

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

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Radio Quasars – Signals From Supermassive Black Holes

by
Dr. Amy E. Kimball
National Radio Astronomy Observatory

Dr. Amy E. Kimball of the National Radio Astronomy Observatory in Socorro, New Mexico, will be featured at the December meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, December 15, in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130.

Radio quasars are very bright, very distant objects detected by the radio waves they emit. They are now known to be supermassive black holes – black holes containing thousands to millions of times the amount of matter packed into the Sun. A black hole is an object whose gravity is so strong that nothing, including visible light and radio waves, can escape it. The black hole itself is not visible, but the gaseous material falling into it can glow as the falling particles collide. Dr. Kimball will talk about the nature of radio quasars and some of the questions about them that astronomers are trying to answer. She will also talk about her work

with the Jansky Very Large Array (VLA) radio telescope observatory. The VLA is an interconnected group of 27 radio telescopes, each over 80 feet across.

Dr. Amy B. Kimball is an Assistant Scientist on the scientific staff at the National Radio Astronomy Observatory (NRAO). She assists astronomers worldwide who use the VLA, as well as being on the team that is developing the VLA Sky Survey of radio sources. Her research interests center on the study of supermassive black holes in other galaxies.

Upcoming Meetings: 2018

January Carl Bender, PhD, Washington University Black Holes and Hawking Radiation

February Ryan Ogliore, PhD, Washington Univ From Stardust to the Solar System Wash U

March Michael Medford, UC Berkeley Discovering Planet 9 (10) (Zoom event)

April Kun Wang, PhD, Washington University New Evidence for the Origin of the Moon

May Ryan Clegg-Watkins, PhD, Washington Univ Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers

July Erika Gibb, PhD, UMSL Comets

August Michael Bouchard, Washington University Mars 2020 Rover

September Francesc Ferrer, PhD, Washington U. In the wake of the Higgs, what will the next breakthrough at the LHC?

Mid States Region



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Outreach Challenge *by* Bill Neubert

I am repeating the Outreach Challenge this year. Last year, laser pointers were given to the 20 SLAS member who completed at least 10 outreach events in 2016. This year, I will give a red astronomy flashlight to any SLAS member completing at least five

registered outreach events by the end of December 2017, as listed in the Event Horizon.

I realize this isn't what motivates so many of you to volunteer. It's just a fun way to recognize it in a very small way.

There are still many outreach events remaining this year, so I think many of us can complete five events.

- Bill Neubert

Presidents Corner by Jim Small

Many of you didn't make it to the last two meetings, so if you are on the recognition list from last month we are hope you can make it to this one to receive your pin and certificate.

If you made it to five outreach events this year, you will be eligible for a Night Sky Network pin! That will also qualify you for Bill Neuberts outreach gift as indicated on the front page! We had a banner year for outreach which will be summarized in the January newsletter. We were outpacing previous years by the end of the summer, so we'll see where we ended up.

The Astronomical Society of the Pacific held their annual meeting in early December at the Moonrise Hotel in the Delmar Loop. It was a terrific conference and we got to hang out with the people who run Night Sky Network and REALLY like outreach for three days! There were lots of good talks and some eye opening discussions about the world of astronomy. And of course, the Moonrise was a perfect venue for an astronomical event.

I hope the holidays find you well and I wish you and yours all the best. Next month, if you didn't get that telescope you wanted, there will be some sold from the myriad of loaner scopes that have been donated to the society.

There are some unique telescopes that have been donated, so keep a watch out for information about the ones we will have available. It will be great to clear out my living room!

Next month, we will be moving the loaner telescopes to my place to give several members of the society more access to help facilitate the loaner telescope program. We will also be taking inventory over the holidays and creating documentation to help people decide what telescope they would like to borrow. Next years budget will also include money for some cases for some of our loaner telescopes as well to make them better for transport. We will also be creating some eyepiece kits to check out with the scopes.

The budget will be presented at the meeting. It is a thorough document with no real surprises compared to last year. If you have any questions about it, be sure to ask at the meeting this week.

Dale and Gaylene Englebrecht are moving out of the area, so they will no longer be directly involved here at SLAS. We will certainly try to include them long distance if we can! They have been a terrific addition to our group and are greatly appreciated.

This month's meeting will be a good one as we are using Zoom to bring Amy Kimball in from the VLA tonight!

From Dale and Gaylene:

We will not be renewing our membership for 2018. We are moving out of town and will no longer be capable of participating with SLAS. We found the meetings informative, interesting, and sometimes very entertaining.

If, in the future, it would become possible for you to either Skype the meetings to out-of-state members or for out-of-state members to view videos of the meetings that Brent continues to acquire, we would certainly be interested in renewing our membership.

The skies in northern Illinois/Southern Wisconsin will certainly be darker than those found in the Central West End. And we will now have access to Gaylene's 8 inch Celestron. Dale may even be able to see an aurora for the first time in his life. Thanks to all of you for a wonderful experience.

