured at the May meeting of the Saint Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, May 19 in McDonnell Hall, Room 162,

Discovered just over 400 years ago by Galileo, the moons of Jupiter have intrigued astronomers and planetary scientists ever since. Now, we on are on the threshold of an unprecedented era of detailed exploration of three of these amazing worlds: Europa, Ganymede, and Callisto. Drawing on the historic discoveries of previous NASA missions, two new spacecraft are either heading to or have left the launch pad, en route to Jupiter. If all goes well, the European Space Agency's Jupiter Icy Moons Explorer (lovingly known as JUICE) will make multiple flybys of Europa and Callisto, before settling into orbit around the Solar System's largest moon: Ganymede. And NASA's Europa Clipper will make dozens of close passes above the surface of Europa, seeking to unlock the secrets of its habitability (this is, after all, a moon with an ocean). This talk will focus on what we know, what we don't, and how we intend to find out!

Dr. McKinnon is a Professor of Earth and Planetary Sciences and a member of the McDonnell Center for the Space Sciences at Washington University. His research focuses on the structure, origin, evolution, tectonics and bombardment histories of outer planet satellites and bodies in the Kuiper belt beyond. He is a science team member on NASA's New Horizons mission to Pluto and the Kuiper belt, but more relevant to this talk, he is also a science team member for the ESA's Jupiter Icy Moons Explorer (just launched) and NASA's Europa Clipper (set to takeoff in 18 months)

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May Meeting will be In Person and Zoom
Elections in May

The SLAS meeting for April will be in-person and via Zoom. The Zoom room will be open from 7-10 pm. Meeting starts at 7:30 pm. We will be accepting nominations after the meeting for elections in May. Thus far, nominations include: Jim Small, President, Bradley Waller, Vice President, Mark Jones, Secretary, Bill Winningham, Treasurer, Larry Campbell, Hospitality and Dennis Latinette, Board Member at Large

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 Deadline is MAY 24

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/**

President's Corner
by Jim Small

Reminders for this month:
- Meeting Friday night Bill McKinnon IN PERSON!
- Nominations for board still open
- Elections at the May meeting
- **MSRAL registration is live Deadline is May 24.**
- MSRAL conference upcoming in June
- AAS conference upcoming in June!

I decided not to get up for the occultation of Jupiter by the Moon. Way hard to view unless you are set up and tracking. Fortunately, Mark Jones did it for us! I tried to get a friend in Phoenix to go out and watch it, but that wasn't going to happen. It was still dark out there unlike here.

There is a good chance that the June meeting will be held a week later at the Planetarium. They have some JPL engineers coming with a model of a Mars Rover and we should be able to have a meeting there with them as the speaker! Can't wait for that one.

See you at MSRAL, looking forward to meeting with everyone while there. Just be sure to register by May 24. Also, please RSVP on Night Sky Network if you are planning to attend.
I might also see you at the AAS meeting. Remember, you may join the AAS as an amateur and attend at a cheaper rate. It's always a great conference.

Be sure to RSVP for some star parties so we have plenty of personnel for those events. Just check the calendar in the back and log into NSN to let us know you're coming!

Looking forward to seeing you on the observing field!

See you at the meeting! Come join us in person!

Jim Small

AAS Conference June 4-8 Just Before MSRAL

If you like a good, informative meeting with information on the cutting edge, then consider the American Astronomical Society (AAS) meeting this June 4-8. The in-person meeting will be held in Albuquerque, NM, but you can attend any and all the meetings (except for some workshops most likely) virtually, saving a TON of money. I sent out a notice earlier today since 5/28 is the late registration deadline.

Since we are amateur astronomers, we can join the AAS at the nice rate of $53 rather than the $199 for full members. The virtual conference only costs us $153 instead of the over $500 price for full members as well. Well worth it considering what you get in return. For an idea, check out the schedule and list of plenary speakers at the links below. Remember, this is the conference where professionals go to exchange information so you can get a great jump on the latest in the field.

By the way, one of the benefits of membership is being able to view archived presentations from past meetings!

Perhaps I'll see you in one of the virtual rooms!

