

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 30, Issue 12  
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Mid States Region



### **Pulsars – Timekeepers of the Cosmos**

by

**Dr. Maura McLaughlin  
West Virginia University**

Dr. Maura McLaughlin of West Virginia University will be featured at the December meeting of the Saint Louis Astronomical Society. The meeting will be held via Zoom online conference only, due to the COVID-19 outbreak. The meeting and lecture will begin at 7:30 p.m. on Friday, December 18.

Pulsars are neutron stars that are formed in supernova explosions following the collapse of massive evolved stars. These exotic objects are more massive than the Sun. They have been compressed by gravity into a sphere that is typically smaller than a city, and they can spin over 700 times a second. They have extremely high magnetic fields - over a trillion times the strength of Earth's. These properties make them energetic sources of radio waves, which are beamed along their magnetic axes. We detect a "pulse" of radio emission once every pulsar rotation period, in a similar manner to a lighthouse. The rotation periods of pulsars

can be measured incredibly precisely, making these "cosmic clocks" excellent laboratories for fundamental physics experiments. Dr. McLaughlin will give an overview of pulsars and their properties. She will also describe several recent highlights of pulsar research, including the search for gravitational waves from the most massive black holes in the universe.

Dr. Maura McLaughlin is the Eberly Distinguished Professor of Physics and Astronomy at West Virginia University and Director of the Center for Gravitational Waves and Cosmology. She studies pulsars using the world's largest radio telescopes. She is Co-Director of the NANOGrav Physics Frontiers Center, which aims to detect gravitational waves using high-precision timing observations of these cosmic clocks

#### **Upcoming Meetings**

**2021**

**January-** Robert Criss, PhD Galactic Rotation & Dark Matter Washington University

**February-** Raymond E Arvidson, PhD Perseverance Rover Mission - Mars 2020 Washington University

**March-** K Michael Malolepszy Probing the Sub-Microwave Universe Part III SLAS

**April** Ian H. Redmount, PhD Cosmic Roller Coaster St. Louis University

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#### **READ ME !!!!!!!**

**Beginning in January, SLAS will have it's own Zoom account and the link for the meetings will CHANGE!  
We'll keep you posted for the new ID.**

#### **Joining a Zoom Conference Meeting: Everyone can join! No Computer Required!**

Joining us for a Zoom Conference is easy! All you need is any of the following: Computer, desktop or laptop, smartphone, **OR** any regular phone! The meeting will be open from 6:30-11pm. The extra time is to allow socializing before or after the meeting

Below is the invitation to join:

**To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone:**

**Just click the link below:**

<https://zoom.us/j/8604505790>

Meeting ID: 860 450 5790

**Dial by ANY phone** using your location (any phone will work)

+1 312 626 6799 US (Chicago)

## President's Corner

by  
Jim Small

I got an article from Jim Twellman this month showing what he did with the 6" Criterion telescope we sold a couple of months ago. He took the optical tube and made a really nice Dobsonian out of it! See the article on page 3 for that. There are two more telescopes that we will sell at some point. Watch Night Sky Network for notification and SLAS dialogs for more information and photos. One of the telescopes is a really nice Cave 6" Newtonian with a resilvered mirror, solar filter, eyepieces and a pier mount with wheels to make it more mobile. I have to say, the motor drive on the mount is MASSIVE. It also has photo mount equipment. The other telescope is a mint Monolux 43802.4" refractor and tripod. This telescope comes in a beautiful wood case and it was the first telescope for the person who donated it. He received it when he was 16. It would make a fantastic scope for a collector or a beginner who deserves a really classic scope for a start in the hobby. If you are interested in either one of these telescopes, please contact me at 314-307-0692.

The meeting should be lots of fun this month. Why? At-

tendance prizes!! We have some terrific stuff for a giveaway at the meeting (members only!) See the article below for the donation courtesy of Randy Harrison! We will give that prize away at the end of course...(yes you'll have to make it through the budget discussion...) Looking forward to seeing you at the meeting!

**TAKE A PICTURE!!** Be sure to get your scope out and take a photo of the conjunction of Jupiter and Saturn Monday night!! Get out your SCT or other long focal length telescope and get that view of both through your eyepiece! Mark Jones will tell you how to do it during the A101 at the meeting. It will look fantastic! I'm not sure where I'll be on Monday but I hope it's clear! Mark has taken photos but it's a tough shoot. Either you can see Jupiter's moons and Saturn is blown out or Saturn is ok and you can't see the moons. It will take some practice to get it right! see the pics on page 4.

The winners for the new SLAS Special Recognition Awards will officially receive the awards at the January meeting.

Have you been taking advantage of the clear weather we've been having? I hope so!

Sincerely,  
Jim Small

## It's TIME for Members WINTER SOLSTICE ATTENDANCE PRIZES!!

Be sure to attend this month's SLAS Regular Meeting as it's time once again for the quarterly attendance prizes! There are some terrific prizes up for grabs, thanks to Randy Harrison, owner of Lookin' Up Optics! Randy has graciously donated for a prize, the winner's **choice** of an Explore Scientific 2" 40mm eyepiece OR a pair of Celestron binoculars! Either has a value of about \$200. Many thanks to Randy for the kind donation. Be sure to support the only astronomy store in the area, especially if you are looking for gifts for your favorite astronomer!

Other prizes include but are not limited to Infini-tees shirts, a cool package from Green Bank Observatory and other prizes. Brad will have the full list when we start the meeting.

If you haven't been to Lookin' Up Optics yet, you should consider a trip over to Vandalia, IL to take a look. I dare you to drive away without purchasing anything! See you at the meeting!

**Lookin' Up Optics** <https://lookinup.info/> 618-267-1659  
Randy Harrison



## Criterion Dynascope RV-6 (6" f/8): Dobsonian Conversion by Jim Twellman

12-7-2020

Among the several telescopes for sale by SLAS at the October Zoom meeting was a somewhat neglected 1978-era RV-6 from Jefferson County on an equatorial mount, with a suggested bid of \$100 (a fair price). I had considered that ASEM could use another 6" dob for use by younger members (or others wanting a light-weight and smaller-sized scope). One has been popular, and another was deemed to be needed. A lot can be said for modern scopes, but "oldies" with longer focal length have a special attraction as well. As it is easy to imagine, this poor telescope seemed to need some starlight time! It lacked the nice endings of "collector" models.

