

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

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Sundials – The World’s Oldest Clocks

Dr. Don Snyder of the North American Sundial Society will be featured at the March meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, March 18, in McDonnell Hall, Room 162, on the Washington University campus.

How the motions of the sun and earth are used to tell time will be described. Some history and mathematics of sundials will be covered, but briefly. Various types of sundials will be described, including ones that are artistic, ones serve as memorials, and ones that are unusual. I will show some sundials I have made. Building a sundial requires determining the markings on it that indicate time, creating any artistic elements to be on it, and selecting construction materials and methods.

Approaches for accomplishing this will be described. This will be an overview presentation, leaving mathematical details to a talk on some other sunny day.

Donald Snyder is a Senior Professor of Electrical and Systems Engineering at Washington University. His research interest in imaging science includes projects in x-ray and positron-emission tomography and in the recovery of optical imagery acquired using telescopes through atmospheric turbulence and with less than ideal optics. He served as a Topical Editor for the J. of the Optical Society of America (JOSA-A) and as an Associate Editor and President of the IEEE Information Theory Society. For more detailed biographical information (including publication citations ranging from work on random processes, radiology, telescope and microscope imaging, sundials and woodworking), see his website at <http://DLS-WEBSITE.COM>.

Mid States Region



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Mid-States Region of the Astronomical League Registration is Now Open

MSRAL 2016 registration is now open!

- Friday, June 3 - Sunday, June 5
- Columbia, MO
- Star B Q Friday 6 pm at Rockbridge HS with Planetarium Show
- Speakers Saturday 8-5 in Physics Dept.
- Banquet Saturday 6 pm at University Center

- Tour of Morris Observatory after the banquet

- Speakers Sunday 8-12

- Costs:

• Registration	\$35
• Star B Q	\$20
• Box Lunch	\$11
• Banquet	\$40

Link for the registration page:

<http://www.slasonline.org/msral2016reg.html>

Questions? Contact Jim Small or Cook Feldman

Presidents Corner—Jim Small

MSRAL registration is now open! There is a link on the home page of the SLAS website or you can find one in the story on the front page of the newsletter. We have put a lot of work into this conference and I think it will be a great get-together! We get to tour two observatories and a new planetarium, enjoy some good food and hear some great speakers. Watch the website for details to be presented. If you need a pdf form to print and send in, one will be available soon. We look forward to seeing you all there! Please see me if you are interested in volunteering for any aspect of MSRAL 2016 to be held June 3-5 in Columbia, MO!

The library telescope build March 5 went well and 29 new telescopes have already been delivered! Many thanks to Don Ficken and his team for setting this up to be held at a St. Louis County Library branch! They really enjoyed hosting us for the build!

Homemade Fest was great with some excellent presentations you will see more of during some Astro 101 presentations. Thanks so much for all who participated in our annual dead-of-winter gathering! Sure had some good food as there wasn't much left by the end of the night!

The lecture about Mars with Professor John Grotzinger from Cal Tech was excellent and I was scrambling to take notes during the event because it was right in the wheelhouse of one of the projects I am doing for the astronomy courses I am taking at Swinburne!

Speaking of courses, I am taking an astrobiology course and well..... Dr. Erica Gibb is organizing an Astrobiology conference at UMSL!! What great timing! It will be the best value for a conference you have seen yet! Check the details below!

Don't forget!! We moved the meeting for April to the 22nd!!! We did so to avoid conflict with the James Lovell lecture which many members are attending. If you didn't get tickets for this sold out show, see the raffle at the meeting!!

The new vertical banner and table cover will be here by next week. It will look amazing!!

Mike Simonson sent me an email to offer a full day of conference for free for any member who will help with registration for the national meeting of the AAVSO to be held May 5-7 here in St. Louis. See me for details!