Here are the links:

As amateurs, you may join the AAS for $53 a year here: https://aas.org/join/classes-membership-and-affiliation

For the meeting, if you register today (last day for early registration... sorry for late notice... had distractions.... but it isn't much more after today) you can attend the virtual conference for $153 ($171 after today) https://aas.org/meetings/aas242/registration

Here is the schedule and plenary speaker info https://aas.org/meetings/aas242

Sincerely, Jim Small

SLAS Memberships Expiring in May

Jeremy	Bast
John	Bush|
Leontine	Davidson
Charles & Atsuko	Jeffreys
Jill	Jones
Robert	Klein
Eric	Kovach
Don	Mason
Raymond E.	Mueller
Ben	Murray
Jay	Paige
kathy	Rosario
James R.	Small
Randall	Sommers
Allan	Stewart
Yang	Weimin

SLAS Memberships Expiring in June

Marian	Bleeke
Ethel	Foster
Marvin I.	Fridley
Nicholas	Gebben
Scott	George
Thomas	Grieb
Mark S.	Jones
Charles	Laughton
Richard K.	Myhra
Keith	Pendleton
Jesus c	Ponce De Leon
Shanna	Ramirez
Gregory	Rigelman & Family
Rodney R.	Rynearson

RASC GA Big Success

Perhaps the best deal for conferences was last weekends RASC GA. That is the Royal Astronomical Society of Canada's General Assembly. The cost was only $40 and there were a multitude of speakers for the three day conference. Last year, we god 4 speakers from this conference and this year there is a good chance that it will happen again! One of the nice advantages was the fact that despite that there were multiple talks happening at the same time, you can access them after the fact because they were recorded. I'm looking forward to going through a couple of these talks and seeing if we can book some of those speakers like we did last year!

I'll keep you posted with the progress! Jim Small

Stacy Park STEM STL Event
by
Dennis Latinette

April 24, 2023 was a STEMSTL event held at Stacy Park. STEM-STL.org. STEMSTL is a collaborative consortium committed to equitable access to high-quality STEM learning and employment opportunities for all learners in the St. Louis Metro region.

It started cloudy but surprisingly cleared. We had 30 people which is a decent turnout. I think it was lighter because of clouds and the fact that it was a school night! 5 astronomers showed up. Larry Campbell brought the big 12 inch Dob. It's huge! I did a starry night presentation on my laptop they liked that also. Thank you to Larry Campbell, Ken Levy, Jim Malke, Randy Harrison, and Megan Dickson

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

Calling All Past Amateur of the Year Recipients! *by* Jim Small

If you are a past recipient of the Amateur of the Year (AOY) award from MSRAL, AND you are planning on attending this year's MSRAL convention to be held in Tulsa, this article is for you!

As you most likely know, past AOY winners make up the committee to decide on this year's award at the convention. That decision is made over lunch on Saturday at the convention. The circumstances of this years meeting make it necessary for us to order lunch separately from the rest of the group so we don't have to wait in line for lunch and can proceed directly to the meeting. To that end, Peggy Walker is coordinating lunch for us. If you are planning to go to the meeting, please email Peggy at the address below to make sure you get the menu for lunch sent to you and can arrange for payment for your order. It would also help if you notified me about attending so I can keep you in the loop of any developments.

So if you are a past AOY recipient and plan on attending MSRAL, send an email as such to:

Peggy Walker
AOY past recipient lunch list
email: BASidewalkAstro@yahoo.com

For everyone else who are planning on attending MSRAL, please RSVP on Night Sky Network! I will send out a message from the network this week.
Sure hope to see you all at the conference!
Sincerely, Jim Small president@slasonline.org

MSRAL BYLAWS to be Voted on at MSRAL Business Meeting at Conference June 10, 2023

In meetings the last several months, a committee from the Mid-States Region worked hard to revise and update the MSRAL bylaws. The result of those meetings is the final draft of the bylaws to be voted upon at the MSRAL conference in June at the regular business meeting. The revised bylaws and the notes from the meetings that took place to make the revisions is posted on the SLAS website with a link on the home page.

The first two pages of the document are the notes from the meetings followed by the final draft of the revised bylaws There will not be time for further revision at the meeting and it will be presented for a vote.

Here is the link for the document from the home page of SLAS: **https://www.slasonline.org/images/MSRAL/MSRAL_BYLAWS_final.pdf**

If you have questions about the process or its result, don't hesitate to ask myself or Cook Feldman about it.
Sincerely, Jim Small president@slasonline.org

5-17-2023 occultation of Jupiter by the Moon *by* Mark Jones

5-17-2023 occultation of Jupiter by the Moon after sunrise. The Skies were surprisingly clear this morning. I was able to see the Moon and Jupiter with binoculars about 5:30am. I set up a telescope and by 5:45am I was tracking Jupiter.