I have endured the privilege, in my younger days, of toting around a cast-iron pedestal mount. The bruises on my shins are still there! On the other hand, a dob breaks down EASILY into two parts for quick and convenient setup and tear down. An example of this conversion was shown in the December 2019 "Sky & Telescope", and I had a few materials sitting around. I bid \$50 for the OTA only, and another SLAS member took the motorized GEM mount, I think for \$50 also. The club-purchased wood & parts cost just under \$60, plus the items I had in my garage (FRP, T-nuts, screws, paint, handle - - okay, I do tend to pack-rat hardware items I "might" use...).

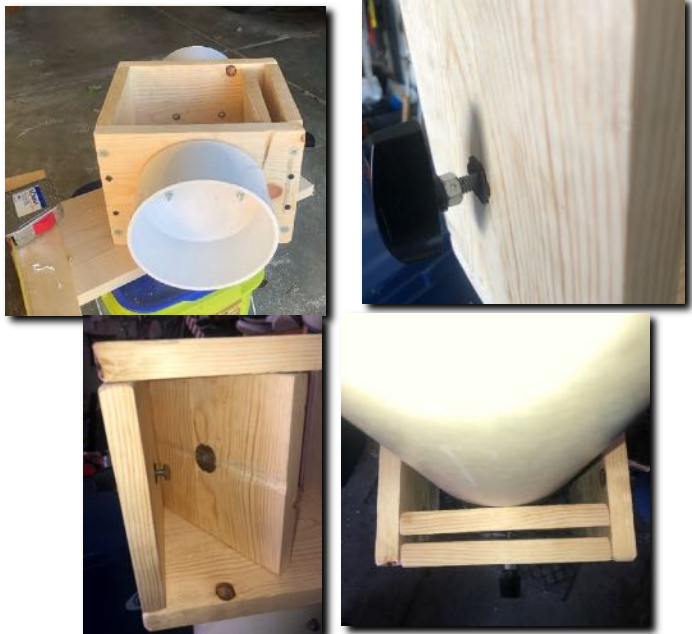
The 1.25" brass focuser has an extension sleeve, and the rack "notches" are cut INTO the cylinder. Not the smoothest, but functional and very old-school! I had to work to free-up this stiff focuser and adjust properly.

Shown below are pictures of the new dob base under construction. Pine wood was used for economics, although the weight is a bit more than Baltic Birch! Additional slots were cut for use as handles later on.

**ROCKER BOX:** One wood disk (16") from Home Depot (about \$6 ea. X2). FRP laminate glued and screwed on. Altitude bearing curves cut to match 6" sewer caps used as Alt. bearings (also Depot at ~\$6 ea. X2).



**Altitude bearing :** nearly fits the OTA, but with an additional compression board to keep a tight fit and to release when necessary. I used a wing-T nut, on a Carriage bolt, fit-welded tightly to the Wing-T with a tightened lock-nut. The bolt then "rides" on the outer board with two steel T-nuts. PVC pipe rides against felt strips on the base.



**GROUND BOARD:** Azimuth bearing uses "Furniture Sliders" to face the FRP, and cabinet knobs directly opposing each of them as the "feet". A steel sleeve to fit the bolt on the center axis, with nylon and steel washers and a lock nut.



I gave this scope its' first light on Friday December 4 at Broemmelsiek Park (FNOH) and it performed very well! I had one of our club members test it out and I am confident that it will get good and regular use soon, weather-permitting.





**2021 Astronomical League  
Calendar  
75th Anniversary  
Collectors Edition**

**Celebrating our 75th year ending 15 November of 2021**  
**The 75th Anniversary Planning Committee encourages your purchase as these calendars have historical notations of the Astronomical League. Starting in January, events are planned that tie in to the month's trivia.**  
**Of course, profits from the sales goes to the ALCON Jr. budget.**

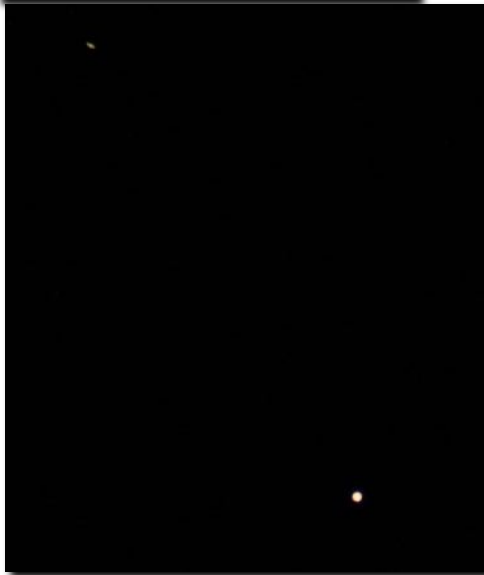
**THANK YOU FOR YOUR CONTINUED SUPPORT AND ENJOY OUR ANNIVERSARY CELEBRATION YEAR!**

**Below left and center**

Jupiter and Saturn as shot by Mark Jones. Two exposures, one favoring Saturn, one favoring Jupiter's moons. Canon DSLR.

**Below Right**

Waxing crescent Moon below Jupiter and Saturn as shot by Jim Small. Nikon DSLR



**For Sale**

**Celestron Nexstar SE 6 inch GOTO Telescope and Tripod**

Hard shell carrying case (\$250 retail)  
25mm Plossl eyepiece  
1.25 Star Diagonal  
6 inch Bahtinov mask  
T Adapter #93625, Piggy back mount, mounted laser pointer

Bought new June 2016  
Excellent condition - limited use

**Price \$850 (32% off retail)**

**Revolution 2  
Imager Bundle  
Revolution DVR  
Other accessories  
Retail price \$438  
For sale at \$300**



**Inquiries, please contact  
Jim Morrison  
401-486-9728**

## Assumption Summary – 2021

### St. Louis Astronomical Society Annual Budget

Work began on the 2021 budget after the financial close for August 2020. The year to date information is therefore through August 31, 2020 with an estimated projection of activity from September 1, 2020 through December 31, 2021.

The budget information was assembled partially based on assumptions developed from the August 2020 year to date actual in areas such as membership information available at that time. The balances of the budgetary items were prepared on a line by line basis by the individual committees and committee chairpersons.

#### Revenue / Income:

The primary source of Revenue for the Society stems from membership fees that are assessed on an annual basis that is based on the member's individual anniversary date. The current fee structure was adopted in 2004 where the "Family Membership" was created and set at an annual rate of \$40.00 per year. At the same time, the fees for the Youth membership were decreased from \$15.00 to \$10.00 per year.