Jim Small

Astrobiology and Life Beyond Earth mini-conference

Date: Friday, April 8 and Saturday, April 9, 2016

Time: 8:30 am - 4:30 pm each day

Location: JC Penney Conference Center, University of Missouri - St. Louis campus

Host: Department of Physics & Astronomy and College of Arts and Sciences at UMSL

Registration: \$25.00 for regular participants and \$10.00 for students. Registration includes a parking pass (if needed), continental breakfast, lunch, coffee breaks, and a free planetarium show.

Description: A mini-conference on "Astrobiology and Life Beyond Earth" that aims to bring together world-class researchers in the field of astrobiology to discuss exciting topics like early life on Earth, the possibility for life elsewhere in our solar system, and the search for planets elsewhere in our galaxy. There will also be free planetarium shows at the UMSL planetarium. Click below to register or for more information, including a list of speakers. <http://www.umsl.edu/~physics/astrobiology.html> or by contacting Dr. Erika Gibb at gibbe@umsl.edu or 314-516-5081

Editors Note: Registration looks like a course when you create your account. If you register now, there is a \$5 discount for early bird registrations, so \$20 for adults!

Mark Jones explaining a pinhole solar viewer on the left at STEAM fest at LaSalle Springs Middle School and on the right at a meeting of the Eclipse Task Force Committee. The work of the committee is heating up as the year progresses! More soon!



SLAS Sky Orienteering

by Mark Jones

Well our February and March orienteering events were clouded out, but we will not give up. If you want to improve your observing skills by improving your knowledge of the night sky, please attend our "Sky Orienteering" sessions at Babler State Park. One Sunday night each month, SLAS members will meet at the monument area in Babler State Park. Bring a chair and a pair of binoculars. We will explore the night sky together, identifying stars, constellations, clusters, nebula and galaxies. Each session will start as darkness falls and last no more than 2 hours. See the Night Sky Network calendar for more details. Dates for each month will be close to last Quarter Moon.

The name of your orienteering guide is in parenthesis

April 3 (Bill Neubert.)
May 1 (Mark Jones.)
June 26 (Mark Jones.)
July 24 (Bill Neubert)
August 28 (Bill Biermann)
September 25 (TBA)
October 23 (Bill Neubert.)
November 20 (TBA)

Go to the link below for a easy to use star map for each month

<http://www.skymaps.com/downloads.html>

If you have a computer and want to download sky charts or planetarium programs, try the following

Program - Stellarium

<http://stellarium.org/>

Program - Cartes du Ciel

<http://www.ap-i.net/skychart/en/start>

Charts- 7th Magnitude Star Atlas

<http://www.cloudynights.com/page/articles/cat/articles/observing-skills/free-mag-7-star-charts-r1021>

Charts - 8.5 Magnitude Star Atlas

http://www.geocities.jp/toshimi_taki/atlas_85/atlas_85.htm

Charts - Star Hopping Guide to the Messier Marathon

<http://www.robhawley.net/mm/SHG-MM-charts-v6.pdf>

Charts - Your Sky

<http://www.fourmilab.ch/yoursky/>

The Astronomical League's Universe Sampler Award

by Mark Jones

Several SLAS members have expressed interest in pursuing the Universe Sampler Program. If you would like to participate please contact Mark Jones or Bill Biermann. The following description is taken from the AL website. You will need to purchase the

The *Universe Sampler* observing program is a unique observing program designed specifically for the beginning observer. It is designed to expose the beginner to a sample of the many different types of objects that the Universe has to offer for our observing enjoyment. It is designed to help the new observer learn his or her way around the sky and to teach some of the basics of astronomy. It offers an alternate naked-eye list of deep sky objects for those who are interested in astronomy but shy away because they do not have a telescope or binoculars.

The *Universe Sampler* will take you on an exciting journey through the heavens. You will meet many of the brightest stars, learn their names and the constellations in which they are found. You will visit our moon and some of the planets that share our solar system. You will greet at least one of the comets that leave the outer reaches of the solar system to visit the neighborhood of the sun. You will become acquainted with double stars, variable stars, star clusters, nebulae and galaxies.