As the Moon approached Jupiter, the sun was rising and the sky was brightening quickly. Image contrast degraded significantly but I was able to see Jupiter blocked by the Moon. By the time Jupiter disappeared behind the Moon, 6:29am, the Sun was 6 degrees above the horizon.

(Continued on page 5)

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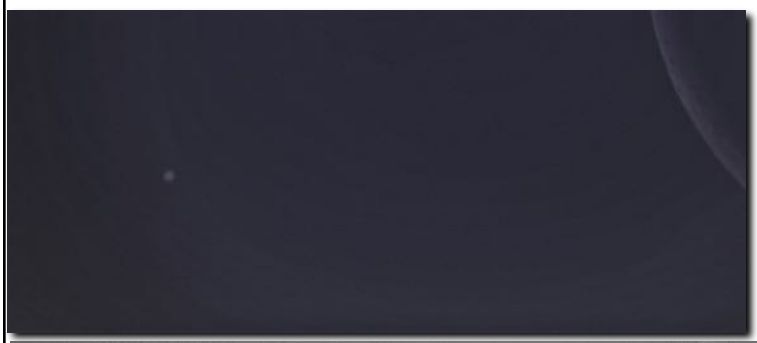

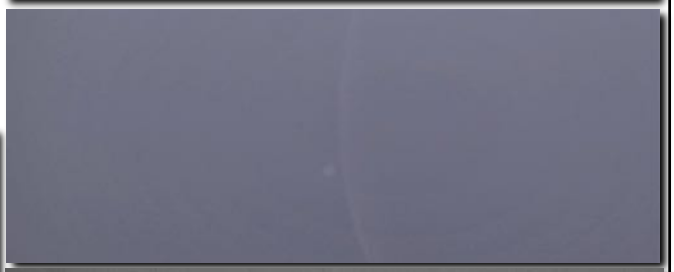

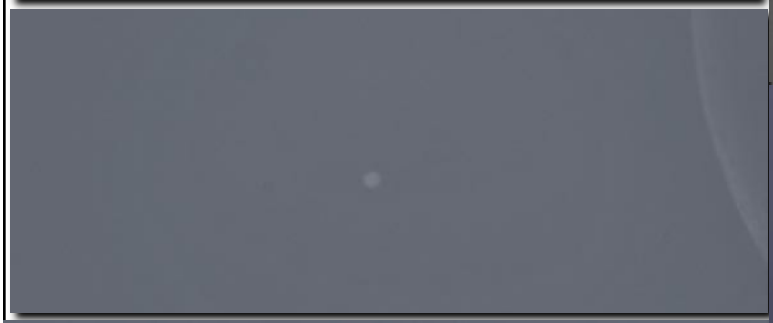

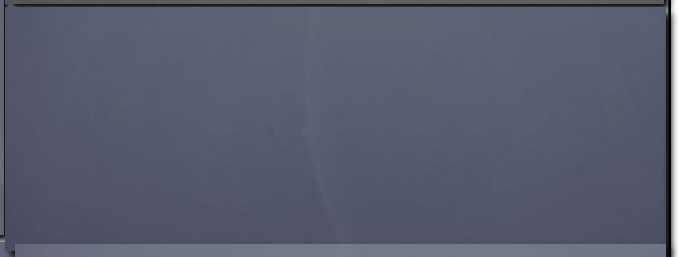

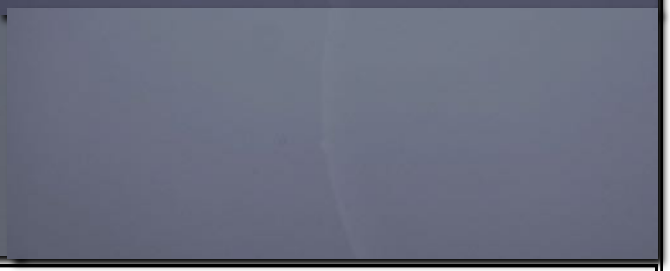

Below: Other photos: 5:56 AM 6:08 AM

St. Louis Astronomical Society
Devoted to the Interest and Advancement of the Science of Astronomy
Executive Board Meeting Minutes 4/6/2023

1. Opening Activities a. Attendance: Jim Small, Larry Campbell, Mark Jones, Brad Waller, Randy Harrison, Brent Buch b. Open Meeting; Meeting opened at 7:14pm c. Approval of last month's meeting minutes. Motion by Brad second by Randy minutes approved d. Next Board meeting date May 4, June 1, July 6, Aug 3, Sep 7, Oct 5, Nov 2, Dec 7 Meetings will be via Zoom until further notice: SLSC Will Synder SLSC Update No report