The total revenue from the membership fees for 2021 is based on:

<b>Regular (Adult) Memberships</b>	131 @ \$25.00/y	\$3,275
<b>Youth Memberships</b>	2 @ \$10.00/year	20
<b>Family Memberships</b>	23 @ \$40.00/year	920

Albeit that the Society does receive donations for the outreach activities, these donations have been ignored for the purpose of the 2021 budget due to the uncertainty. Donations for plan St. Louis County Library (SLCL) events, for which we have a written agreement are also assumed to be %0 for 2021, due to COVID 19 restrictions.

As indicated in the budget, this will provide operating revenues in the total of \$4,215 for 2021. The actual revenues that will be realized during the calendar year may be different due to any changes in the actual membership numbers.

Magazine subscriptions are referenced as a memo item. The Society acts solely as an agent in these transactions as a convenience to the membership. It should be noted that the same "Club" rates for the subscriptions are available to each member in good standing through the Night Sky Network for those who choose that option.

#### Operating Expenses:

These are expenses that are incurred to run the Society on a month to month basis to provide goods and services to the membership. Some of the expense categories are required to meet specific obligations that enable Society to function as an organization. The balance of the expense categories are considered discretionary and may be adjusted accordingly. The items that will be discussed in detail are the discretionary items.

#### Newsletter Expense:

The newsletter expense consists of \$225 for paper, toner and other supplies, \$175 for postage, and \$200 for an updated copy of Publisher.

#### Events

The Homemade Fest budget remains \$100. This budget is primarily used to purchase refreshments, plates, plastic ware and door prizes. SLAS hopes to continue getting the meeting room free of charge from the Science Center or the Kirkwood Community Center. Kirkwood waived the fee in 2020 because of our hosting telescope viewing at Kirkwood Park at least twice a year.

The Star-B-Que remains at \$200. This event will again be member potluck with SLAS providing the meat, paper goods, and trivia quiz prizes. SLAS hopes to continue getting the picnic pavilion free of charge. This is normally an \$80 charge, but Babler has waived the fee because of our hosting Night Skies Over Babler twice a year.

The members in attendance will be asked to provide items as with the Homemade Fest to complement the main course provided by

SLAS. This will require that the membership provide their RSVP and number of attendees so the event can be planned accordingly.

#### Library Telescope Program:

The SLAS Library Telescope program's was launched into the St. Louis area on November 2014. In just a few short years, the program has grown to one of the largest and most successful programs in the country. On all fronts, the library telescope program is demonstrating success.

The LTP Committee's focus for the upcoming year will be on the following four areas:

\$100 – maintenance budget to cover all the little things that we need to keep the telescopes in top shape (the big things we charge to the libraries) and to reimburse mileage for SLAS Members who travel to multiple library locations to perform maintenance or repair on the library telescopes. The rate will be the current IRS rate for charitable contributions (\$.14) (IRS.gov). The SLAS member requesting reimbursement should provide a spreadsheet log documenting their travels. This should include: dates, mileage, and locations visited. Reimbursement requests should be made quarterly.

\$200 – funding for replenishing promotional material/handouts such as business cards

The Library Telescope Committee requests \$300 in operating expenses to cover items 1 and 2 above.

#### Meeting Expense:

Meeting expense is comprised of Meeting Refreshments and Meeting Speaker Fees. The meeting refreshments are self-explanatory and have been budgeted at \$360 same as the 2020 budget level. Due to COVID 19 related limitations on in person meetings, the refreshment budget will be prorated to the extent that in person meetings actually take place. The Meeting Speaker Fees are used primarily to present honorariums to guest speakers and occasionally to partially offset travel expenses. The speaker budget has ranged between \$250 and \$600 in recent years. The 2021 speaker budget will be \$400, which includes expected travel expenses (unlikely) for 1 to 2 speakers and a stipend for 1 to 2 graduate student speaker.

#### Membership Initiatives:

SLAS regularly holds "Welcome Aboard" meetings for new SLAS members. These meetings take place before the Monthly Meeting. New SLAS Members are given a SLAS Informational Folder containing information about SLAS resources and other related Astronomy topics.

The budget for Membership Initiatives was increased from \$400 to \$450 for 2021. Membership Initiatives, as in recent years, plans to hold raffle events during 2021 as opportunities arise. Past raffles involve tickets to special speaker events such as when Neil deGrasse Tyson and Jim Lovell came to the area. Membership Initiative also intends to continue the practice of awarding attendance and other prizes to the membership. Examples of some of possible prizes for 2021 include sponsoring a membership to McDonald Observatory, telescope eyepieces, and cell phone adapters for telescopes. Please feel free to suggest your ideas for membership prizes to Brad Waller at [vicepresident@slasonline.org](mailto:vicepresident@slasonline.org). The budget reflects the potential cost of having to mail attendance prizes for Zoom based meetings.

#### Membership Recognition:

The membership recognition budget for 2020 is \$420. This budget include cost for Night Sky Network pins and certificates, recognition of members for continuous membership in SLAS and for contributing time for other SLAS functions, including the recently adopted award program. The budget includes the costs for the five new awards were made available beginning in 2020, including plates for the main award displays, individual plaques for award winners and associated mailing costs. This budget item is lower

(Continued on page 6)

(Continued from page 5)

than last year's budget of \$900, primarily due to the one time startup costs of purchasing the larger multi-year plaques to be displayed at SLAS meetings. A membership recognition committee was formed and an email address, recognition@slasonline.org was set up so that recommendations can be submitted to the committee.

**Library:**

Library expenses for 2021 includes approximately \$200 for globes, \$300 for the purchases DVD's and books.

**Loaner Scope Program:**

For 2021 the budget is \$100 which is intended to cover miscellaneous repair cost. The loaner scopes are in the process of being relocated to a more accessible location. This amount does not include proceeds from the sale of excess loaner scope inventory, which will be reinvested into the loaner scope program.

**Outreach:**

The outreach budget for 2021 is \$500. The budget is intended for the purchase of shirts for members who complete outreach training and participate in outreach events, handed out quarterly. Additional details of the training program will be announced as the new year approaches and as COVID related restriction evolve.

**Website/Technology:**

The budget for the Website and internet related technology was increased from \$625 to \$690 for 2021. The budget includes approximately \$260 for website hosting, \$110 to maintain Group.IO (replacement for SLAS Dialogs), various web address licenses, and \$200 to purchase a SLAS owned ZOOM account for virtual meetings and virtual sky tours.

**Dark Sky**

SLAS will donate \$400 to the International Dark Sky Association of Missouri to be used to sponsor a booth at the national meeting of the International Dark Sky Association in St. Louis at Union Sta-

tion. Sept 27-28

**SLAS Brochures:**

The brochure expense consists of \$300 for paper and toner and potentially another order of "Quarter Card" handouts.