- Dale and Gaylene

From Mark Jones:

SLAS Members - Dale and Gaylene Engelbrecht are leaving St Louis. Dale and Gaylene joined SLAS in January 2012. During their time as members they contributed 40 hours volunteering for astronomy outreach. Including helping with a Library Telescope build at Parkway West High School. Dale also participated in a couple a Astro 101 presentations providing information on space relics and binocular mounts



**Illinois Dark Sky Star Party (IDSSP) 2107
by
Grant Martin**

Even though it was cloudy and hot all day Thursday, the Illinois Dark Sky Star Party (IDSSP) didn't start with a bang this year as would be the trend over the last decade. In fact, rather than the usual gloom and doom, the sunset (right) promised something rarely seen this year: Clear, steady skies.

66 people had registered and by the time the party was over, more than 50 attended. We missed Thane and Marlene but Rene and Greg Rugelman came in late Saturday afternoon. And if you want to be honest, they were the smart ones who came in with a good number of other attendees after the blistering daytime heat pretty well dissipated.

Yeah, we might not have gotten any world class storms (as would be usual) but the heat and humidity certainly made up for it: 98 degrees f, in the shade. Daytime activity was nil to say the least. Everyone who had setup a camp was doing their best to not generate any more internal heat than was necessary. Did I say brutal? It was just like being back on that Wal-Mart parking lot for the total eclipse.

But as I mentioned earlier, the nighttime views were reward enough for suffering the daytime indignities. Thursday was a bit of a wash (most people admitted to missing it since we were recuperating from the noonday sun). Reports from those that were up through the night made us jealous though.

Friday was just as brutal as the day before. But we were adapting pretty well. I wound up talking with Ray Watt from around 7 till 11PM. Clouds and high trash had moved in late in the afternoon so we were just yacking away. About 9ish, we could see clearing skies (or one big a** sucker hole) to the West. It moved in pretty fast and yielded clear skies from the meridian Westward. Ray had his home-built 8 inch reflector setup (there's a neat story there) so we viewed the usual fare available to an 8" scope. By 11 we were pretty well bushed.

Saturday again was brutal with regard to the heat. But we were pretty well adjusted to it by then. The trivia bowl was held in one of the pavilions (did I mention the mosquitos were massed in the billions? Yeah, they made it hell in the woods and when the temps dropped).

The afternoon speaker was Dr. John Martin. John has given a number of presentations at IDSSP's and is a phenomenal speaker. He can really make technical presentations understandable. This year's talk was about some oddball stars that don't fit well in the HR diagrams and their nuances. You had to be there. His research unveiled some really interesting aspects of the lives of high mass stars; Aspects that hadn't been suspected till now.

Saturday night was a keeper. Most of us napped till about 10PM when the cool air moved in and the heat moved out. The skies weren't as steady as Friday but they were more transparent. I was testing a little 70mm F5 Lunt refractor when I heard a familiar voice in the darkness. It was Lynn "Moon draw boy" Herzberger. If you've met Lynn, you



know who I'm talking about. If you haven't met him, you're missing a real character. Lynn had brought a few folks from nearby towns. So with that, the rest of the night was devoted to public outreach ;) I pushed and pulled that little scope to all the usual objects getting the usual OOOhss N' Ahhwws. Most of these folks were just out of college so that meant they had more stamina than I. Fortunately, they had brought some adult beverages and as is their want, they tired out about the same time as this old man ran outa gas. Thank fully. At 3AM. But not before I shot Orion (below). I was running on fumes, my golf cart batteries were drained and the cot was calling my name as I rolled into the sack.

And with that, the 2017 Illinois Dark Sky Star party ended. It was one for the books that's for sure.



**Assumption Summary – 2018
St. Louis Astronomical Society Annual Budget**

Work began on the 2017 budget after the financial close for August 2017. The year to date information is therefore through August 31, 2017 with an estimated projection of activity from September 1, 2017 through December 31, 2017.

The budget information was assembled partially based on assumptions developed from the August 2017 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 2017 is based on:

Regular (Adult) Memberships	108 @ \$25.00/year	\$2,700
Youth Memberships	11 @ \$10.00/year	110
Family Memberships	29 @ \$40.00/year	1,160

As indicated in the budget, this will provide operating revenues in the total of \$3,970 for 2018. 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.

Albeit that the Society does receive donations for the outreach activities, these donations have been ignored for the purpose of the 2018 budget due to the uncertainty. The donations are solely for the purpose to contribute to the cash flow and offset a portion of any deficit.

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.

Starting with 2015 the printing expenses for both the newsletter and brochures, along with the general administrative printing have been combined into a single item under operating expenses. This allows us to better track printing resources, since the functions utilize the same printing resources. The overall budget for printing expense remains the same as 2017 at \$1,370. This budget includes

the estimated cost of new hand out materials.

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 2017 because of our hosting telescope viewing at Kirkwood Park at least twice a year.

The Star-B-Que has been increased from \$175 to \$200 to account for the increased cost of meat. This event will again be member pot luck 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 three 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:

1. Building public awareness of the library telescope program (includes displays, business cards, handouts for libraries to use in publicity)
2. Recruiting/training more volunteers (quarterly training of volunteers – might include workshop materials and simple refreshments)
3. Extending the existing programs through a) solar telescopes and b) increased programming for both night and daytime applications
4. Keeping the telescopes in good working order including our trainers (libraries pay for major items, we cover small stuff)

The Library Telescope Committee requests \$500 for the Library Telescope Escrow to cover item 1-3 above. In addition, the Committee requests \$200 in operating expenses to cover item 4 above. Note that parts for major repairs are considered the responsibility of the libraries and are not budgeted.