2. Upcoming General Membership meeting topics: a. **Speaker**: Jonathan Katz, PhD b. Special Awards needed: no c. Speaker Press Release: Info from Katz forwarded to Rich H. d. Special Business – Board nominations, By-Law review (AL and MSRAL) e. A101 – No since we have special business to conduct Standing Action: Jim to display list of expiring memberships at start of Monthly General Meeting and Mark will add to meeting slide show f. Hospitality: Action: Jim to submit refreshment receipt to Treasurer

3. SLAS Financial Report Treasurer not at meeting a. Balance Sheet: b. Profit/Loss report: c. Annual Budget meetings: d. Corporate filings: not due until May Action: Bill will adjust depreciation of scope and dome based on replacement cost

4. Speaker Committee Budget – 2023 Budget $400Action: 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. Action: Brad to submit expense form for $100 honorarium to Harry Krantz and include mailing address Action: Send mugs to other speakers. Haojing Yan, Alan Dyer, Nathalie Nguyen-Quoc Ouellette PhD, Laurie and Kimberly Sibbald, Brett McGuire b. Upcoming speakers:

SLAS Monthly Meeting Presentations 2022-2023

Month	Name	Topic	Sponsor
April-21-2023	Jonathan Katz	Fast Radio Bursts	Wash U.
May-19-2023	William McKinnon	Missions to Jupiter's Moons	Washington U.
Jun-16-2023	TBA	21-Jul-2023 TBA	18-Aug-2023 TBA
15-Sep-2023	Possible Eclipse talk	20-Oct-2023 TBA	
17-Nov-2023	TBA	15-Dec-2023 TBA	

d. Topics of interest Action: Mark to target Peggy Hill about 2023 & 2024 eclipses Action: Jim to contact Anita Dey about speaker for JWST 1-year Anniversary meeting. Maybe see if meeting could be held at Planetarium. Action: Randy to contact Gautham Narayan from Univ of Illinois 4-meter telescope in Chile**.** e. Stipends
f. Travel

5. Membership Initiatives a. Budget – 2023 Budget $600 b. Welcome Aboard Meetings – c. Raffles – d. Attendance prizes – Send suggestions for Brad

6. Membership Recognition a. Total Budget 2023 Budget $500 b. NSN Outreach Awards: February Meeting c. Membership Report: Our membership count is 244 members, and gain of two members over last month and a loss of six members from our peak of 250 members in December of last year. Standing Action: Bill to provide list of expiring memberships to SLAS Board and Jim for newsletter d. Member anniversary – November Meeting e. Special Award program – December Meeting 1. Special Award Committee report: Chairman – Larry Campbell, Jim Small, Mark Jones, Sharon Bertram, Fred Schovanez, Bill Neubert, Grant Martin, Bill Bierman, Rich Heuermann, Joe Marcus Action: Jim to add Rich Heuermann and Joe Marcus to recognition@slasonline.org distribution list 2. Special Award deadlines: Current Nomination deadline is Sept 1st 3. Nomination reviews: by October 1st 4. Award selection: 5. Awards presented at December meeting

7. Outreach - a. Budget – 2023 Budget $500 b. Member Training Program Status: c. Purchase of T-shirts for volunteers completed training d. Purchase of lawn signs: e. Upcoming outreach events: f. Awards/recognitions – g. NSN Outreach hours YTD: 211.6 hours reported

8. Old Business:
Action: Mark purchase Eclipse Expo table and sponsorship for expo. Table has been purchased still working on sponsorship
Action: Mark to procure HDMI RFI transmitter/receiver to use at planetarium and other Outreach events |

