

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

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Dr. Strange and the Struggle With Dark Energy by **Dr. Michael Ogilvie** Washington University

Dr. Michael Ogilvie will be featured at the December meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, December 16, in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way. Yellow zone and street parking are available to the audience.

Dr. Ogilvie describes his lecture in Strange fashion: "Dark energy is a name that is whispered at scientific conferences. Most of our universe is dark energy, but no one knows what it is. No one knows where it comes from. No one knows what it means for mankind. At times like these, we ask "What would Dr. Strange do?" With Earth's Sorcerer Supreme as our guide, we will discuss how we know dark energy is real, its possible origins, and how it may determine the ultimate fate of our universe."

Michael Ogilvie is a Professor of Physics and a Fellow of the McDonnell Center for the Space Sciences at Washington University. His research interests lie in the areas of particle physics and quantum mechanics.

Upcoming Meetings:

January - Peter Plavchan, PhD - The Golden Age of Exoplanet Discovery - MSU

February - Pamela Gay, PhD - Super-Secret Squirrel Stuff - SIU-E

March - Christine Floss, PhD - TBA Wash U

April - Kevin Evans, PhD - Weaubleau Impact Structure - MSU

May - Kara Kundert - Cosmic Epoch of Re-ionization "Skype" - UC Berkeley

June TBA

July: Ryan Clegg-Watkins, PhD - Exploring the Moon from Orbit: Paving the Way for Future Astronaut Explorers - Wash U

August: TBA

September SLAS Collective Solar Eclipse Results

October: Carl Bender, PhD Black Holes and Hawking Radiation Wash U

November: William McKinnon, PhD PLUTO Wash U

Mid States Region



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A RAFFLE FOR **Dr Neil deGrasse Tyson** **Peabody Opera House** **18 May 2017 @ 7:30pm**



For SLAS members only

The raffle is for TWO tickets to this event.

The drawing will be held at the April SLAS monthly meeting. You do not need to be in attendance to win.

Contact person:

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SLAS VP

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Presidents Corner - Jim Small

It's the last chance to earn that Night Sky Network Pin and certificate for outreach! There are still two events to go in the year, so there is still a chance for anyone who has 3 or more events to qualify!

Lois Fitter's family is very appreciative of all the SLAS members who attended her funeral last month. Thanks to all who attended. Look for an article in next month's newsletter about Lois.

It's been an amazing year for SLAS. Not only has the Library Telescope Program taken off in a big way, but our outreach program has resulted in a big increase in volunteer hours, but we went from 91 events last year to more than 152 events so far this year!

Thank you so much for all the members who have helped with these events. Without you, we would not be able to reach so many people.

The St. Louis Eclipse Task Force has been really busy this fall. We are getting ready for the Eclipse Expo to be held at Queeny Park on June 17 and are in the process of recruiting vendors and others to have a booth at the event. It will be

open to the public and we expect as many as 5,000 people might attend! (maybe more!) The number of participants in the team has grown to over 150 representatives of cities, schools, organizations, etc.

Speaking of eclipses, the organizers of Astral Observatory are planning a huge eclipse event with music all weekend prior to the eclipse. They have invited us to be there that weekend for free and would love people to be able to show the stars over the weekend and we can use the area for the eclipse on Monday either with or without a crowd being around. They have 2 minutes and 37 seconds of totality.

The International Space Development Conference for 2017 will be located in St. Louis and they have invited SLAS as a cosponsor and would like SLAS members to volunteer to help with the conference in exchange for a reduced rate for attendance. This is a huge conference with around 1000 attendees and hundreds of speakers. It would be fascinating to attend. The conference is 4 days: May 25-29 over Memorial Day weekend. **Link:** <http://isdc.nss.org/2017/>

If I don't see you at the meeting, have a wonderful holiday and a safe and Happy New Year!

Volunteer Hours Through November, 2016

Here are the volunteers so far in 2016. We have 26 members who have 5 or more events AND another 5 members with 3 or more. With the events coming up in December there is still time to volunteer!

Outreach Volunteers Jan-Nov 23, 2016

Through LATE November, SLAS members have logged 1598 hours for 152 NSN outreach events! We have exceeded our 2015 totals of 1396 hours for 91 events.

Members with 5 or more events can qualify for the Night Sky Network pin. Check NSN for opportunities and sign up today. If you are a member with 4 or less events logged this year there is still time to volunteer.

Thank you to all our volunteers!

Any volunteer logging 6 or more hours for a single event is credited for 2 events, long events include Astronomy Day, Telescope Building and Sidewalk Solar Observing.