Once you have completed the *Universe Sampler* observing program, you should be well acquainted with the night sky and be able to find your way among the stars with no problem.

The titles of the lessons are:

- Basic Sky Movement
- How to Find North in the Sky
- Star Charts and Constellation Patterns
- Angular Measures and Distance
- Stating the Location of Objects in the Sky
- Star-Hopping
- Eyepiece Field Orientation
- Recording Your Observations
- The Art of Seeing
- The Moon
- Variable Stars
- The Sun



What Is It??

by

Mark Jones

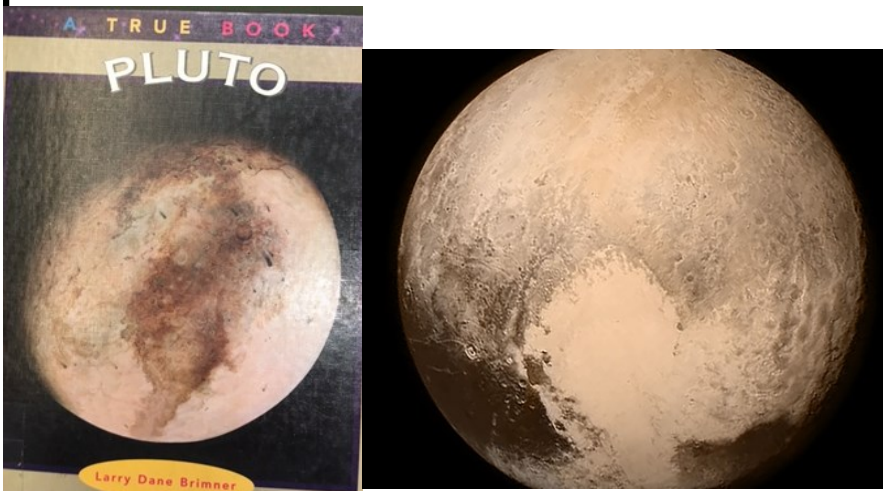
What is it?

I was at a Library Telescope event the other night and saw this book on Pluto. The photo on the front cover struck me as odd. It became odder when I read the copyright date of 1999! The first close-up photos of Pluto's surface were taken in July 2015.

The photo on the left is the cover of the 1999 book: Pluto by Larry Brimmer. The photo on the right is a NASA New Horizons photo taken in 2015.

So what is the left photo of?

Post your answer on SLASDialogs



Magazine Renewals

by **Bill Winningham**

It has come to our attention that in order to ensure that your Astronomy Magazine subscription is not interrupted, it should be renewed at least 3 months before it expires. The label on your magazine should indicate your subscription end date. Please note that your magazine is not necessarily synchronized with your SLAS membership. If you typically renew your subscription when you renew your SLAS membership, you can always renew your SLAS membership a couple of months early, by using the renewal form at the end of the newsletter or by using the PayPal link on the SLAS website. Another alternative is to log on to the Night Sky Network and use the renew through ASP option(see link below). Sky and Telescope does not seem to require as much lead time, however it is recommended that you renew your S&T subscription a couple of months early as well. If you have any question regarding magazine subscriptions, feel free to contact

Bill Winningham at
treasurer@slasonline.org.