**Summary:**

The Board and participating committee members have adjusted several budget items in recognition of the COVID-19 pandemic. Some items will be prorated to the extent that that in person meetings continue to be restricted. The budget also includes the addition of a Zoom license that will allow SLAS to host and record virtual meeting. Note for 2020, Zoom meetings were conducted using SLAS member's Zoom accounts. Expected revenue is down for 2021 due to the uncertainty surrounding St. Louis County Library District events that historically resulted in compensation to SLAS for running Library Telescope training events. The net result is 2021 budget as presented equals a net loss from operations of \$3,607, compared a budgeted net loss of \$2,756 for the 2020 and a budgeted net loss of \$2,655 for the 2019. Meeting the projected expenses for the upcoming year will require supplementing the operations from cash reserves to the extent donations and other revenue sources do not make up the shortfall. Please note that the above budget summary does not include the remaining special budget approved by the membership that is reserved for moving and set-up expenses for the Jefferson College observatory, nor does it include the expected depreciation expense associated with the observatory. All attempts have been made during this process to continue to provide valued programs for the membership.

If you have questions about the amounts presented in this budget, please direct them either to me or the relevant committee chairs.

Respectfully,  
Bill Winningham, Treasurer

ST. LOUIS ASTRONOMICAL SOCIETY PRELIMINARY OPERATING BUDGET - 2021												
	Actual		Budget		Projection		Budget					
	Year to Date Aug-20	Year to Date Aug-20	Sept-19 to Dec-20	Year to date Dec-20	Annual 2015	Annual 2016	Annual 2017	Annual 2018	Annual 2019	Annual 2020	Annual 2021	
<b>Income</b>												
<b>Magazine Subscription</b>												
Total Magazine Subscription	\$ 1,402.80	\$ 1,136.35	\$ 377.40	\$ 2,061.38	\$ 2,034.10	\$ 1,734.40	\$ 952.50	\$ 1,338.90	\$ 1,338.90	\$ 1,338.90	\$ 1,338.90	
Membership Dues	\$ 3,300.00	\$ 3,205.00	\$ 965.00	\$ 4,265.00	\$ 3,440.00	\$ 3,725.00	\$ 3,600.00	\$ 3,970.00	\$ 4,170.00	\$ 4,265.00	\$ 4,215.00	
St. Louis County Library Events										1,620.00	-	
Merchandise Sales												
<b>Total Income</b>	<b>\$ 4,702.80</b>	<b>\$ 4,341.35</b>	<b>\$ 1,342.40</b>	<b>\$ 6,326.38</b>	<b>\$ 5,474.10</b>	<b>\$ 5,459.40</b>	<b>\$ 4,552.50</b>	<b>\$ 5,308.90</b>	<b>\$ 5,508.90</b>	<b>\$ 7,223.90</b>	<b>\$ 5,553.90</b>	
<b>Cost of Goods Sold</b>												
Total Magazine Subscriptions	\$ 1,368.80	\$ 1,103.40	\$ 377.40	\$ 1,746.20	\$ 2,034.10	\$ 1,734.40	\$ 952.50	\$ 1,338.90	\$ 1,338.90	\$ 1,338.90	\$ 1,338.90	
Merchandise		100.00										
<b>Total Cost of Goods Sold</b>	<b>\$ 1,368.80</b>	<b>\$ 1,203.40</b>	<b>\$ 377.40</b>	<b>\$ 1,746.20</b>	<b>\$ 2,034.10</b>	<b>\$ 1,734.40</b>	<b>\$ 952.50</b>	<b>\$ 1,338.90</b>	<b>\$ 1,338.90</b>	<b>\$ 1,338.90</b>	<b>\$ 1,338.90</b>	
<b>Gross Profit</b>	<b>\$ 3,334.00</b>	<b>\$ 3,137.95</b>	<b>\$ 965.00</b>	<b>\$ 4,580.18</b>	<b>\$ 3,440.00</b>	<b>\$ 3,725.00</b>	<b>\$ 3,600.00</b>	<b>\$ 3,970.00</b>	<b>\$ 4,170.00</b>	<b>\$ 5,885.00</b>	<b>\$ 4,215.00</b>	
<b>Operating Expense</b>												
<b>Programs &amp; Events</b>												
Home Made Fest	71.07	100.00	-	71.07	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Star BBQ Expense					175.00	175.00	175.00	200.00	200.00	200.00	200.00	
Library Scope Program Expense	55.01	433.00	32.87	87.88	600.00	200.00	200.00	200.00	450.00	650.00	300.00	
Outreach	297.24	750.00					547.90		650.00	1,100.00	700.00	
Eclipse Workshop Dues					200.00	200.00						
2017 Eclipse Committee					200.00							
<b>Meeting Expenses</b>												
Meeting Refreshments	35.00	240.00		35.00	450.00	350.00	350.00	350.00	350.00	360.00	360.00	
Meeting Speaker Fees	139.53	333.00		139.53	250.00	250.00	800.00	600.00	500.00	500.00	400.00	
<b>Total Meeting Expenses</b>	<b>\$ 174.53</b>	<b>\$ 573.00</b>	<b>\$ -</b>	<b>\$ 174.53</b>	<b>\$ 700.00</b>	<b>\$ 600.00</b>	<b>\$ 950.00</b>	<b>\$ 950.00</b>	<b>\$ 850.00</b>	<b>\$ 860.00</b>	<b>\$ 760.00</b>	
Membership Initiatives	\$ 244.66	\$ 267.00	75.00	\$ 319.66	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 400.00	\$ 400.00	\$ 450.00	
Merchandise					\$ 120.00	45.00	45.00	45.00	100.00			
Membership Recognition	137.65	750.00		137.65	200.00	260.00	300.00	300.00	300.00	900.00	420.00	
Programs & Events	\$ 980.16	\$ 2,873.00	\$ 107.87	\$ 790.79	\$ 2,495.00	\$ 1,780.00	\$ 2,270.00	\$ 1,995.00	\$ 3,050.00	\$ 4,210.00	\$ 2,930.00	
Newsletter (Postage only pre 2019)	\$ 79.20	\$ 115.00	\$ 100.00	\$ 179.20	\$ 180.00	\$ 200.00	\$ 175.00	\$ 175.00	\$ 500.00	\$ 600.00	\$ 600.00	
Newsletter Printing		\$ 350.00	\$ 200.00									
<b>Total Newsletter</b>	<b>\$ 79.20</b>	<b>\$ 465.00</b>	<b>\$ 300.00</b>	<b>\$ 179.20</b>	<b>\$ 180.00</b>	<b>\$ 200.00</b>	<b>\$ 175.00</b>	<b>\$ 175.00</b>	<b>\$ 500.00</b>	<b>\$ 600.00</b>	<b>\$ 600.00</b>	
Library expense	\$ 81.53	\$ 352.50	\$ 117.45	\$ 198.98	\$ 300.00	\$ 100.00	\$ 300.00	\$ 300.00	\$ 470.00	\$ 500.00	\$ 500.00	
Astronomical League Dues	815.00	825.00		815.00	650.00	695.00	670.00	760.00	825.00	860.00	860.00	
Dark Sky Association											400.00	
Loaner Scopes		66.00	67.95	67.95	200.00	50.00	50.00	600.00	100.00	100.00	100.00	
Insurance	1,049.50	1,050.00		1,049.50	380.00	380.00	380.00	825.00	825.00	1,050.00	1,050.00	
Website/Zoom	239.39	285.00	167.97	407.36	135.00	150.00	170.00	170.00	285.00	625.00	690.00	