* denotes a member who reached 5 or more logged events for first time

Member Name	# of events	# of Hours
Donald Ficken	99 events;	229.5 hours
Cook Feldman	62 events;	194.1 hours
Larry Campbell	41 events;	100 hours
John Beaury	39 events;	133.5 hours
Rich Heuermann	38 events;	103.5 hours
Mark Jones	34 events;	98 hours
Frank Mack	26 events;	58.8 hours
James Small	25 events;	68.5 hours
Rick Menendez	16 events;	49.3 hours
Sharon Bertram	15 events;	44.5 hours
Richard Jennings	13 events;	33 hours
Richard Fefferman	11 events;	27.5 hours
Bill Biermann	9 events;	19.5 hours
Jim Trull	9 events;	29 hours
William Neubert	8 events;	27.3 hours
William Winningham	8 events;	23 hours
Bill Breeden	7 events;	21.5 hours
*Michelle Birch	7 events;	24.5 hours

*Robert Drzymala	7 events;	21.5 hours
Ann Trull	6 events;	16.5 hours
*Edward Frey	6 events;	16 hours
*Jeffrey Strauss	6 events;	17 hours
Benjamin Winningham	5 events;	12.5 hours
*Doug Blum	5 events;	13.5 hours
Rita Breeden	5 events;	15.5 hours
*Wayne Clark	5 events;	14 hours
Gregory Rigelman	4 events;	11.5 hours
Josh Zitko	4 events;	12 hours
Thomas Schloemann	4 events;	12.5 hours
Gregg Ruppel	3 events;	9 hours
Robert Beebe	3 events;	10.5 hours
Alan Sapia	2 events;	7 hours
Bradley Waller	2 events;	7 hours
Brian Mills	2 events;	6 hours
Cathy Hooper	2 events;	6 hours
Dale Engelbrecht	2 events;	7.5 hours
Donald Snyder	2 events;	4.3 hours
Gary Holt	2 events;	7 hours
Gaylene Engelbrecht	2 events;	7.5 hours
Gerald Hutchins	2 events;	7 hours
Gregory Gaines	2 events;	9 hours
Lynn Fee	2 events;	9.5 hours
Marlene Bopp	2 events;	8 hours
Nancy Clark	2 events;	6 hours
Raymond Mueller	2 events;	6 hours
Renee Mettle	2 events;	7 hours
Brent Buch	1 events;	4.5 hours
Gregory Pernoud	1 events;	2.5 hours
James Griffith	1 events;	2.5 hours
JD Henson	1 events;	2.5 hours
Joseph Schober	1 events;	2.5 hours
Lee Halbeck	1 events;	3 hours
Mark Fedde	1 events;	4 hours
Michael Malolepszy	1 events;	2 hours
Randy Gettman	1 events;	1.5 hours
Roy Lieberman	1 events;	0 hours
Timothy Hulla	1 events;	1.5 hours