Meeting Expense:

Meeting expense is comprised of Meeting Refreshments and Meeting Speaker Fees. The meeting refreshments are self-explanatory and have been budgeted at \$350, same the 2017 budget level. 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 2018 speaker budget will be \$600, which includes expected travel expenses/honorariums for 3 to 4 speakers. In particular, the Board intends to provide modest stipends to graduate and post-graduate students who make presenta-

tions to SLAS. For 2018, we anticipate providing stipends to the following speakers:

- Michael Medford Discovering Planet 9 (10) Berkeley
- Mao Xiaochen The Dawn Mission: Vesta and Ceres Wash U
- Michael C Bouchard Mars 2020 Rover Wash U
- Eddie Schlafy Big Bang Berkeley

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.

Membership Initiatives, as in recent years, plans to hold raffle events during 2018 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 2018 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.

Membership Recognition:

The membership recognition budget for 2017 is \$300. This will include \$100 for Night Sky Network pins and certificates. The remaining \$200 will be budgeted for recognition of members for continuous membership in SLAS and for contributing time for other SLAS functions. A membership recognition committee was formed last year and an email address, recognition@slasonline.org was set up so that recommendations can be submitted to the committee. During 2016, the committee made name badges to help members identify and socialize with other members. Continuous membership pins and certificates will be awarded annually in the month of October for 5, 10, 15, 20, 25 and 30 or more years of continuous membership in SLAS. In the initial ceremony on 10/20/17, 92 pins were awarded and for 2018, we expect to award 22 more.

Merchandise:

A budget of \$45 has been established to cover the setup fees for embroidery/silkscreen. Several local retailers are being considered based on overall price, quality, and convenience.

Library:

Library expenses for 2018 will be for the purpose of purchasing the latest CDs available for both Sky & Telescope and Astronomy Magazine and the RASC Handbook at an estimated cost of \$100. The remaining budget is for the purchase of books and materials of interest to the SLAS membership.

Loaner Scope Program:

We need cases to protect some of our telescopes. We have 2 Celestron 4 inch f9.8 refractors that need a protective soft case. We have two PST solar telescopes that are still in their original boxes and need a case. We also want to have three eyepiece kits to put together to allow members to

check out sets of eyepieces that we can use with telescope checkouts.

2 Refractor case	\$200
2 PST cases	\$108
3 Eyepiece Cases @ \$40	<u>\$120</u>
	\$536
Repairs, etc	<u>\$64</u>
Total	\$600

SLAS also added four “Library Telescopes” to its inventory for the exclusive use of SLAS members during 2015. These scopes are available for checkout at the monthly general meeting. Vice President Bradley Waller is in charge of checking out the “Library Telescopes” to members.

SLAS Brochures:

Brochure printing expense was been combined with the newsletter printing expense starting with the 2015. The brochures contain information about the Society that is distributed to the general public at all outreach events. There are plans to revise and modernize the SLAS brochure for 2018. Brochure paper requirements are estimated at 15 reams of “astro-bright” premium paper at a cost of \$150. In addition to the brochures, the Board is in the process of developing new alternative handouts for star parties and other events, such a business card style and/or “quarter card” style handouts that will provide key information about SLAS, including information on SLAS’s social media sites and on how to join SLAS.

Summary:

The Board and participating committee members have increased several budget items in anticipation of increased interest following the 2017 Eclipse as well as continued high volume of star parties and related public event associated with the Library Telescope program. The budget for SLAS’s loaner scope program has been expanded to purchase much needed cases and accessories and to make SLAS’s fine collection of loaner scopes more visible and accessible to the membership. The budget for speakers has been retained at the 2017 level in order to attract quality speakers from a larger radius and to sport the participation of graduate students. Similar to 2017, funding for the Library Telescope Escrow have been categorized as an investment and will be recorded as below-the-line (other) expenses. The net result is 2017 budget as presented equals a net loss from operations of \$2,600 for 2018, compared a net loss of \$1,940 for the 2017 budget and a net loss of \$1,060 for the 2016 budget. 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. The below the line expenses for the Library Telescope Escrow total \$500. 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 to the individual committee chairs. They will be the best source to address these questions.