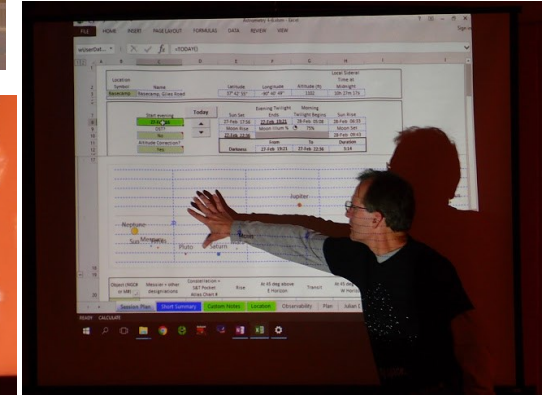
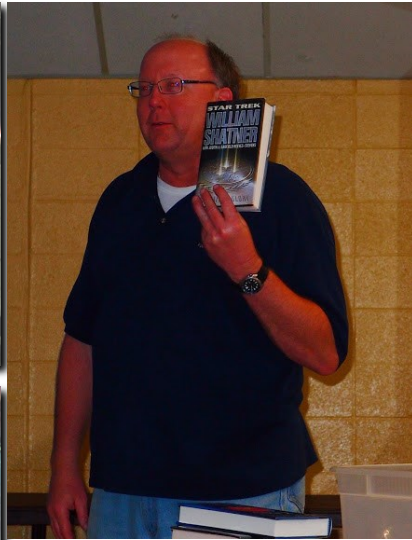
NSN Telecons, a new program

On Wednesday night, I had the privilege to catch the Night Sky Network Telecon about Pluto and the LATEST findings from New Horizons. NSN is using a program by Zoom.us, which allows the viewer to not only watch both the speaker and the desktop they are showing in high resolution, but participate in chat, and send in questions.

When you log in, the program will be downloaded to your computer so you may view the webinar. Once it is downloaded and installed, the webinar will start up. The next time it will automatically load when you click the link. It will not be necessary to download it again. I think you will find it a great experience! If you have difficulties with the program, let me know and I'll see if I can help!

Below: 19 of the 26 SLAS members who qualified for the Night Sky Network Outreach Awards and Pins. Congratulations!





Upper left: Incarnate Word **Left:** Mark and Larry hold up the world at LaSalle MS **The rest:** Homemade Fest 2016 held February 27 at the Kirkwood Community Center





From start to finish, the Library Telescope Build held March 4 at the St. Louis County Library Branch at Florissant Valley! The total number of telescopes in circulation now is 88! (like the number of constellations!)



**Francis Park Stargazing
2016 Schedule
Presented by the
St. Louis
Astronomical Society
by Bill Breeden**

Enjoy Wednesday night stargazing sessions at Francis Park, weather permitting. All are welcome to join us! Stop by and take a look at the Moon, or bring your observing gear. This event is scheduled near the First Quarter Moon each month, so we provide views of craters, mountains, and shadows on the Lunar sur-

face. Members of the St. Louis Astronomical Society also share telescope views of illusive Mercury, bright Venus, the Red Planet Mars, giant Jupiter, the ringed planet Saturn, and distant Uranus and Neptune when they are visible. You may even be able to see the moons of Jupiter and Saturn, or a distant double star! Everyone is welcome at Francis Park Stargazing events. Bring scout groups, church groups, students, teachers, family, and friends! If you have an interest in astronomy or just enjoy the outdoors, we welcome you to visit us. This event is free. Come Visit Us! Francis Park is located in south St. Louis City. Take Interstate 64 or Interstate 44 to Hampton Ave South. Go south on Hampton Ave. to Eichelberger Ave. Turn RIGHT on Eichelberger Ave. Turn RIGHT on Tamm Ave. We set up on Tamm Ave. at Itaska St. on the park -side of the street, near the sidewalk.

2016 FRANCIS PARK STARGAZING SCHEDULE

Date	Time	Moon Age	Planets Visible This Evening
Wednesday, April 13, 2016	7:00-9:30 PM	7 days	Mercury, Jupiter
Wednesday, May 11, 2016	7:00-9:30 PM	5 days	Jupiter
Wednesday, June 8, 2016	7:00-9:30 PM	4 days	Mars, Jupiter, Saturn
Wednesday, July 6, 2016	7:00-9:30 PM	3 days	Mercury, Venus, Mars, Jupiter, Saturn
Wednesday, August 10, 2016	7:00-9:30 PM	7 days	Mercury, Venus, Mars, Jupiter, Saturn
Wednesday, September 7, 2016	7:00-9:30 PM	6 days	Venus, Mars, Jupiter, Saturn, Neptune
Wednesday, October 5, 2016	7:00-9:30 PM	4 days	Venus, Mars, Saturn, Uranus, Neptune

Why do we observe the First Quarter Moon, and what is Moon Age?