**ST. LOUIS ASTRONOMICAL SOCIETY  
PRELIMINARY OPERATING BUDGET - 2021**

	Actual		Budget		Projection		Budget					
	Year to Date	Year to Date	Sept-19 to	Year to date	Annual	Annual	Annual	Annual	Annual	Annual	Annual	
	Aug-20	Aug-20	Dec-20	Dec-20	2015	2016	2017	2018	2019	2020	2021	
<b>Administrative Expenses</b>												
Corporate Filings	-	20.50	10.50	10.50	-	20.00	-	20.00	-	20.50	12.00	
Office Supplies	-	75.00	57.14	57.14	165.00	165.00	100.00	100.00	100.00	100.00	100.00	
Banking Fees	-	30.00	30.00	30.00	-	-	25.00	25.00	30.00	30.00	30.00	
PayPal Fees	63.74	26.66	15.00	78.74	40.00	40.00	40.00	40.00	40.00	45.00	100.00	
Postage	81.40	60.00	(1.41)	79.99	75.00	90.00	90.00	90.00	90.00	100.00	200.00	
Printing / Copying Expense (combined 2015)	-	-	-	-	888.00	1,115.00	1,370.00	1,370.00	-	-	-	
Brochures	-	-	322.00	322.00	-	-	-	-	610.00	600.00	300.00	
Administrative Expenses	\$ 145.14	\$ 212.16	\$ 433.23	\$ 578.37	\$ 1,168.00	\$ 1,430.00	\$ 1,625.00	\$ 1,645.00	\$ 870.00	\$ 895.50	\$ 742.00	
<b>Total Operating Expense</b>	\$ 3,389.92	\$ 6,128.66	\$ 1,194.47	\$ 4,087.15	\$ 5,508.00	\$ 4,785.00	\$ 5,640.00	\$ 6,470.00	\$ 6,925.00	\$ 8,840.50	\$ 7,872.00	
<b>Net Income/(Loss) From Operations</b>	\$ (55.92)	\$ (2,990.71)	\$ (229.47)	\$ 493.03	\$ (2,068.00)	\$ (1,060.00)	\$ (2,040.00)	\$ (2,500.00)	\$ (2,755.00)	\$ (2,955.50)	\$ (3,657.00)	
<b>Other Income / Expense</b>												
<b>Other Income</b>												
<b>Donations</b>												
SLAS Club Members	2.05	-	-	2.05	-	-	-	-	-	-	-	
Donations - Other	100.00	-	-	100.00	-	-	-	-	-	-	-	
Total Donations	\$ 102.05	\$ -	\$ -	\$ 102.05	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Interest Income	\$ 95.71	\$ 67.00	\$ 31.90	\$ 127.61	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 200.00	\$ 50.00	
Non-Operating Income (Astro Mag Award)	-	-	-	-	-	-	-	-	-	-	-	
Total Other Income	\$ 197.76	\$ 67.00	\$ 31.90	\$ 229.66	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 200.00	\$ 50.00	
<b>Other Expense</b>												
Physical Inventory Adjustment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Astro Mag Award Disbursements	-	-	\$ -	-	-	-	-	-	-	-	-	
2017 Eclipse Escrow Funding	-	-	-	-	-	\$ 800.00	\$ 1,000.00	\$ -	\$ -	-	-	
LTP Escrow Funding	\$ -	\$ -	-	-	-	\$ 1,000.00	1,000.00	500.00	500.00	-	-	
Depreciation Expense (JC Scope and Dome)	-	\$ 3,200.00	-	-	-	-	-	-	-	3,200.00	3,200.00	
<b>Total Other Expense</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,800.00	\$ 2,000.00	\$ 2,500.00	\$ 500.00	\$ 3,200.00	\$ 3,200.00	
<b>Net Other Income / (Expense)</b>	\$ 197.76	\$ 67.00	\$ 31.90	\$ 229.66	\$ 100.00	\$ (1,700.00)	\$ (1,900.00)	\$ (2,400.00)	\$ (400.00)	\$ (3,000.00)	\$ (3,150.00)	
<b>Net Income / (Loss)**</b>	\$ 141.84	\$ (2,923.71)	\$ (197.57)	\$ 722.69	\$ (1,968.00)	\$ (2,760.00)	\$ (3,940.00)	\$ (4,900.00)	\$ (3,155.00)	\$ (5,955.50)	\$ (6,807.00)	
<b>Required versus Discretionary Spending</b>												
Gross Profit	\$ 3,334.00	\$ 3,137.95	\$ 965.00	\$ 4,580.18	\$ 3,440.00	\$ 3,725.00	\$ 3,700.00	\$ 4,070.00	\$ 4,270.00	\$ 6,085.00	\$ 4,265.00	
<b>Required Expenses</b>												
Newsletter (postage only pre 2019)	\$ 79.20	\$ 115.00	\$ 300.00	\$ 379.20	\$ 180.00	\$ 200.00	\$ 175.00	\$ 175.00	\$ 500.00	\$ 600.00	\$ 600.00	
Astronomical League Dues	815.00	825.00	-	815.00	650.00	695.00	670.00	760.00	825.00	860.00	860.00	
Insurance	1,049.50	1,050.00	-	1,049.50	380.00	380.00	380.00	825.00	825.00	1,050.00	1,050.00	
Website	239.39	285.00	167.97	407.36	135.00	150.00	170.00	170.00	285.00	625.00	690.00	
Corporate Filings	-	20.50	10.50	10.50	-	20.00	-	20.00	-	20.50	12.00	
Office Supplies	-	75.00	57.14	57.14	165.00	165.00	100.00	100.00	100.00	100.00	100.00	
Banking Fees	-	30.00	30.00	30.00	-	-	25.00	25.00	30.00	30.00	30.00	
PayPal Fees	63.74	26.66	15.00	78.74	40.00	40.00	40.00	40.00	40.00	45.00	100.00	
Postage	81.40	60.00	(1.41)	79.99	75.00	90.00	90.00	90.00	90.00	100.00	200.00	
Brochures	-	-	322.00	322.00	-	-	-	-	610.00	600.00	300.00	
Printing / Copying Expense	-	-	-	-	888.00	1,115.00	1,370.00	1,370.00	-	-	-	
	\$ 2,328.23	\$ 2,487.16	\$ 901.20	\$ 2,827.44	\$ 2,513.00	\$ 2,855.00	\$ 3,020.00	\$ 3,575.00	\$ 3,305.00	\$ 4,030.50	\$ 3,942.00	
Balance for Discretionary Items	\$ 1,005.77	\$ 650.79	\$ 63.80	\$ 1,752.74	\$ 927.00	\$ 870.00	\$ 680.00	\$ 495.00	\$ 965.00	\$ 2,054.50	\$ 323.00	
<b>Discretionary Spending</b>												
Home Made Fest	71.07	100.00	-	71.07	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Meeting Refreshments	35.00	240.00	-	35.00	450.00	350.00	350.00	350.00	350.00	360.00	360.00	
Meeting Speaker Fees	139.53	333.00	-	139.53	250.00	250.00	600.00	600.00	500.00	500.00	400.00	
Membership Initiatives	244.66	267.00	75.00	319.66	200.00	200.00	200.00	400.00	400.00	400.00	450.00	
Merchandise	-	-	-	-	120.00	45.00	45.00	45.00	100.00	-	-	
Membership Recognition	137.65	750.00	-	137.65	200.00	260.00	300.00	300.00	300.00	900.00	420.00	
Astronomy Day/Outreach	-	-	-	-	-	-	300.00	-	650.00	1,100.00	700.00	
Star BBQ Expense	-	-	200.00	200.00	175.00	175.00	175.00	200.00	200.00	200.00	200.00	
Library expense	81.53	352.50	117.45	198.98	300.00	100.00	300.00	300.00	470.00	500.00	500.00	
Loaner Scopes	-	66.00	67.95	67.95	200.00	50.00	50.00	600.00	100.00	100.00	100.00	
Library Scope Program Expense	55.01	433.00	32.87	87.88	600.00	200.00	200.00	200.00	450.00	650.00	300.00	
Dark Sky Association	-	-	-	-	-	-	-	-	-	-	400.00	
Eclipse Workshop Dues	-	-	-	-	200.00	200.00	-	-	-	N/A	N/A	
2017 Eclipse Committee	-	-	-	-	200.00	-	-	-	-	N/A	N/A	
	\$ 764.45	\$ 2,541.50	\$ 493.27	\$ 1,257.72	\$ 2,995.00	\$ 1,930.00	\$ 2,620.00	\$ 3,095.00	\$ 3,620.00	\$ 4,810.00	\$ 3,930.00	
<b>Net Income/(Loss) From Operations</b>	\$ 241.32	\$ (1,890.71)	\$ (429.47)	\$ 495.02	\$ (2,068.00)	\$ (1,060.00)	\$ (1,940.00)	\$ (2,600.00)	\$ (2,655.00)	\$ (2,755.50)	\$ (3,607.00)	
<b>Other Expense</b>												
2017 Eclipse Escrow Funding	-	-	-	-	-	\$ 800.00	\$ 1,000.00	N/A	N/A	N/A	-	
Library Telescope Program Escrow Funding	-	-	-	-	-	1,000.00	1,000.00	500.00	500.00	-	0	
Depreciation Expense (JC Scope and Dome)	-	-	-	-	-	-	-	-	-	3,200.00	3,200.00	
<b>Total Other Expense</b>	-	-	-	-	N/A	\$ 1,800.00	\$ 2,000.00	\$ 500.00	\$ 500.00	\$ 3,200.00	\$ 3,200.00	
<b>Actual Historical Net Income for prior years</b>												
				\$ 2,243.34 (2014)	\$ 368.42 (2015)	\$ 30,000.32 (2016)	\$ 10,680.08 (2017)	\$ 4,325.86 (2018)	\$ 2,924.55 (2019)			