ST. LOUIS ASTRONOMICAL SOCIETY							
PRELIMINARY OPERATING BUDGET - 2017							
	Actual	Budget	Projection		Budget		
	Year to Date	Year to Date	Sept-16 to	Year to date	Annual	Annual	Annual
	Aug-16	Aug-16	Dec-16	Dec-16	2015	2016	2017
Income							
Magazine Subscription							
Total Magazine Subscription	\$ 896.13	\$ 1,231.95	\$ 833.20	\$ 2,517.18	\$ 2,034.10	\$ 1,734.40	\$ 952.50
Membership Dues	\$ 2,380.00	\$ 2,545.00	\$ 895.00	\$ 3,275.00	\$ 3,440.00	\$ 3,725.00	\$ 3,600.00
Merchandise Sales	106.00	-	-	-	-	-	-
Total Income	\$ 3,382.13	\$ 3,776.95	\$ 1,728.20	\$ 5,792.18	\$ 5,474.10	\$ 5,459.40	\$ 4,552.50
Cost of Goods Sold							
Magazine Subscriptions							
Total Magazine Subscriptions	\$ 871.80	\$ 1,231.95	\$ 802.15	\$ 1,673.95	\$ 2,034.10	\$ 1,734.40	\$ 952.50
Merchandise	(62.50)	45.00					
Total Cost of Goods Sold	\$ 809.30	\$ 1,276.95	\$ 802.15	\$ 1,673.95	\$ 2,034.10	\$ 1,734.40	\$ 952.50
Gross Profit	\$ 2,572.83	\$ 2,500.00	\$ 926.05	\$ 4,118.23	\$ 3,440.00	\$ 3,725.00	\$ 3,600.00
Operating Expense							
Programs & Events							
Home Made Fest	90.64	100.00	-	90.64	100.00	100.00	100.00
Star BBQ Expense	171.99	175.00	-	171.99	175.00	175.00	175.00
Library Scope Program Escrow	-	200.00	-	-	600.00	200.00	200.00 *
Astronomy Day/Outreach							300.00
Eclipse Workshop Dues	-	200.00	-	-	200.00	200.00	
2017 Eclipse Committee	-				200.00	-	-
Meeting Expenses							
Meeting Refreshments	171.09	233.33	60.00	231.09	450.00	350.00	350.00
Meeting Speaker Fees	203.10	166.66	60.00	263.10	250.00	250.00	600.00
Total Meeting Expenses	\$ 374.19	\$ 399.99	\$ 120.00	\$ 494.19	\$ 700.00	\$ 600.00	\$ 950.00
Membership Initiatives (excludes "profits")	\$ 16.20	\$ 133.34	\$ 80.00	\$ 96.20	\$ 200.00	\$ 200.00	\$ 200.00
Merchandise			45.00	45.00	\$ 120.00	45.00	45.00
Membership Recognition	179.36	173.33	150.00	329.36	200.00	260.00	300.00
Programs & Events	\$ 832.38	\$ 1,381.66	\$ 395.00	\$ 1,227.38	\$ 2,495.00	\$ 1,780.00	\$ 2,270.00
Newsletter Postage	\$ 96.40	\$ 133.34	\$ 20.00	\$ 116.40	\$ 180.00	\$ 200.00	\$ 175.00
Total Newsletter	\$ 96.40	\$ 133.34	\$ 20.00	\$ 116.40	\$ 180.00	\$ 200.00	\$ 175.00
Library expense	\$ -	\$ 66.66	\$ 100.00	\$ 100.00	\$ 300.00	\$ 100.00	\$ 300.00
Astronomical League Dues	700.00	695.00	-	700.00	650.00	695.00	670.00
Loaner Scopes**	-	25.00		-	200.00	50.00	50.00
Insurance	380.00	380.00	-	380.00	380.00	380.00	380.00
Website	155.40	150.00	-	155.40	135.00	150.00	170.00
Administrative Expenses							
Corporate Filings	21.25	20.00	-	21.25	-	20.00	-
Office Supplies	-	110.00	10.00	10.00	165.00	165.00	100.00
Banking Fees							25.00
PayPal Fees	15.32	26.66	10.00	25.32	40.00	40.00	40.00
Postage	9.80	60.00	30.00	39.80	75.00	90.00	90.00
Printing / Copying Expense (combined 2015)	289.97	743.34	150.00	439.97	888.00	1,115.00	1,370.00
Administrative Expenses	\$ 336.34	\$ 960.00	\$ 200.00	\$ 536.34	\$ 1,168.00	\$ 1,430.00	\$ 1,625.00
Total Operating Expense	\$ 2,500.52	\$ 3,791.66	\$ 715.00	\$ 3,215.52	\$ 5,508.00	\$ 4,785.00	\$ 5,640.00
Net Income/(Loss) From Operations	\$ 72.31	\$ (1,291.66)	\$ 211.05	\$ 902.71	\$ (2,068.00)	\$ (1,060.00)	\$ (2,040.00)