Respectfully,
Bill Winningham, Treasurer

ST. LOUIS ASTRONOMICAL SOCIETY PRELIMINARY OPERATING BUDGET - 2018								
	Actual	Budget	Projection		Budget			
	Year to Date	Year to Date	Sept-17 to	Year to date	Annual	Annual	Annual	Annual
	Aug-17	Aug-17	Dec-17	Dec-17	2015	2016	2017	2018
Income								
Magazine Subscription								
Total Magazine Subscription	\$ 1,172.64	\$ 539.15	\$ 833.20	\$ 2,517.18	\$ 2,034.10	\$ 1,734.40	\$ 952.50	\$ 1,338.90
Membership Dues	\$ 2,955.00	\$ 1,895.00	\$ 1,545.00	\$ 4,500.00	\$ 3,440.00	\$ 3,725.00	\$ 3,600.00	\$ 3,970.00
Merchandise Sales		-	-		-	-	-	-
Total Income	\$ 4,127.64	\$ 2,434.15	\$ 2,378.20	\$ 7,017.18	\$ 5,474.10	\$ 5,459.40	\$ 4,552.50	\$ 5,308.90
Cost of Goods Sold								
Total Magazine Subscriptions	\$ 1,111.25	\$ 539.15	\$ 1,494.95	\$ 2,606.20	\$ 2,034.10	\$ 1,734.40	\$ 952.50	\$ 1,338.90
Merchandise	-	45.00						
Total Cost of Goods Sold	\$ 1,111.25	\$ 584.15	\$ 1,494.95	\$ 2,606.20	\$ 2,034.10	\$ 1,734.40	\$ 952.50	\$ 1,338.90
Gross Profit	\$ 3,016.39	\$ 1,850.00	\$ 883.25	\$ 4,410.98	\$ 3,440.00	\$ 3,725.00	\$ 3,600.00	\$ 3,970.00
Operating Expense								
Programs & Events								
Home Made Fest	100.00	100.00	-	100.00	100.00	100.00	100.00	100.00
Star BBQ Expense	-	175.00	-	-	175.00	175.00	175.00	200.00
Library Scope Program Escrow	-	200.00	-	-	600.00	200.00	200.00	200.00
Astronomy Day/Outreach	247.90	-	300.00				547.90	
Eclipse Workshop Dues	-	-	-	-	200.00	200.00		
2017 Eclipse Committee	-				200.00	-	-	-
Meeting Expenses								
Meeting Refreshments	108.12	232.00	60.00	168.12	450.00	350.00	350.00	350.00
Meeting Speaker Fees	661.72	630.00	-	661.72	250.00	250.00	800.00	600.00
Total Meeting Expenses	\$ 769.84	\$ 862.00	\$ 60.00	\$ 829.84	\$ 700.00	\$ 600.00	\$ 950.00	\$ 950.00
Membership Initiatives (excludes "profits")	\$ 69.42	\$ 134.00	130.58	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00
Merchandise				-	\$ 120.00	45.00	45.00	45.00
Membership Recognition	151.18	220.00	148.82	300.00	200.00	260.00	300.00	300.00
Programs & Events	\$ 1,338.34	\$ 1,691.00	\$ 639.40	\$ 1,429.84	\$ 2,495.00	\$ 1,780.00	\$ 2,270.00	\$ 1,995.00
Newsletter Postage	\$ 120.83	\$ 116.00	\$ 20.00	\$ 140.83	\$ 180.00	\$ 200.00	\$ 175.00	\$ 175.00
Total Newsletter	\$ 120.83	\$ 116.00	\$ 20.00	\$ 140.83	\$ 180.00	\$ 200.00	\$ 175.00	\$ 175.00
Library expense	\$ 49.95	\$ 200.00	\$ 100.00	\$ 149.95	\$ 300.00	\$ 100.00	\$ 300.00	\$ 300.00
Astronomical League Dues	740.00	670.00	-	740.00	650.00	695.00	670.00	760.00
Loaner Scopes	5.00	50.00	-	5.00	200.00	50.00	50.00	600.00
Insurance	825.50	380.00	-	825.50	380.00	380.00	380.00	825.00
Website	179.40	170.00	-	179.40	135.00	150.00	170.00	170.00
Administrative Expenses								
Corporate Filings	-	-	-	-	-	20.00	-	20.00
Office Supplies	43.35	75.00	6.00	49.35	165.00	165.00	100.00	100.00
Banking Fees	22.55	25.00	-	22.55			25.00	25.00
PayPal Fees	21.46	26.00	10.00	31.46	40.00	40.00	40.00	40.00
Postage	49.00	60.00	35.00	84.00	75.00	90.00	90.00	90.00
Printing / Copying Expense (combined 2015)	157.15	913.00	250.00	407.15	888.00	1,115.00	1,370.00	1,370.00
Administrative Expenses	\$ 293.51	\$ 1,099.00	\$ 301.00	\$ 594.51	\$ 1,168.00	\$ 1,430.00	\$ 1,625.00	\$ 1,645.00
Total Operating Expense	\$ 3,552.53	\$ 4,376.00	\$ 1,060.40	\$ 4,065.03	\$ 5,508.00	\$ 4,785.00	\$ 5,640.00	\$ 6,470.00
Net Income/(Loss) From Operations	\$ (536.14)	\$ (2,526.00)	\$ (177.15)	\$ 345.95	\$ (2,068.00)	\$ (1,060.00)	\$ (2,040.00)	\$ (2,500.00)
Other Income / Expense								
Other Income								
Donations								
SLAS Club Members	-			-	-	-	-	-
Donations - Other	1,450.00		325.00	1,775.00				
Total Donations	\$ 1,450.00		\$ 325.00	\$ 1,775.00	\$ -	\$ -	\$ -	\$ -
Interest Income	\$ 30.00	\$ 66.67	\$ 10.00	\$ 40.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Non-Operating Income (Astro Mag Award)								
Total Other Income	\$ 1,480.00	\$ 66.67	\$ 660.00	\$ 1,815.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Other Expense								
Physical Inventory Adjustment	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -
Astro Mag Award Disbursements			\$ -					
2017 Eclipse Escrow Funding	\$ 1,500.00	\$ 1,500.00				\$ 800.00	\$ 1,000.00	\$ 1,500.00
LTP Escrow Funding	\$ 1,000.00	\$ 1,000.00				\$ 1,000.00	1,000.00	1,000.00
Total Other Expense	\$ 2,500.00	\$ 2,500.00	\$ -	\$ -	\$ -	\$ 1,800.00	\$ 2,000.00	\$ 2,500.00
Net Other Income / (Expense)	\$ (1,020.00)	\$ (2,433.33)	\$ 660.00	\$ 1,815.00	\$ 100.00	\$ (1,700.00)	\$ (1,900.00)	\$ (2,400.00)
Net Income / (Loss)**	\$ (1,556.14)	\$ (4,959.33)	\$ 482.85	\$ 2,160.95	\$ (1,968.00)	\$ (2,760.00)	\$ (3,940.00)	\$ (4,900.00)