\* Includes separately voted funds for ISDC

\*\* For purposes of the budget analysis, the LTP Escrow and 2017 Eclipse Escrow other income and other expense year to date have been excluded.

Note doesn't currently include lens/scope sales or escrow receipts

**St. Louis Astronomical Society  
Devoted to the Interest and Advancement  
of the Science of Astronomy  
Executive Board Meeting Minutes 11/5/2020**

**1. Opening Activities** a. Attendance: Board: Jim Small, Larry Campbell, Brad Waller, John Newcomer, Brent Buch, Bill Winningham, Members: Jeff Carpentier, Bill Poletti b. Open Meeting: Meeting opened at 7:02pm c. Approval of last month's meeting minutes. Minutes distributed before meeting. Motion to accept Oct meeting minutes made by John Newcomer second by Brad Waller. Minutes approved by Board d. Next Board meeting date: Dates for 2020: Meetings will be via Zoom until further notice: Dec 3

**2. Upcoming General Membership meeting topics:**

a. **Speaker:** b. Special Awards needed: Presentation of Special recognition awards will take place December general meeting c. Speaker Press Release: Brad to send contact info for Nov speaker. Rich H sent out press release. Brad sent mugs out to each speaker. d. Special Business needed: Anniversary Awards will be presented at November general meeting. Mark to print 9 award certificates e. A101: None we have budget to present and anniversary awards

**3. SLAS Financial Report**

a. Balance Sheet – YTD 2020 financials were not presented this month b. Profit/Loss report – YTD 2020 financials were not presented this month c. Corporate filings: None this month d. Annual Budget meetings – Budget for 2021 has been finalized by Treasurer and presented to the Board f. Budget 2021. Motion to approve budget Larry second by Brent. Motion passed. Budget and narrative will be published in November newsletter and at general meeting. Final discussion and vote will be held at December meeting. Summary of changes from 2020 budget: Total meeting expenses down from \$860 to \$760 Member Initiatives expenses up from \$400 to \$450 Member recognition down from \$900 to \$420 Newsletter same at \$600 Admin expenses down \$895 to \$692 Total operating expenses down from \$8840 to \$7872 Projected loss up from (-\$2955) to (-\$3657) mainly due to lost income from SLCL Special discussion – Missouri Dark Skies plans to participate in the Missouri Cities Event in Sep 26-29, 2021 at Union Station. Missouri Dark Skies needs funding for booth of \$1100. ASKC is donating \$500. SLAS Board is adding \$400 to 2021 budget for a donation for booth. If event is cancelled due to COVID-19, etc., then money will be returned to SLAS