ST. LOUIS ASTRONOMICAL SOCIETY
PRELIMINARY OPERATING BUDGET - 2017

	Actual		Budget		Projection		Budget			
	Year to Date	Year to Date	Sept-16 to	Year to date	Annual	Annual	Annual			
	Aug-16	Aug-16	Dec-16	Dec-16	2015	2016	2017			
Other Income / Expense										
Other Income										
Donations										
SLAS Club Members	0.05			0.05	-	-	-			
Donations - Other	583.00		325.00	908.00	-	-	-			
Total Donations	\$ 583.05		\$ 325.00	\$ 908.05	\$ -	\$ -	\$ -			
Interest Income	\$ 34.18	\$ 75.00	\$ 11.39	\$ 45.57	\$ 100.00	\$ 100.00	\$ 100.00			
Non-Operating Income (Astro Mag Award)	2,500.00			2,500.00	-	-	-			
Total Other Income	\$ 3,117.23	\$ 75.00	\$ 661.39	\$ 3,453.62	\$ 100.00	\$ 100.00	\$ 100.00			
Other Expense										
Physical Inventory Adjustment	\$ 203.69			\$ 203.69	\$ -	\$ -	\$ -			
Astro Mag Award Disbursements	1,756.47		743.53	2,500.00						
2017 Eclipse Escrow Funding						\$ 800.00	\$ 1,000.00		\$ 1,000.00	
LTP Escrow Funding						\$ 1,000.00			1,000.00	
Total Other Expense	\$ 1,960.16	\$ -	\$ 743.53	\$ 2,703.69	\$ -	\$ 1,800.00	\$ 2,000.00		\$ 2,000.00	
Net Other Income / (Expense)	\$ 1,157.07	\$ 75.00	\$ (82.14)	\$ 749.93	\$ 100.00	\$ (1,700.00)	\$ (1,900.00)		\$ (1,900.00)	
Net Income / (Loss)***	\$ 1,229.38	\$ (1,216.66)	\$ 128.91	\$ 1,652.64	\$ (1,968.00)	\$ (2,760.00)	\$ (3,940.00)		\$ (3,940.00)	
Required versus Discretionary Spending										
Gross Profit	\$ 2,572.83	\$ 2,500.00	\$ 926.05	\$ 4,118.23	\$ 3,440.00	\$ 3,725.00	\$ 3,700.00			
Required Expenses										
Newsletter Postage	\$ 96.40	\$ 133.34	\$ 40.00	\$ 136.40	\$ 180.00	\$ 200.00	\$ 175.00			
Astronomical League Dues	700.00	695.00	-	700.00	650.00	695.00	670.00			
Insurance	380.00	380.00	-	380.00	380.00	380.00	380.00			
Website	155.40	150.00	-	155.40	135.00	150.00	170.00			
Corporate Filings	21.25	20.00	-	21.25	-	20.00				
Office Supplies	-	110.00	-	-	165.00	165.00	100.00			
Banking Fees	-	-	-	-	-	-	25.00			
PayPal Fees	15.32	26.66	15.00	30.32	40.00	40.00	40.00			
Postage	9.80	60.00	20.00		75.00	90.00	90.00			
Printing / Copying Expense	289.97	743.34	500.00	789.97	888.00	1,115.00	1,370.00			
	\$ 1,668.14	\$ 2,318.34	\$ 575.00	\$ 2,213.34	\$ 2,513.00	\$ 2,855.00	\$ 3,020.00			
Balance for Discretionary Items	\$ 904.69	\$ 181.66	\$ 351.05	\$ 1,904.89	\$ 927.00	\$ 870.00	\$ 680.00			
Discretionary Spending										
Home Made Fest	90.64	100.00	-	90.64	100.00	100.00	100.00			
Meeting Refreshments	171.09	233.33	80.00	251.09	450.00	350.00	350.00			
Meeting Speaker Fees	203.10	166.66	46.90	250.00	250.00	250.00	600.00			
Membership Initiatives (excludes "profits")	16.20	133.34	183.80	200.00	200.00	200.00	200.00			
Merchandise	-	-	45.00	45.00	120.00	45.00	45.00			
Membership Recognition	179.36	173.33	70.00	249.36	200.00	260.00	300.00			
Astronomy Day/Outreach	-	-	-	-	-	-	300.00			
Star BBQ Expense	171.99	175.00	-	171.99	175.00	175.00	175.00			
Library expense	-	66.66	100.00	100.00	300.00	100.00	300.00			
Loaner Scopes	-	25.00	-	-	200.00	50.00	50.00			
Library Scope Program Escrow	-	200.00	-	-	600.00	200.00	200.00			
Eclipse Workshop Dues	-	200.00			200.00	200.00	-			
2017 Eclipse Committee	-	-			200.00	-	-			
	\$ 832.38	\$ 1,473.32	\$ 525.70	\$ 1,358.08	\$ 2,995.00	\$ 1,930.00	\$ 2,620.00			
Net Income/(Loss) From Operations	\$ 72.31	\$ (1,291.66)	\$ (174.65)	\$ 546.81	\$ (2,068.00)	\$ (1,060.00)	\$ (1,940.00)			
Other Expense										
2017 Eclipse Escrow Funding						\$ 800.00	\$ 1,000.00			
Library Telescope Program Escrow Funding							1,000.00		1,000.00	
Total Other Expense					N/A	\$ 1,800.00	\$ 2,000.00			

* Membership approved expenditure for 3 library telescopes with funds available through 2015

** Membership approved expenditure of \$1000 to add 4 Library Telescopes to the SLAS loaner scope program for members.

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

Assumption Summary – 2017

St. Louis Astronomical Society Annual Budget

Work began on the 2017 budget after the financial close for August 2016. The year to date information is therefore through August 31, 2016 with an estimated projection of activity from September 1, 2016 through December 31, 2016.

The budget information was assembled partially based on assumptions developed from the August 2016 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	104 @ \$25.00/year	\$2,600
Youth Memberships	4 @ \$10.00/year	40
Family Memberships	24 @ \$40.00/year	960

As indicated in the budget, this will provide operating revenues in the total of \$3,600 for 2017. 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 2017 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 was increased by \$255 over 2016, based on an assumed higher volume of brochure and related printing for 2017.

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 2016 because of our hosting telescope viewing at Kirkwood Park at least twice a year.

The Star-B-Que has been kept at a constant level as the previous year budget. 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 a \$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 two years, the program has grown to 131 telescopes in public libraries with 28 library systems participating in Missouri and Illinois. The St. Louis program is now one of the largest and most successful programs in the country. On all fronts, the library telescope program is demonstrating success:

- Public – Most telescopes are regularly checked out and have patrons on a "waiting list" to get the telescope. The large deployment in August 2016 has helped reduce waiting times to less than 3 months for most telescopes. Still, there are some several telescopes with waiting times greater than three months.
 - Libraries – Feedback from library executives and staff continues to be very positive. They like the program and appreciate the work of our volunteers.
 - Star parties – Nearly 40 star parties will be delivered to libraries in 2016. This excludes 14 programs delivered to training library staff and a number of "solar" programs given to the libraries. Public attendance has been good at all of the programs.
 - Volunteers – All programs have been well staffed by volunteers. Partnering with other organizations such as the Astronomical Society of Eastern Missouri and Eastern Missouri Dark Sky Observers has helped to deepen our resources and strengthen our relations in the community.
 - Equipment – No major problems with telescopes have been reported. Since program inception, we have responded to less than 30 maintenance requests with most issues being resolved on the same visit.
 - Funding – The program has been under budget since inception and has even generated donations by libraries which have partially offset our program funding.
- Visibility – The program has helped raise our visibility in both the St. Louis area and nationally. Since program inception, our program has been covered in print, radio and TV. Nationally, the St. Louis County Library Telescope program is being featured on the American Library Association website as a "model" program.