ST. LOUIS ASTRONOMICAL SOCIETY								
PRELIMINARY OPERATING BUDGET - 2018								
	Actual	Budget	Projection		Budget			
	Year to Date	Year to Date	Sept-17 to	Year to date	Annual	Annual	Annual	Annual
	Aug-17	Aug-17	Dec-17	Dec-17	2015	2016	2017	2018
Required versus Discretionary Spending								
Gross Profit	\$ 3,016.39	\$ 1,850.00	\$ 883.25	\$ 4,410.98	\$ 3,440.00	\$ 3,725.00	\$ 3,700.00	\$ 4,070.00
Required Expenses								
Newsletter Postage	\$ 120.83	\$ 116.00	\$ 20.00	\$ 140.83	\$ 180.00	\$ 200.00	\$ 175.00	\$ 175.00
Astronomical League Dues	740.00	670.00	-	740.00	650.00	695.00	670.00	760.00
Insurance	825.50	380.00	-	825.50	380.00	380.00	380.00	825.00
Website	179.40	170.00	-	179.40	135.00	150.00	170.00	170.00
Corporate Filings	-	-	-	-	-	20.00	-	20.00
Office Supplies	43.35	75.00	6.00	49.35	165.00	165.00	100.00	100.00
Banking Fees	22.55	25.00	-	22.55	-	-	25.00	25.00
PayPal Fees	21.46	26.00	10.00	31.46	40.00	40.00	40.00	40.00
Postage	49.00	60.00	35.00	-	75.00	90.00	90.00	90.00
Printing / Copying Expense	157.15	913.00	250.00	407.15	888.00	1,115.00	1,370.00	1,370.00
	\$ 2,159.24	\$ 2,435.00	\$ 321.00	\$ 2,396.24	\$ 2,513.00	\$ 2,855.00	\$ 3,020.00	\$ 3,575.00
Balance for Discretionary Items	\$ 857.15	\$ (585.00)	\$ 562.25	\$ 2,014.74	\$ 927.00	\$ 870.00	\$ 680.00	\$ 495.00
Discretionary Spending								
Home Made Fest	100.00	100.00	-	100.00	100.00	100.00	100.00	100.00
Meeting Refreshments	108.12	232.00	60.00	168.12	450.00	350.00	350.00	350.00
Meeting Speaker Fees	661.72	630.00	-	661.72	250.00	250.00	600.00	600.00
Membership Initiatives (excludes "profits")	69.42	134.00	130.58	200.00	200.00	200.00	200.00	400.00
Merchandise	-	-	-	-	120.00	45.00	45.00	45.00
Membership Recognition	151.18	220.00	148.82	300.00	200.00	260.00	300.00	300.00
Astronomy Day/Outreach	-	-	-	-	-	-	300.00	-
Star BBQ Expense	-	175.00	200.00	200.00	175.00	175.00	175.00	200.00
Library expense	49.95	200.00	100.00	149.95	300.00	100.00	300.00	300.00
Loaner Scopes	5.00	50.00	-	5.00	200.00	50.00	50.00	600.00
Library Scope Program Expense	-	200.00	-	-	600.00	200.00	200.00	200.00
Eclipse Workshop Dues	-	-	-	-	200.00	200.00	-	-
2017 Eclipse Committee	-	-	-	-	200.00	-	-	-
	\$ 1,145.39	\$ 1,941.00	\$ 639.40	\$ 1,784.79	\$ 2,995.00	\$ 1,930.00	\$ 2,620.00	\$ 3,095.00
Net Income/(Loss) From Operations	\$ (288.24)	\$ (2,526.00)	\$ (77.15)	\$ 229.95	\$ (2,068.00)	\$ (1,060.00)	\$ (1,940.00)	\$ (2,600.00)
Other Expense								
2017 Eclipse Escrow Funding						\$ 800.00	\$ 1,000.00	N/A
Library Telescope Program Escrow Funding							1,000.00	1,000.00
Total Other Expense					N/A	\$ 1,800.00	\$ 2,000.00	\$ 500.00
Actual Historical Net Income for prior years								
				\$ 2,243.34	\$ 368.42	\$ 30,000.32		
				(2014)	(2015)	(2016)		
* Includes seperately 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.								