The First Quarter Moon is visible in the evening, when it is convenient for observing. It presents observers with shadows and relief of the Moon's surface due to the Sun's angle. By comparison, the New Moon is not visible at night, and the Full Moon does not present any shadows or relief of surface features. The Last Quarter Moon (also called Third Quarter) is a good choice, but we would have to be here at dawn instead of dusk. Moon Age is the number of days since New Moon, from 0 to 29. New Moon is day 0, First Quarter Moon occurs around day 7, Full Moon is around day 14-15, and Last Quarter Moon around day 22.

Events are canceled for clouds, inclement, or extreme weather.

For updated cancellation information, visit our website at www.slasonline.org. Scroll down to see our calendar, and look for Francis Park Stargazing. If the event has been canceled, it will say "Cancelled" beside the event. Cancellations are usually posted by 3:00PM on the date of the event.



SLAS Executive Board Meeting Minutes for February 11, 2016

1. Opening Activities: Jim Small, Tom Nickelson, Bill Winingham, Larry Campbell, Bradley R. Waller, Brent Buch, and Mark Jones. Meeting opened at 7:04pm. January minutes were distributed before meeting. Corrections by Brad Waller reviewed and approved. Brad made motion to approve corrected minutes, seconded by Tom. Motion passed, minutes approved

2. External Business Review revisions of Memo of Understanding between SLAS and SLSC. Jim will send to SLSC by 2/15.

Next board meeting: March 10, April 7, May 12, June 9, July 7, August 10 (Wed), September 8, October 6, November 10, December 7 (Wed).

3. Director Reports:

President: Review goals from last year

1. Attract new members – This has been successful primarily from our Library Telescope Program and First Friday events. SLAS has 166 members compared to 156 one year ago.

2. Retain members – Place higher emphasis on retention with membership initiatives headed by Brad Waller. A new member survey has been implemented and is sent to all new members. A “Welcome Aboard” meeting for new SLAS members has been started. This meeting occurs right before the Monthly SLAS Meeting. Retention for one year is up to 54%.

3. Get members involved – Place higher emphasis on retention with membership recognition headed by Larry Campbell. Planned recognition for February, NSN Outreach certificates and Pins for 26 members, Library Telescope Program recognition of 38 people, Larry is working on the member badges and lanyard. Mark will send membership roster with anniversary dates to Larry. We ran out of certificate paper. Brad will buy enough to finish printing 2016 certificates. Jim will buy larger bundle Discussion, should we set up special interest groups? Beginners, DIY, Astrophotography, Dob-users, SCT-users, Planetary, Deep Sky, Observers, Dark Sky, Survey the membership about categories. Sky Orienteering one Sunday a month Promote the Pattonville Observatory

New ideas for bringing back former members Have an 80th anniversary dinner and invite all current and former members. (Paul will work on plan) Recognition dinner could be part of the meeting or separate meeting.

MSRAL 2016 Report on latest progress on MSRAL 2016 convention to be held June 3-5, 2016 in Columbia, MO Call for committee members. A speaker lineup in the works. Dorms will be available. Registration will be live by end of month. Rockbridge HS will Host Star-B-Q and they have planetarium. Brent has volunteered to work on vendors.