The Library Telescope Committee requests \$200 in operating expenses for use in promoting the program and purchasing of supplies to fix minor issues with the telescopes to keep them in good working order. This equates to less than \$2.00 per telescope. Parts for major repairs are considered the responsibility of the libraries and are not budgeted.

SLAS will increase the library telescope program escrow funding by \$1,000 with the funds used to purchase telescopes to create a

"K-12 library telescope lending" program where science teachers could request a telescope for 30 days for use in school programming and for take home by students. Telescopes would be made available on a first come, first serve basis. This would be one year pilot program for 2017 only. If the program is popular with schools, it would be made a permanent program starting in 2018. If not, the telescopes would be repurposed to area libraries.

2017 Eclipse Committee:

A \$1000 allocation is budgeted as a below the line (other) expense for the funding the 2017 Eclipse Committee. These funds represent an investment in a once in a generation opportunity for SLAS to help educate our community leaders in preparation for the historic eclipse. \$500 of the allocated funds is for sponsoring workshops for local community leaders to help them prepare for the eclipse. The remaining \$500 is for task force expenses, including \$168 for constant contact email service and \$332 for promotional materials (glasses, handouts, posters, and mailers).

Outreach Support:

A \$300 allocated is budgeted for the purpose of purchasing approximately 20 reflective vests of various sizes for the purpose of identifying SLAS volunteers at outreach events. The vests will be screen printed with the words "SLAS Volunteer" and the SLAS logo.

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 2016 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 \$500 in recent years. The 2016 speaker budget will be \$600 this year, which includes expected travel expenses/honorariums for 3 to 4 speakers and one time use red zone parking passes for non-Washington University speakers. Two of the anticipated speakers were referred to us through Prof. Alex Filippenko of Berkeley, Kara Kundert who studies focused on the cosmic epoch of reionization and Amy Kimball a staff scientist at the National Radio Astronomy Observatory (NRAO) headquarters of the Very Large Array (VLA) in Socorro, New Mexico.

Membership Initiatives:

Membership Initiatives started holding, "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 two or more raffle events during 2017 as opportunities arise. In addition, attendance prizes are planned to be awarded quarterly on the meetings nearest the equinoxes and the solstices to encourage participation in SLAS's monthly general meetings. Planned prizes include signed books, CDs, movie tickets, etc.

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 contributing their 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 recognize members who have maintained their membership for 10, 20 or 30 or more years.

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 2017 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 club and 2017 eclipse materials.

Loaner Scope Program:

SLAS has in its inventory, telescopes ranging from 13" to 75mm. This includes five Dobsonian reflectors, two Refractors, two ETX Maksutovs, one Schmidt-Cassegrain, one 20x80mm binocular, one Hydrogen-alpha, and one white light solar telescope. These are housed in a storage shed when not checked out by members. The current year Loaner Scope budget will be \$50 for maintenance/repair of the telescopes and upgrade of some accessories.

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 combined with the newsletter printing expense starting with the 2017. The brochures contain information about the Society that is distributed to the general public at all outreach events. Brochure paper requirements are estimated at 15 reams of "astro-bright" premium paper at a cost of \$150.

Summary:

The board and participating committee members have increased several budget items in anticipation of increased activity in connection with 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 speakers has been restored to historical levels in order to attract quality speakers from a larger radius and to provide for parking passes. Similar to 2016, funding for two key long term initiatives, the 2017 Eclipse Escrow and the Library Telescope Escrow have been categorized as investments and we be recorded as below-the-line (other) expenses. The net result is 2017 budget as presented equals a net loss from operations of \$1940 for 2017, compared a net loss of \$1060 for the 2016 budget and a net loss of \$2,068 for the 2015 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 2017 Eclipse Escrow and the Library Telescope Escrow total \$2,000. 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

2017 Speaker Schedule is Almost Complete!

Greetings from the Borg,

As part of our Assimilation process, we thought we would give you some of the details about how we booked two of our Monthly Presenters for 2017. It all started when the Drone, Dale Engelbrecht, sent this sub-space message to the Collective: "Maybe if we got Alex Filippenko to Skype one of our meetings, he (an expert on using supernovae as cosmological indicators) could help us understand this more thoroughly. (Note to Borg: We're looking for speakers. We could introduce ourselves to him.)"