FOR SALE

8" LX200R Advanced Ritchey-Chretien Telescope with GPS and AutoStar II Hand Controller. This scope has an additional Right Angle Finder Scope. The original straight thru finder scope is included with the scope.

I have installed a rail and counterweight system on the outside of the tube for additional balance control for photography.

I have also included a Williams Optic Zenithstar SD Doublet APO STM-coated 66 mm.F5.9 scope attached to the main tube. See photos.

Also included, besides the traditional tripod spreader plate, is a base plate that has additional eyepiece holding capability, along with quick setup guide posts on the plate for correctly mounting the telescope base.

This is a very good scope and is in excellent working condition. No scratches or dings. Looks brand new. It breaks my heart to sell it but it is too heavy for me to lift as I will be 80 in February.

This package also contains the 2" steel tubular tripod, 120 volt transformer power supply for DC voltage conversion, a Meade Super Plossl 26 mm. ocular and complete manual.

I paid in the neighborhood of \$2800 not including the right angle finder, additional spreader plate and Williams Optic Scope.

Asking price is \$1200 firm. I live in Webster Groves at 311 Dobbin Rd, close to the corner of Big Bend and Rock Hill. Phone 314 968 5388.

I hate to sell it but this is too nice a scope to let sit unused.
Glenn Meyer



SLAS Executive Board Meeting Minutes November 9, 2017

1. Opening Activities: Attending: Jim Small, Bill Winningham, Larry Campbell, Bradley Waller, Brent Buch, Tom Nickelson, Mark Jones, Rich Heuermann. Meeting called to order 7:03pm. Minutes from October approved Mark second by Tom N.

2. External Business Next board meeting: Dec 7 Discussion for Board meeting dates for next year to be moved to 1st Thursdays, to make them easier to track on calendar Motion – Mark J made motion to move 2018 board meetings to first Thursday each month. Second by Tom N. Motion approved by Board.

3. Director Reports:

President – Jim Small: SLSC: Pleiades Conference (Oct 10-14) was huge, 370 attendees. JSM Planetarium (Anna Green was Conference Chair) was an excellent host. Jim Small presented poster on the Library Telescope Program ASP 2017 conference to be held in STL at Moonrise Dec 5-8. Free teachers workshop will occur during conference. MSRAL 2018 set for June 22-24 is being hosted by the Sugar Creek Astronomical Society, and the convention location is the Explore Scientific facility, 1010 S. 48th Street, Springdale, AR 72762. Kent Marts will be chair of the convention

Vice President – Bradley Waller

Presentations for 2017

17-Nov-2017 William McKinnon, PhD “Pluto in the Rear View Mirror & Kuiper Belt Object MU69 Dead Ahead Wash U

15-Dec-2017 Amy E Kimball “Radio Quasars & the VLA” (1) NRAO

Presentations for 2018

19-Jan-2018 Carl Bender, PhD “Black Holes and Hawking Radiation” Wash U

16-Feb-2018 Ryan Ogiore, PhD “From Stardust to the Solar System” Wash U

16-Mar-2018 Michael Medford “Discovering Planet 9 (10)” (1) Berkeley

20-Apr-2018 Kun Wang, PhD “New Evidence for the Origin of the Moon” Wash U

18-May-2018 Ryan Clegg-Watkins, PhD “Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers” Wash U

20-Jul-2018 Erika Gibb, PhD Comets UMSL

17-Aug-2018 Michael Bouchard Mars 2020 Rover Wash U

21-Sep-2018 Francesc Ferrer, PhD “In the wake of the Higgs, what will the next breakthrough at the LHC?” Wash U

19-Oct-2018 Mao Xiaochen “The Dawn Mission: Vesta and Ceres” Wash U

16-Nov-2018 Bard Joliff, PhD Lunar Geology Wash U

21-Dec-2018 Pamela Gay, PhD Secret Squirrel Part2 ASP

(1) Skype Event

Astro 101 – None for November. Budget presentation to membership. Recognition certificates

Welcome aboard new members meeting still planned for each month.

Astronaut Scott Kelly book signing, autographed copy of his book for SLAS attendance prize

Three laser pointers received for future prizes

SLAS eclipse mug. Photo chosen, details to be discussed

Secretary – Mark Jones: Lens sales expecting another check in November

Treasurer/ALCor – Bill Winningham: Budget and narrative presented to Board. Motion: I move for the Board to accept the 2018

Budget that shows a \$2600 net loss for 2018 and the narrative provided by the committees. This budget should be presented to the general membership for discussion and approval per the by-laws Motion by Mark J. and seconded by Tom N. Motion approved by Board.