Vice President –Paul Baldwin: February, Bill Neubert, SLAS: “Explorations in Astro Imaging” March, Dr. Don Snyder, Washington University: “North American Sundial Society” April: Ian Redmount, St. Louis University: “Cosmological Evolution” May: Dr Heather Knutson, Caltech: “Extrasolar Planets”, (Skype) June: Mike Roberts, KSDK Channel 5: “Weather Forecasting” Brad has confirmed July: TBD Aug: John Wharton, St. Louis Science Center: “The 2017 Total Solar Eclipse”

Astro 101: February – Brad Waller Observing the Worlds of Star Trek March – TBD April - TBD

Secretary – Report on Boeing lens/glass donation status. Sales agreement signed 31 Jan 2016. First shipment of lenses to be ship this month

Treasurer/ALCor – Report emailed before the meeting \$1000 transferred to LTP escrow and \$800 to Eclipse escrow accounts

We are having problem with renewals of Astronomy Magazine. Astronomy Mag needs a 3 month lead-time to insure members don't miss an issue. New NSN link shows Astronomy price drops to \$29.95 If our gross revenue per year exceeds \$50K, we will need to the onger 990EZ tax form. May need tax assistance for these forms IRS 990EZ. ALCOR information is now fixed on msral.org

Hospitality – Larry Campbell Made 2 purchases ice chest and small power strip. Mark needs paper goods for Homemade Fest

Board member at large reports

Brad Waller: (2016) Brad has an article for newsletter describing all the signed books, photos and CDs for prizes at Homemade Fest 2016 and Attendance Prizes throughout the year.

Raffle sales for the Lovell Event are slow: 14 tickets sold. The drawing will occur at the SLAS March 2016 Meeting.

MSRAL Registration Fee Raffle will start in March 2016. Drawing will occur at the SLAS May 2016 Meeting.

Any ideas for other prizes????? Send to Brad.

Looking into reflective vests for SLAS Members to wear at Star Parties (5-10). Price range \$6-\$20 (unprinted).

Tom Nickelson: (2017)

No report

Brent Buch (2018)

Site for viewing videos from SLAS meetings. SLAS new video camera set up

Downloading some free video editing SW

Trying to embed the SLAS logo into video and title and credits

Jim suggests trying the Canon SW used to transfer to YouTube etc.

4. Committee Reports: If needed

Library Telescope Program: Next build March 5th at Florissant Valley Branch of the St Louis County Library

Membership – LTP and NSN recognitions planned for February meeting.

Merchandise – no report

Telescope Making – no report

Librarian – no report

Newsletter – Articles needed

Website – www.slasonline.org/joomla Still working on website

Night Sky Network – Now fixed. need to fix astronomy magazine discount link.

SLASdialogs – Events added to Dialogs calendar

Dark Site – Event schedule for year on NSN

Loaner – no report

Publicity – Press release sent

Observing Programs – no report

Star Parties: Star party list submitted by Bill Breeden. See separate report

5. Old Business - None Jim to buy certificate paper

6. New Business - None

7. Closing Activities Motion to adjourn the meeting by Larry Campbell, second by Brad Waller. Meeting adjourned at 09:06pm