We thought it was a good idea and began a search for Dr Filippenko. We collected his e-mail address and sent him a Friendly Borg Assimilation Message :) Having seen Dr Filippenko several times on the History Channels "The Universe" Program, we did not think he would respond.... He did!!! He informed the Collective that he schedule would not permit him to be Assimilated, but, he offered up his Post-Docs and Grad Students for Assimilation.

The next morning, we had a sub-space message from, Kara Kundert. Kara is a Grad Student for Dr Filippenko. She stated she would LOVE to be assimilated "Skype Style." Her area of study is the first 300 million years after the Big Bang. Her subjects: "First Light: Observing the Cosmic Dawn with Paperclips and a Supercomputer." Her assimilation will occur in May 2017.

The Borg was well pleased with this. A day later, we received word that our Assimilation Message was making the rounds. This time it reached, Amy E Kimball, from the National Radio Astronomy Observatory. Amy, a Post-Doc at the VLA, stated she also wanted to be Assimilated, "Skype Style". Her Assimilation will be in December 2017. Her subject; "Radio Quasars & the History of the VLA".

So, as you see, the Borg does assimilate your ideas and turns them into Presentations for the Collective. Feel free to continue to send in your ideas to the Collective. You never know what will happen. A simple request turned into 2 lectures!!! Believe it or not, 2017 is BOOKED!!! But.....2018 is WIDE OPEN!!!! :)



Above: Parkway North Star Party
Below: Moon, Venus and Mars from Pattonville Observatory
Bottom left: Maggie Duckworth Mug Shot
Bottom right: Lynn Hertzberger A101 talks about his paintings and poetry



SLAS Executive Board Meeting Minutes for November 10, 2016

1. Opening Activities: Meeting opened at 7:10pm

Attendees: Board Members: Jim Small, Tom Nickelson, Brent Buch, Bradley Waller, Rich Heuermann, Mark Jones, Larry Campbell, Bill Winningham **SLAs Members:** Anthony Russo

2. External Business Next SLAS board meeting: Dec 7 (Wed)

3. Director Reports:

President – Jim Small: No report

Vice President - Bradley Waller:

Speakers: *Nov 2016: Maggie Duckworth, *“Mars One Mission to Mars”*; Dec 2016: Michael Ogilvie, Washington U. *“Dr. Strange and the Struggle with Dark Energy”*; Peter Plavchan, MSU, *“The Golden Age of Exoplanet Discovery”*; Feb 2017: Pamela Gay, SIU-E *“Super-Secret Squirrel Stuff”* *Mar 2017: Christine Floss, Washington U. *“Astronomy with a Microscope”*; Apr 2017: Kevin Evans, MSU *“Weaubleau Impact Structure”*; May 2017: Kara Kundert, U Cal-Berkeley, Skype Event-*“First Light: Observing the Cosmic Dawn with Paperclips and a Supercomputer”*; June 2017: Possible Expo Speaker; July 2017: Ryan Clegg-Watkins, Washington U. *“Exploring the Moon from Orbit”*; Aug 2017: TBD; Sep 2017: SLAS Members: Results from TSE; Oct 2017 Carl Bender, Washington U. *“Black Hoes and Hawking Radiation”*; Nov 2017 Will McKinnon, Washington U. *“Pluto”*; Amy Kimball, NRAO Skype Event-*“History of the VLA”*

Astro 101

Nov 2016 – Lynn Herzberger, “Space Art”
Dec 2016- Bred Waller - “Winter Solstice Attendance Prize and Christine Nobbe, “Remembering Apollo XII”

Membership initiatives

Membership Initiative Prizes: Inventory *4 Books: “How I Killed Pluto...” Mike Brown (Signed); 2 Eris photos signed by Mike Brown; 1 book: “An Astronauts Guide to Life on Earth” Chris Hadfield (Signed); 1 CD: “Space Sessions” Chris Hadfield (Signed); Jim and Mark may have some books for give-away; Dr. Neil deGrasse Tyson here in 18 May 2017. Brad plans to buy 2 tickets for a raffle event; Book signing in Texas by Astronaut Mike Massimino.

Welcome aboard new members meeting still planned for each month.

Look into IRS filing of honorariums \$100 for Grad Student Speakers next year

Release form for taping presenters talks,

Secretary – Mark Jones: Orienteering next Sunday Nov 20 SLASDialogs 107 members, now starting Facebook

Treasurer/ALCor – Bill Winningham:

Budget : Summary of proposed 2017 budget: \$1940 projected loss for 2017, plus below the line escrow for LTP pilot program \$1000, eclipse \$1000

Motion: Bill Winningham made motion to accept the budget and present it to the general membership for approval. The budget as stated has a projected loss of \$1940 and below the line additional expense of \$2000. Seconded Tom N. Board approved motion

Hospitality – Larry Campbell:

Will not be at November meeting, Sharon will probably cover. Plan for big cake in December

Board member at large reports

Tom Nickelson: (2017)

Liz has volunteered to be administrator on Facebook

Brent Buch (2018)

YouTube account has 4 months of meetings set to "Private". Access requires that the viewer has been manually invited.