9. New Business: MSRAL bylaws need to be presented to the membership because they will be voted on at the MSRAL business meeting this summer. Jim Small will post the bylaws on the website and notify the membership about them via night sky network post and via the newsletter. We need to send in our official vote as a group regarding the bylaws for the Astronomical League as well. There is one aspect that needs serious discussion that involved contracts engaged in by any representative of the league being required to get approval from the president of the league. Action: Jim Small will post bylaws for both the astronomical league and MSRAL Action: Jim Small to contact Wash U about parking remedies. Motion: I make motion that Jim Small send in AL By-Laws ballot but disapproving Section 5. Contracts Requiring prior approval by President of AL. Second by Larry. Board approved motion. Elections are NEXT MONTH, so we need nominations THIS MONTH. What is the status of those on the board now? Will you reup for next year? We need to know now. President – Jim Small Vice-President – Brad Waller Secretary – Mark Jones Treasurer – Bill Winningham Hospitality - Larry Campbell Board Member at Large – Dennis Latinette Action: Jim Small will notify the membership about elections and nominations for the next meeting. Action: Add eclipse glasses to new Business next month for discussion of pricing schedule, sales and distribution. Board will defer this to May meeting. ASEM selling to members $1 each or 50 for $35

10. Other Committee Reports: If needed
A. SLSC Business: a. First Friday actions – b. Other immediate business
B. SLCL Business a. Annual contract – b. Upcoming events -
C. Jefferson College Business: a. Committee Meeting report: |b. Upcoming Outreach Event: Action: Jim to purchase new Handbox for 10" LX200 from Meade Action. Jim to contact Explore Scientific and get firm quote for upgrade Action: Mark to buy replacement part for the RA motor encoder part # 820019. According to Meade. They don't have the item in stock at the moment, it might take a month or 2 until we get them. We can create the order so that when it becomes available, we'll let you know automatically. The cost would be $70.00 plus $15 for shipping.
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 c. Maintenance budget – none requested d. Mileage re-imbursement – see abovee. Promotional materials - none requested
E. SLAS Social Eventsa. Budget – 2023 Budget $365, b. Homemade Fest - 2023 budget $125 c. Star-B-Q – 2023 budget, $240 Star-B-Q will be Oct 7th at Babler State Park, Alta Shelter
Other
F. SLAS Brochures a. Budget 2023 $600 b. Quarter cards – Possibly print new cards with Francis Park, JCO, Arch, Tower Grove events
G. Loaner scope Program a. Budget – 2023 Budget $ 100 b. New donations: c. Replacement Parts for the LPTs d. Items for sale **several: Status for sale items** Celestron PowerSeeker 127 reflecting telescope, $50 Orbitor 4.5" Reflecting Telescope, $40 4.25-inch f/10, Reflecting Telescope, Wooden Tripod, 6x30mm finder, 1 ¼ focuser, $10 Majestic Tripod Head-only, Heavy Duty head, w/1/4x20 screw mount, Mounts to 1.5" post, crank pivots head in altitude direction, $10 Small Equatorial Mount. Manual with slow motion knobs and counterweight. Similar to Sky-Watcher EQ-2 mount, $30
H. SLAS Library a. Budget – 2023 Budget $500 b. Other – Action: Mark to add 2022 books to inventory list
I. Merchandise New coffee mug design (JCO logo, SLAS Logo) We used Discountmugs.com in 2018 Action: Mark to deliver 36 mugs to Brad at First Friday Purchased 72 mugs @ $6.74each.
36 of the mugs to Speaker budget. Mugs will be for sale for $10

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

	Jan - Apr 23	Budget	$ Over Bud...
Ordinary Income/Expense			
Income			
Events Income	250.00		250.00
Magazine Subscription	994.70	1,277.05	(282.35)
Membership Dues	1,565.00	1,830.00	(265.00)
Total Income	2,809.70	3,107.05	(297.35)
Cost of Goods Sold			
Magazine Subscriptions	980.50	1,294.00	(313.50)
Merchandise	242.92	300.00	(57.08)
Total COGS	1,223.42	1,594.00	(370.58)
Gross Profit	1,586.28	1,513.05	73.23
Expense			
1-Programs & Events	1,143.41	915.00	228.41
2-Newsletter	380.62	250.00	130.62
5-Loaner Scopes	680.95	50.00	630.95
6-Brochures		150.00	(150.00)
8-Website	325.28	500.00	(174.72)
9-Administrative Expenses	1,201.19	1,272.60	(71.41)
Total Expense	3,731.45	3,137.60	593.85
Net Ordinary Income	(2,145.17)	(1,624.55)	(520.62)
Other Income/Expense			
Other Income			
Donations	446.52		446.52
Interest Income	5.87	15.00	(9.13)
LTP Receipts	2,576.73		2,576.73
Total Other Income	3,029.12	15.00	3,014.12
Other Expense			
Eclipse Escrow Dispurseme...	50.00		
LTP Disbursements	3,182.97		3,182.97
Total Other Expense	3,232.97		3,232.97
Net Other Income	(203.85)	15.00	(218.85)
Net Income	**(2,349.02)**	**(1,609.55)**	**(739.47)**