7:40 AM
03/10/16
Accrual Basis

St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through February 2016

St. Louis Astronomical Society
Balance Sheet
As of February 29, 2016

	Jan - Feb 16	Budget	\$ Over Budget
Ordinary Income/Expense			
Income			
Magazine Subscription	268.85	431.70	(162.85)
Membership Dues	950.00	745.00	205.00
Merchandise Sales	4.00	0.00	4.00
Total Income	1,222.85	1,176.70	46.15
Cost of Goods Sold			
Magazine Subscriptions	260.75	431.70	(170.95)
Merchandise	2.51	0.00	2.51
Total COGS	263.26	431.70	(168.44)
Gross Profit	959.59	745.00	214.59
Expense			
1-Programs & Events	199.38	476.66	(277.28)
2-Newsletter	58.80	33.34	25.46
3-Library expense		16.66	(16.66)
5-Loaner Scopes		12.50	(12.50)
8-Website		150.00	(150.00)
9-Administrative Expenses	32.04	235.00	(202.96)
Total Expense	290.22	924.16	(633.94)
Net Ordinary Income	669.37	(179.16)	848.53
Other Income/Expense			
Other Income			
Donations	0.05	0.00	0.05
Eclipse Escrow Receipts	800.00	0.00	800.00
Interest Income	0.44	16.00	(15.56)
LTP Receipts	8,660.00	0.00	8,660.00
Total Other Income	9,460.49	16.00	9,444.49
Other Expense			
Eclipse Escrow Funding	800.00	800.00	0.00
LTP Disbursements	7,565.08	0.00	7,565.08
LTP Escrow Funding	1,000.00	1,000.00	0.00
Total Other Expense	9,365.08	1,800.00	7,565.08
Net Other Income	95.41	(1,784.00)	1,879.41
Net Income	764.78	(1,963.16)	2,727.94

	Dec 31, 15	Feb 29, 16
ASSETS		
Current Assets		
Checking/Savings		
Astronomy Magazine Award**	465.72	465.72
Checking - First Bank	2,940.49	1,843.94
Deposit, Certificate of	20,108.23	20,064.13
Library Telescope Escrow*	444.55	1,539.47
Merchandise Change Fund	20.00	20.00
PayPal	82.51	150.09
Savings - First Bank	5,361.90	5,362.34
SLAS Eclipse Conference Escrow**	539.12	1,339.12
YMCA Trout Lodge Escrow	542.87	542.87
Total Checking/Savings	30,505.39	31,327.68
Other Current Assets		
Inventory Asset	1,410.53	1,408.02
Investment in Mid-States 2016	1,000.00	1,000.00
Undeposited Funds	55.00	0.00
Total Other Current Assets	2,465.53	2,408.02
Total Current Assets	32,970.92	33,735.70
Fixed Assets		
Accum Depr - Office Equip	(216.65)	(216.65)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	32,970.92	33,735.70
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	24,464.84	24,833.26
Net Income	368.42	764.78
Total Equity	32,970.92	33,735.70
TOTAL LIABILITIES & EQUITY	32,970.92	33,735.70

* Funds restricted for the Library Telescope Program. \$444.55 was carried over from the end of 2015. Reflects \$1,000 from the 2016 budget.

** Funds from Astronomy Magazine Award, available until 4/10/2016.

*** Registration fees and donations for SLAS sponsored eclipse seminars. Also includes \$800 from the 2016 budget.

Wanted: Newsletter Articles!

The Event Horizon needs articles from people like YOU!

Interviews, current astronomy topics, historical articles, you name it, we can use it! Send what you have to: newsletter@slasonline.org

Wanted: Volunteers!

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

Upcoming Star Parties and Other Events

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

SLAS Executive Board Meetings *Location will be at the Edward Jones YMCA* All meetings are on Thursdays unless noted.
Mar 10, Apr 7, May 12, June 9, July 7,
Wed, Aug 10, Sep 8, Oct 6, Nov. 10, Dec 7

Dark Sky Observing Dates
See you in April!

Francis Park Events: These events are on Thursdays the week nearest the first quarter Moon
4/13/2016, 5/11/2016, 6/8/2016, 7/6/2016, 8/10/2016,
9/7/2016, 10/5/2016

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month
Planetarium shows start at 7pm
3/4/2016

YMCA Edward Jones Star Parties (generally third Mondays)

4/18/2016, 5/16/2016, 6/20/2016, 7/18/2016,
8/15/2016, 9/19/2016, 10/17/2016,

Pattonville Observatory Public Viewing Dates
3/17/2016, 4/8/2016, 4/22/2016, 5/6/2016, 5/19/2016

Broemmelsiek Astronomy Park Public Viewing
Every Friday night with ASEM members

UMSL Observatory
For directions and map
<http://www.umsl.edu~physics/astro/directions.html>