Rich Heuermann (2019)

Sent out Press Release for this month's meeting

Parking at Wash U. financial year ends June 30th. Any single tickets are excused. Rich has contact Chancellors office who will talk to community relations. Hope to have answer before Nov meeting.

4. Committee Reports: If needed

Library Telescope Program:

Membership

Don Ficken submitted separate report. Number of members through Oct 31, 2016 is 153. Held membership meeting at Babler State.

Merchandise

Infini-tees shirts for sale - \$20, Mugs \$7

Newsletter

send articles in ready to go format! Need articles by tomorrow. Need budget for newsletter

Website

www.slasonline.org/joomla Facebook page created - <https://www.facebook.com/groups/slasonline/>

Night Sky Network

In the process of testing new website, contacts will be able to add themselves for contact list!

Dark Site

Jim Small reported on a couple who live on farm west of Washington MO have offered to have SLAS members come out. Mark Jones reported that Bill Neubert hosted a 2-day dark sky event at his place, mostly clear both nights.

Loaner Scope Program

Guy said he wanted to donate a truss 12" Dob to someone who could not afford to buy one.

Publicity – Press release sent out

Observing Programs

Mark Jones submitted his observing log for the Binocular Deep Sky Award

Star Parties: December 22 Moonrise Hotel event.

5. Old Business

International Space Development Conference – Offer for participate as a sponsor.

Motion by Rich H SLAS accepts invitation to co-sponsor the international space development conference being held May 25-29 in STL. Also Rich H has been appointed to coordinate this for SLAS and report back to Board on possible plans.

6. New Business

Brad has set up reservations at Knight Center for two 2017 speakers coming in town. Expenses will be included in 2017 Speakers Budget.

7. Closing Activities

Motion to adjourn by Brad W. second by Larry C. meeting adjourned at 9:25pm

6:42 AM
12/07/16
Accrual Basis

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

	<u>Jan - Nov 16</u>	<u>Budget</u>	<u>\$ Over Budget</u>
Ordinary Income/Expense			
Income			
Total Magazine Subscription	1,196.88	1,331.85	(134.97)
Membership Dues	3,035.00	3,215.00	(180.00)
Total Merchandise Sales	166.00	0.00	166.00
Total Income	4,397.88	4,546.85	(148.97)
Cost of Goods Sold			
Total Magazine Subscriptions	1,156.35	1,331.85	(175.50)
Total Merchandise	(56.59)	45.00	(101.59)
Total COGS	1,099.76	1,376.85	(277.09)
Gross Profit	3,298.12	3,170.00	128.12
Expense			
1-Programs & Events	1,077.00	1,646.66	(569.66)
2-Newsletter	162.20	183.34	(21.14)
3-Library expense		91.66	(91.66)
4-Astronomical League Dues	700.00	695.00	5.00
5-Loaner Scopes		37.50	(37.50)
7-Insurance	380.00	380.00	
8-Website	155.40	150.00	5.40
9-Administrative Expenses	528.88	1,312.50	(783.62)
Total Expense	3,004.08	4,496.66	(1,492.58)
Net Ordinary Income	294.04	(1,326.66)	1,620.70
Other Income/Expense			
Other Income			
Total Donations	1,478.05	0.00	1,478.05
Eclipse Escrow Receipts	7,561.00	0.00	7,561.00
Interest Income	38.78	91.00	(54.22)
LTP Receipts	21,473.95	0.00	21,473.95
Non-Operating Income ^{1,2}	458.98	0.00	458.98
Proceeds from Lens Sales	20,093.04	0.00	20,093.04
Total Other Income	51,101.80	91.00	51,010.80
Other Expense			
Astro Mag Award Disbursements	472.76	0.00	472.76
Eclipse Escrow Disbursements	1,853.50	0.00	1,853.50
Eclipse Escrow Funding	800.00	800.00	0.00
LTP Disbursements	21,012.37	0.00	21,012.37
LTP Escrow Funding	1,000.00	1,000.00	0.00
Non-operating Expense ¹	59.00	0.00	59.00
Total Other Expense	25,197.63	1,800.00	23,397.63
Net Other Income	25,904.17	(1,709.00)	27,613.17
Net Income	26,198.21	(3,035.66)	29,233.87

¹ An individual mistakenly signed up for SLAS instead of the Science Center, membership and magazine funds refunded.

² Includes \$399.98 of proceeds from MSRAL 2016.