St. Louis Astronomical Society
Balance Sheet
As of April 30, 2023

	Dec 31, 22	Apr 30, 23
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	16,660.91	12,932.55
Deposit, Certificate of	15,976.91	15,981.75
Library Telescope Escrow	2,459.77	1,813.45
PayPal	494.39	302.02
Savings - First Bank	41,153.95	41,454.98
SLAS Eclipse Conference Escr...	0.00	3,394.76
Total Checking/Savings	76,745.93	75,879.51
Other Current Assets		
Inventory Asset	675.61	918.25
Undeposited Funds	375.00	0.00
Total Other Current Assets	1,050.61	918.25
Total Current Assets	77,796.54	76,797.76
Fixed Assets	12,460.24	11,352.64
TOTAL ASSETS	**90,256.78**	**88,150.40**
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,497.66	8,740.30
Retained Earnings	75,243.71	81,759.12
Net Income	6,515.41	(2,349.02)
Total Equity	90,256.78	88,150.40
TOTAL LIABILITIES & EQUITY	**90,256.78**	**88,150.40**

(Continued from page 6)

each.
J. Telescope Making
K. Newslettera. Budget 2023 $,
L. Website - a. Budget 2023 $, Action: S&T raised rates and need to update PayPal, other SLAS materials and newsletter Action: Jim to discuss with Bill W about amount of increase
M. Social Networking
N. Night Sky Network
O. SLASdialogs
P. Dark Site
Q. Observing Programs
R. Star Parties Donation: $100 donation from LaSalle Springs

11. Closing Activities Motion to adjourn by Larry C. Second by Mark. Meeting adjourned at 9:09pm

We could use articles for the newsletter. Such as:

1. Star party reports. 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 astrophotos? Please submit!

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

Send an editable document or images to newsletter@slasonline.org
Please provide captions if sending images.

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: 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
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.
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: See you in August!

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

May

19 Fri	SLAS Regular Meeting
20 Sat	SLAS Dark Sky at Danville
20 Sat	SLAS Dark Sky at JCO
24 Wed	Francis Park Stargazing
25 Thur	SLAS New Member Zoom
26 Fri	Crestwood Park
26 Fri	Stargazing at the Arch
27 Sat	Tower Grove Stargazing

June

1 Thur	SLAS Board Meeting
1 Thur	Thornhill Library
2 Fri	First Friday Telescope View SLSC
4 Sun	SLSC Solar PTV
4 Sun	Aim for the Stars at JCO
4-8	AAS Meeting
6 Tues	All American Gymnastics
6 Tues	Bethesda Gardens Ed Prog
9-11	MSRAL Conference - Tulsa, OK
11 Sun	SLSC Solar PTV
16 Fri	SLAS Regular Meeting
17 Sat	SLAS Dark Sky at Danville
17 Sat	Jefferson College Observing
18 Sun	SLSC Solar Public
21 Wed	Francis Park Stargazing
22 Thur	SLAS New Member Zoom
23 Fri	Stargazing at the Gateway Arch
24 Sat	Tower Grove Stargazing
24 Sat	Des Peres Park
25 Sun	SLSC Solar Public
28 Wed	Jamestown Bluffs
29 Thur	Weber Road Library
29 Thur	Stacy Park Stargazing
30 Fri	Morrison—Talbott

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 _____

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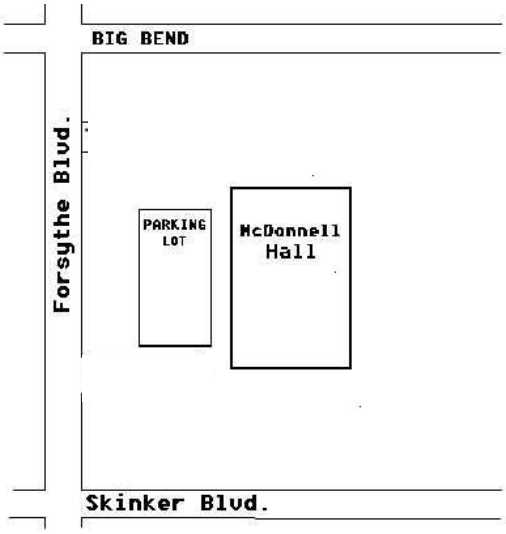
Who We Are and What We Do

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.



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