Budget will be published in newsletter and presented at the November general meeting

Hospitality – Larry Campbell: November will be normal refreshments. Brad might be getting a cake for “Welcome Back Rhonda”

recognition. Membership recognition – 18 of 92 recognition pins were given out at October meeting will make further presentation at November. Slide idea will be used to speed up process

recognition. Membership recognition – 18 of 92 recognition pins were given out at October meeting will make further presentation at November. Slide idea will be used to speed up process

Board member at large reports

Brent Buch (2018) Demo of Joomla plug-in for displaying video on our site. Brent will start loading video on website

Rich Heuermann (2019) No report

Tom Nickelson (2020) Tentative date for moving shed is Nov 19th

4. Committee Reports: If needed**Library Telescope Program:**

Membership – Our member count is 182 members.

Merchandise – Infini-tees shirts for sale - \$20

Newsletter – Articles and pictures (especially pictures) are welcome to beef up the newsletter and our social media outlets. Please forward to newsletter@slasonline.org Discussion about redesign of brochure and what to do with their content. Should we replace with post-card style, supplement with cards, reduce to front and back handout, etc.

Social Networking – Facebook up to 100 followers. Conversation between two young women where one of them stated that she was excited that SLAS does star parties that are open to the public and invited the other woman to come to a star party with her sometime and suggested they get a group together to attend. With the growing interest in STEM, propose doing a *public* sky orienteering? Maybe try it and see how it goes, give people a chance to approach SLAS and talk to members, get an idea of what it's about and what the people are like. Public sky orienteering wouldn't have to be anything big, just go over the basics and give people a chance to see SLAS and ask questions about astronomy. Treat it just like a regular star party, but ask attendees to RSVP so you have enough SLAS members to cover the crowd.

Night Sky Network – Discussed changes to the way locations are organized to make it easier to find them. Also discussed making it possible for someone who is a lead for an event to send event messages to members without going through a coordinator. Looked into setting up automatic reminders for events. Other organizational systems discussed.

Loaner Scopes - Another homemade refractor is on the way to be donated. Really nice-looking scope. Not sure it's the best for loaner, but might go on sale. Propose the sale of the telescopes from loaner program to take place at the December meeting. We can advertise it for Christmas!

Publicity – Press release sent out today

1 AM
13/17
Actual Basis

**St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through November 2017**

	<u>Jan - Nov 17</u>	<u>Budget</u>	<u>\$ Over Budget</u>
Ordinary Income/Expense			
Income			
Total Magazine Subscription	1,531.19	763.80	767.39
Membership Dues	3,735.00	2,560.00	1,175.00
Total Income	5,266.19	3,323.80	1,942.39
Cost of Goods Sold			
Total Magazine Subscriptions	1,461.70	763.80	697.90
Merchandise		45.00	(45.00)
Total COGS	1,461.70	808.80	652.90
Gross Profit	3,804.49	2,515.00	1,289.49
Expense			
1-Programs & Events ^{2,4}	1,970.92	2,117.00	(146.08)
2-Newsletter	120.83	160.00	(39.17)
3-Library expense	49.95	275.00	(225.05)
4-Astronomical League Dues	740.00	670.00	70.00
5-Loaner Scopes	5.00	50.00	(45.00)
7-Insurance ¹	825.50	380.00	445.50
8-Website	179.40	170.00	9.40
9-Administrative Expenses	462.85	1,498.50	(1,035.65)
Total Expense	4,354.45	5,320.50	(966.05)
Net Ordinary Income	(549.96)	(2,805.50)	2,255.54
Other Income/Expense			
Other Income			
Donations	2,050.00	0.00	2,050.00
Eclipse Escrow Receipts	18,559.24	0.00	18,559.24
Interest Income	48.46	91.67	(43.21)
LTP Receipts ⁵	8,400.57	0.00	8,400.57
Proceeds from Lens Sales	16,518.81	0.00	16,518.81
Total Other Income	45,577.08	91.67	45,485.41
Other Expense			
Eclipse Escrow Disbursements	23,378.76	0.00	23,378.76
Eclipse Escrow Funding ³	1,500.00	1,500.00	0.00
LTP Disbursements ⁵	8,625.89	0.00	8,625.89
LTP Escrow Funding	1,000.00	1,000.00	0.00
Total Other Expense	34,504.65	2,500.00	32,004.65
Net Other Income	11,072.43	(2,408.33)	13,480.76
Net Income	10,522.47	(5,213.83)	15,736.30

1 Reflects expanded insurance coverage over prior years
2 Outreach budget reflects \$150 approved by membership vote as a donation towards the International Space Development Conference.
3 Includes \$500 in St. Louis County Library donations associated with Eclipse related events.
4 Speaker fees include an additional \$200 as voted on by Club Membership (for the August Speaker)
5 Reflects \$5,000 grant from the American Astronomical Society, the grant funds have been spent in accordance with the grant proposal

**St. Louis Astronomical Society
Balance Sheet
As of November 30, 2017**

	<u>Dec 31, 16</u>	<u>Nov 30, 17</u>
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	3,957.19	4,648.03
Deposit, Certificate of	20,148.49	20,178.63
Library Telescope Escrow	799.33	342.76
PayPal	126.42	142.32
Savings - First Bank	29,755.97	46,293.10
SLAS Eclipse Conference Escrow*	6,259.97	0.00
YMCA Trout Lodge Escrow	542.87	482.87
Total Checking/Savings	61,590.24	72,087.71
Other Current Assets		
Inventory Asset	1,360.92	1,360.92
Undeposited Funds	0.00	25.00
Total Other Current Assets	1,360.92	1,385.92
Total Current Assets	62,951.16	73,473.63
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	62,951.16	73,473.63
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	24,813.26	54,813.50
Net Income	30,000.24	10,522.47
Total Equity	62,951.16	73,473.63
TOTAL LIABILITIES & EQUITY	62,951.16	73,473.63

* Any excess Eclipse Escrow funds will revert to SLAS in 2017 after all accounts are settled.