**4. Speaker Committee** a. Budget - \$500 b. Upcoming speakers: Amy Kimbel \$100 budget SLAS Monthly Meetings Presentations 2020

Month	Name	Topic	Sponsor
20-Nov-2020	Brett McGuire, PhD	Mirror Asymmetry in Life and in Space	National Radio Astronomy Observatory: West Virginia
18-Dec-2020	Maura McLaughlin, PhD	Still thinking about a Topic :)	University of West Virginia

**Presentations 2021**

Month	Name	Topic	Sponsor
15-Jan-2021	Robert Criss, PhD	Galactic Rotation & Dark Matter	Wash U
19-Feb-2021	Raymond E Arvidson, PhD		MARS!!! Wash U
19-Mar-2021	K Michael Malolepszy	Sub-Microwave Universe Part III	Probing the SLAS
16-Apr-2021	Ian H Redmount, PhD	Cosmic Roller Coaster	SLU
18-Jun-2021	Brad Jolliff, PhD	China's Exploration of the Moon: The Chang'e Missions	Wash U
16-Jul-2021	John Newcomer	Hiking on the Mountains of the Moon: The Voyage of Apollo 15	SLAS

c. Open dates for 2021 may, Aug-Dec d. Topics of interest – send topics to Brad Waller

**5. Membership Initiatives** a. Budget - \$400, balance \$60 b. Welcome Aboard Meetings c. Raffles – None planned for 2020 d. Attendance prizes for December Brad needs prizes

**6. Membership Recognition** a. Total Budget \$900 b. NSN Outreach Awards: planned for Feb each year c. Membership Report: Our member count is 191! Only 9 more for 200! d. Member anniversary awards – 9 awards to be presented at November meeting e. New Award program - \$600 budget 1. New Award Committee report: Chairman – Larry Campbell, Jim Small, Mark Jones, Cook Feldman, Sharon Bertram, Fred Schovanez, Bill Neubert 2. New Award Policy and nomination process – awardees selected and notification letters mailed 3. Submittal deadlines – 4. Nomination reviews: 5. Award selection: done 6. Plaques purchased: Committee needs to finish selection of plaques. Plan to visit company next week 7. Awards presented: To be presented at December meeting

**7. Outreach** a. Budget - \$1100 b. Member Training Program Status: on hold for the time being. c. Purchase of T-shirts for volunteers completed training d. Purchase of lawn signs: Bradley... Review of artwork for new outreach signs e. Upcoming outreach events: None

**8. Old Business:** None presented

**9. New Business:** Joe Marcus – Telescope donation proposal. Joe has two telescopes that would make good permanently telescopes, Joe was asking if SLAS knows of institutions that might be go home for these telescopes. 10" f/7 Cave Astrola, modified by John Slayton and 12-1/2" f/6.8. Homemade Telescope. Board said they would check with surrounding groups

**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 – 4 program early next year.

**C. Jefferson College Business:** a. Upcoming Outreach Event: Virtual events Sunday, Nov 8 and Dec 6. b. Committee Meeting report: Observatory update. From Don Ficken - The first phase construction went out to bid on Monday. Bids due in two weeks Monday Nov 16. I attended the bid premeeting Nov 4 at the suggestion of Fred Hill. The meeting was held in the conference room of the operations building. The room was setup in conference room style with six foot spacing. All seats were filled with one contractor having to stand. A few questions were posed about electrical requirements, the hookup for Ameren and concrete. Joe Candela's welding class starting fabrication on the benches as a service-learning project. The metal for the first bench will cost \$440.

**D. Library Telescope Committee** a. Budget – \$650 b. Upcoming builds or maintenance events c. Maintenance budget - \$200 d. Mileage re-imbursement - \$250 e. Promotional materials - \$200

**E. SLAS Social Events** a. Budget - \$300 b. Homemade Fest - \$100 budget c. Star-B-Q - \$200 budget, Other

**F. SLAS Brochures** a. Budget \$325 b. Quarter cards

**G. Loaner scope Program** a. Budget - \$100 – b. New donations c. Replacement Parts for the LPTs - d. Items for sale- Already sold the Tasco 4.5" reflector for \$100 to Ed Frey. Fire sale was a big success! Sold: Meade Jupiter scope - \$75, Celestron first scope - \$25, Orion 6" - \$170, Meade LX-50 - \$300 (pending). We also sold all of the items for ECC and made \$290 towards a telescope for the college

**H. SLAS Library** a. Budget - \$400 b. Other Eclipse globe was ordered and received.

**11. Closing Activities** Motion to adjourn Mark J and second by Brad W meeting adjourned 9:36pm



**St. Louis Astronomical Society  
Profit & Loss Budget vs. Actual  
January through November 2020**

**St. Louis Astronomical Society  
Balance Sheet**

**As of November 30, 2020**

	Jan - Nov 20	Budget	\$ Over Bud...
<b>Ordinary Income/Expense</b>			
<b>Income</b>			
Events Income	670.00	1,215.00	(545.00)
Magazine Subscription	2,103.15	1,437.10	666.05
Membership Dues	4,590.00	4,005.00	585.00
<b>Total Income</b>	<b>7,363.15</b>	<b>6,657.10</b>	<b>706.05</b>
<b>Cost of Goods Sold</b>			
Magazine Subscriptions	2,213.10	1,437.10	776.00
<b>Total COGS</b>	<b>2,213.10</b>	<b>1,437.10</b>	<b>776.00</b>
<b>Gross Profit</b>	<b>5,150.05</b>	<b>5,220.00</b>	<b>(69.95)</b>
<b>Expense</b>			
1-Programs & Events	1,160.24	3,900.00	(2,739.76)
2-Newsletter	241.34	645.00	(403.66)
3-Library expense	198.98	458.33	(259.35)
4-Astronomical League Dues	815.00	860.00	(45.00)
5-Loaner Scopes	67.95	91.00	(23.05)
6-Brochures		500.50	(500.50)
7-Insurance	1,049.50	1,050.00	(0.50)
8-Website	407.36	595.00	(187.64)
9-Administrative Expenses	283.21	273.50	9.71
<b>Total Expense</b>	<b>4,223.58</b>	<b>8,373.33</b>	<b>(4,149.75)</b>
<b>Net Ordinary Income</b>	<b>926.47</b>	<b>(3,153.33)</b>	<b>4,079.80</b>
<b>Other Income/Expense</b>			
<b>Other Income</b>			
Donations	102.05		102.05
Interest Income	96.09	183.00	(86.91)
LTP Receipts	1,796.81		1,796.81
Proceeds from Lens Sales	694.10		694.10
<b>Total Other Income</b>	<b>2,689.05</b>	<b>183.00</b>	<b>2,506.05</b>
<b>Other Expense</b>			
LTP Disbursements	1,799.26		1,799.26
YMCA Trout Lodge ESCROW Expe...	14.21		14.21
<b>Total Other Expense</b>	<b>1,813.47</b>		<b>1,813.47</b>
<b>Net Other Income</b>	<b>875.58</b>	<b>183.00</b>	<b>692.58</b>
<b>Net Income</b>	<b>1,802.05</b>	<b>(2,970.33)</b>	<b>4,772.38</b>