All sessions include viewing of 1st quarter Moon with additional objects

Skywatch Hotline: 314-516-5706

Saturdays: 3/19, 4/16, 5/14, 6/11, 7/9, 8/13, 9/10, 10/8, 11/5

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
18 Fri
19 Sat
21 Mon
22 Tue

SLAS regular meeting
Mastodon Fair
Edward Jones YMCA Star Party
Schlafley Branch Library Star Party

April
1 Fri
3 Sun
6 Wed

Public Telescope Viewing SLSC
SLAS sky orienteering event
Premier Charter School STEAM night

7 Thur

Family Science Night, Mason Ridge Elementary

9 Sat
12 Tue
13 Wed
14 Thur

SLAS dark sky observing
Star Party Central Library
Francis Park
Manchester Parks

16 Sat
18 Mon
22 Fri
22 Fri
30 Sat

Night Skies Over Babler
Edward Jones YMCA
SLAS regular meeting
Snores n Smores Kirkwood Parks
Ballwin Family Campout

May

1 Sun
4 Wed
6 Fri
7 Sat
11 Wed
13 Fri

SLAS dark sky orienteering
SLAM young friends event
Public Telescope Viewing SLSC
SLAS dark sky observing
Francis Park
Powder Horn Boy Scouts

12 Thur
14 Sat
14 Sat
16 Mon

(S-F Ranch)
SLAS board meeting
Astronomy Day SLSC
Crestwood Park
Edward Jones YMCA

SLAS Merchandise Available

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

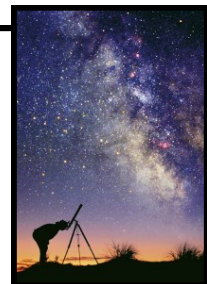
There are two locations:

Galleria: 2495 St. Louis Galleria, St. Louis, MO 63117 Telephone: 314.862.2695
galleria@headznthreadz.com

Delmar: 6662C Delmar Blvd St. Louis, MO 63130 Telephone: 314.863.2695 delmar@headznthreadz.com
[Delmar Map](#)

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

**SLAS Logo is also available at
Infini-tees and Johnny Mac's**



SLAS MEMBERSHIP APPLICATION



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

Youth @ \$10.00 / 1 year (18 yrs or younger) \$ _____
 Individual @ \$25.00 / 1 year \$ _____
 Family @ \$40.00/1 year \$ _____
Publications with discount available with your SLAS membership:
 Sky and Telescope @ \$32.95 / 1 year \$ _____
 (S&T may also be renewed at their website:
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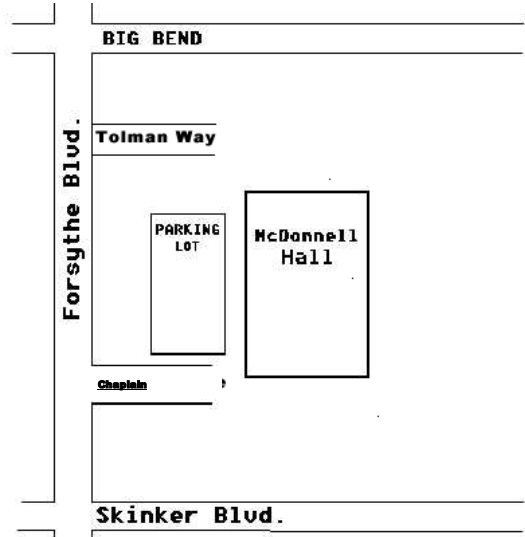


Who We Are and What We Do

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 anyone with an interest in astronomy.

For more information contact any SLAS officer or visit our website listed above. SLAS is affiliated with the Astronomical League, Night Sky Network and the Mid-States Region of the Astronomical League.

Meetings are held the 3rd Friday of each month at McDonnell Hall at Washington University. See the map to the right for directions.



St. Louis Astronomical Society

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