(Continued from page 8)

Star Parties- Bill Breeden sent out a list.

5. Old Business None

6. New Business

Jefferson County is the 4th most populated (221,000) county in the state of Missouri and is adjacent to St. Louis. Jefferson County just experienced the 2017 Total Solar Eclipse and the communities in Jefferson County embraced this astronomical event with surprisingly generous amounts of time, money and resources. Eleven SLAS members currently reside in Jefferson County and Jefferson County offers a great membership growth opportunity to SLAS. Jefferson College situated near Hillsboro, MO, which is conveniently 40 miles south of central St Louis. Jefferson College hosts STEM expos and other events throughout the year to promote science to the community. Further SLAS has established the library telescope program in Jefferson County libraries. An exploratory meeting was held with Jefferson College staff to discuss common goals for the advancement of astronomy. The time therefore seems right to put together a Jefferson College Task Force with the objective of defining goals, developing plans for establishing an observatory on the Jefferson County campus. The benefit to SLAS would be to expand our membership base and offer SLAS member access to future observatory facilities.

Motion: I request that SLAS Board approve the establishment of a Jefferson County Observatory committee to support the proposed task force. At this time there is no financial commitment for SLAS. If initial planning leads to a formal partnership then the committee would be responsible to brief to the membership such plans and seek funding from SLAS. The SLAS committee will be initially chaired by Don Ficken and staffed by Jim Small and Mark Jones. Second by Bill W. motion passed

7. Closing Activities Meeting adjourned at 9:25pm

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.
2017: Jan 4

Dark Sky Observing Dates

See you when it gets warmer!! Use SlasDialogs or Facebook to coordinate winter events!

Francis Park Events: These events are on **Wednesdays** the week nearest the first quarter Moon See you in 2018!

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park orienteering. 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
1-5, 2-2

YMCA Edward Jones Star Parties (generally third Mondays)
Finished for the year

Pattonville Observatory Public Viewing Dates

Broemmelsiek Astronomy Park Public Viewing
Every Friday night with ASEM members

UMSL Observatory
For directions and map
<http://www.umsu.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

December
15 Fri SLAS Regular Meeting

2018 !!!

January
5 Fri SLSC Public Telescope Viewing
24 Wed SLPL Star Party—Central
29 Mon Grants View Library
30 Tue Lewis and Clark Library

February
1 Thurs North Glendale E School
2 Fri SLSC Public Telescope Viewing
17 Sat Homemade Fest!
21 Wed SLPL Star Party - Central
23 Fri Armstrong Elementary
27 Tue SLPL Star Party - Machacek
28 Wed Brentwood Star Party

Happy Holidays!! (photo by Grant Martin)



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



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:
<http://www.skyandtelescope.com>)
 Astronomy @ \$29.95 / 1 year \$ _____
TOTAL ENCLOSED \$ _____

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

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)	636-225-0269
treasurer at slasonline.org		
Hospitality	Larry Campbell	636-244-2867
hospitality at slasonline.org		
Board Members at Large:		
	Rich Heuermann	314-962-9231
Board19 at slasonline.org		
	Brent Buch	314-239-0329
Board18 at slasonline.org		
	Tom Nickelson	314-346-9565
board17 at slasonline.org		
ALCOR	Bill Winningham	636-225-0269
(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	Michelle Birch	636-373-1102
social at slasonline.org		
'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		

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

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

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Twitter: @stlastro
Facebook: @stlastro

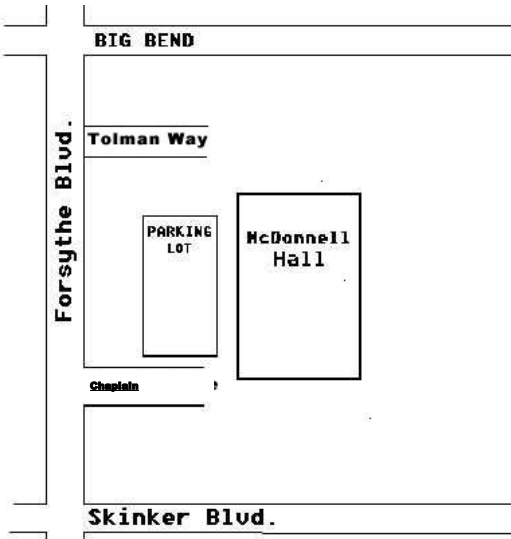


Who We Are and What We Do

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