**ASSETS**

**Current Assets**

**Checking/Savings**

	Dec 31, 19	Nov 30, 20
Checking - First Bank	7,187.45	8,368.94
Deposit, Certificate of	15,841.67	15,915.06

Library Telescope Escrow	1,053.86	1,126.41
PayPal	77.94	228.07
Savings - First Bank	41,122.69	41,145.39
YMCA Trout Lodge Escr...	14.21	0.00

**Total Checking/Savings** 65,297.82 66,783.87

**Other Current Assets** 781.53 761.53

**Total Current Assets** 66,079.35 67,545.40

**Fixed Assets** 15,000.00 15,336.00

**TOTAL ASSETS** 81,079.35 82,881.40

**LIABILITIES & EQUITY**

**Equity**

Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	69,757.14	72,581.69
Net Income	2,824.55	1,802.05

**Total Equity** 81,079.35 82,881.40

**TOTAL LIABILITIES & EQUITY** 81,079.35 82,881.40

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

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

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

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

**Send to [newsletter@slasonline.org](mailto:newsletter@slasonline.org)**

## Upcoming Star Parties and Other Events

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

SLAS Executive Board Meetings *Location will be at Nicoletti's Restaurant in Valley Park* All meetings are on First Thursdays unless noted. **Note: Board meetings will be via Zoom until further notice.**  
Jan 7

### Dark Sky Observing Dates

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

**Sky Orienteering Events** For members who want to gather and do some relaxed observing at Babler State Park

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  
*See you next year! Maybe!*

Broemmelsiek Astronomy Park Public Viewing  
Every Friday by appt

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:

## SLAS Events

### December

18 Fri  
21 Mon  
28 Mon  
31 Thur

SLAS Regular Meeting  
Constellation Tour 26  
Constellation Tour 27

New Year's Eve!

### January

1 Fri  
4 Mon  
7 Thur  
10 Sun  
9 Sat  
11 Mon  
18 Mon

Happy New Year!  
Constellation Tour 28  
SLAS Board Meeting  
Aim for the Stars - JCO  
SLAS Dark Sky Observing  
Constellation Tour 29  
Constellation Tour 30

### February

4 Thur  
6 Sat  
7 Sun  
19 Fri

SLAS Board Meeting  
SLAS Dark Sky Observing  
Aim for the Stars - JCO  
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!

### 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 Merchandise Available

SLAS merchandise is now set up for embroidery at **Headz n Threadz** at [www.headznthreadz.com](http://www.headznthreadz.com)

There is now only one location:

1065 Regency Parkway, St. Charles MO 63303  
Telephone: 314.528-8100  
[sales@headznthreadz.com](mailto: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](http://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  
 vicepresident at slasonline.org

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

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

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

**Board Members at Large:**

*Tom Nickelson* 314-346-9565  
 board20 at slasonline.org

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

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

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

**MSRAL Rep.** *Jim Small* 314-909-7211  
 msral\_rep at astroleague.org

## COMMITTEE CHAIRS

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

**Librarian** *Jim Small* 314-909-7211  
 librarian at slasonline.org

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

**Loaner Equipment** *Greg Gaines* 314-277-3082  
 loaner at slasonline.org

**Merchandise** *Vacant*  
 merchandise at slasonline.org

**Membership** *Don Ficken* 636-225-0269  
 membership at slasonline.org

**Newsletter Editor** *Jim Small* 314-909-7211  
 newsletter at slasonline.org

**Observing Programs** *Mark Jones* 636-394-2342  
 observing at slasonline.org

**Publicity** *Rich Heuermann* 314-962-9231  
 publicity at slasonline.org

**Recognition** *Larry Campbell* 636-244-2867  
 recognition at slasonline.org

**Social Media** *Vacant*

**'SLASdialogs' Moderator** *Mark Jones, Rhonda Whelan*  
 dialogsmoderator at yahoo.com

**Star Party Coordinator** *Bill Breden* 314-276-3613  
 starparty at slasonline.org

**Telescope Making** *Bill Davis, Jim Melka* 314-469-3061  
 telescope at slasonline.org

**Webmaster** *Jim Small* 314-909-7211  
 webmaster at slasonline.org

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

**ST. LOUIS ASTRONOMICAL SOCIETY**

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

Follow us on  
Twitter: @stlastro  
Facebook: @stlastro

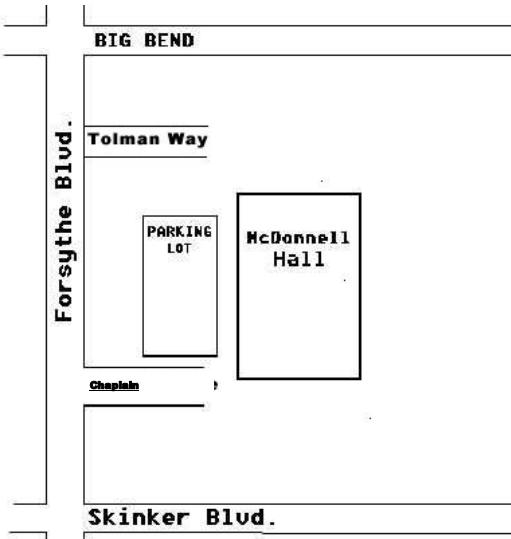


**Who We Are and What We Do**

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

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

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



**St. Louis Astronomical Society**  
Jim Small  
13128 Cozyhill Drive  
St. Louis, MO 63122