**St. Louis Astronomical Society
Balance Sheet
As of November 30, 2016**

	<u>Dec 31, 15</u>	<u>Nov 30, 16</u>
ASSETS		
Current Assets		
Checking/Savings		
Astronomy Magazine Award**	465.72	0.00
Checking - First Bank	2,940.49	4,183.13
Deposit, Certificate of	20,108.23	20,138.36
Library Telescope Escrow*	444.55	799.33
Merchandise Change Fund	20.00	20.00
PayPal	82.51	116.44
Savings - First Bank	5,361.90	25,461.59
SLAS Eclipse Conference Escrow***	539.12	6,440.29
YMCA Trout Lodge Escrow	542.87	542.87
Total Checking/Savings	30,505.39	57,702.01
Other Current Assets		
Inventory Asset	1,410.53	1,467.12
Investment in Mid-States 2016	1,000.00	0.00
Undeposited Funds	55.00	0.00
Total Other Current Assets	2,465.53	1,467.12
Total Current Assets	32,970.92	59,169.13
Fixed Assets		
Accum Depr - Office Equip	(216.65)	(216.65)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	32,970.92	59,169.13
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	24,464.84	24,833.26
Net Income	368.42	26,198.21
Total Equity	32,970.92	59,169.13
TOTAL LIABILITIES & EQUITY	32,970.92	59,169.13

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

** Funds from Astronomy Magazine Award, available until 4/10/2016 (funds have been spent).

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

Wanted: Volunteers!

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

Right: Photo by Jim Small Photo of the Pleiades and the Hyades above my aunt's house in Helflin, in northeast Alabama. Canon G7x, 13s exposure, f1.8, ISO 800. No post processing.



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. Dec 7 (Wed)
2017: Jan 5; Feb 9; Mar 9; Apr 6; May 4; Jun 7 (Wed); Jul 6; Aug 9 (Wed); Sep 7; Oct 5; Nov 9; Dec 7

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 Thursdays the week nearest the first quarter Moon
See you when it's warmer!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month
Planetarium shows start at 7pm
12/2/2016

YMCA Edward Jones Star Parties (generally third Mondays)

Pattonville Observatory Public Viewing Dates

Broemmelsiek Astronomy Park Public Viewing
Every Friday night with ASEM members

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

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.

December

16 Fri
17 Sat
22 Sat

SLAS regular meeting
Sidewalk Solar Observing - SLSC
Colin and AJ event

January

5 Thur
6 Fri
20 Fri
21 Sat
26 Thur
26 Thur

SLAS board meeting
Public Telescope Viewing - SLSC
SLAS regular meeting
Sidewalk Solar Observing - SLSC
Maplewood Library
River Bend Elementary Science Fair

February

1 Wed
3 Fri
6 Mon
8 Wed
8 Wed
9 Thur
9 Thur
9 Thur
15 Wed
17 Fri
18 Sat
19 Sun
21 Mon

Festus Library Star Party
Public Telescope Viewing - SLSC
Grant View Library
Oak Bend Library
SLPL Central Library
Indian Trails Library
Ferguson Middle School
SLAS Board Meeting
Cross Keys Middle School
SLAS Regular Meeting
Sidewalk Solar Observing - SLSC
SLAS Sky Orienteering Event
Missouri Master Naturalists - Great River Chapter

There is still time to qualify for your Night Sky Network pin! Simply attend the events needed to obtain

FIVE TOTAL OUTREACH EVENTS

to qualify! We already have more people that have qualified this year than last but we would love to DOUBLE last years count of 18 winners!

Check the list on page two to see how many

SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at

Headz n Threadz at <https://hnt.threadthis.com/>

There are two locations:

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

Delmar: 6662C Delmar Blvd St. Louis, MO 63130 Telephone: 314.863.2695 delmar@headznthreadz.com

[Delmar Map](#)

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

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



SLAS MEMBERSHIP APPLICATION

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



Youth @ \$10.00 / 1 year (18 yrs or younger) \$ _____

Individual @ \$25.00 / 1 year \$ _____

Family @ \$40.00/1 year \$ _____

Publications with discount available with your SLAS membership:

Sky and Telescope @ \$32.95 / 1 year \$ _____

(S&T may also be renewed at their website:
<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 *Brad 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

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 observing at slasonline.org

Publicity *Rich Heuermann* 314-962-9231
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Recognition *Larry Campbell* 636-244-2867
 recognition at slasonline.org

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

Star Party Coordinator *Bill Breeden* 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>

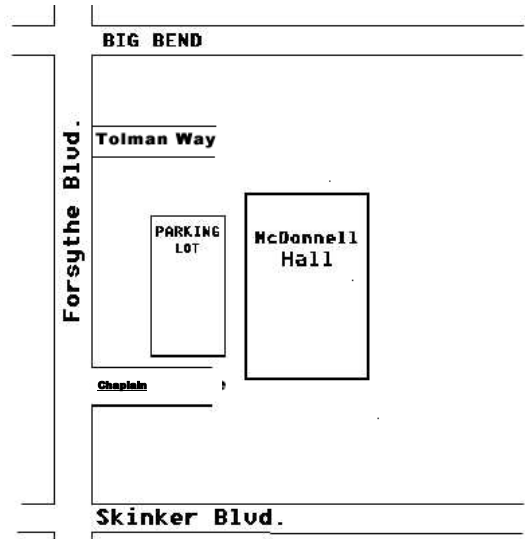


Who We Are and What We Do

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

