

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 26, Issue 6**  
**June, 2016**

### Reporting Tomorrow's Weather Today by

#### Meteorologist Mike Roberts

Mike Roberts of KSDK News, Channel 5, will be featured at the June meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, June 17, in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130.

Weather forecasting has evolved from little more than folklore ("Red skies at night, sailor's delight...") to a technology-based science. Satellite images, Doppler radar scans, and large scale computer modeling have replaced woolly caterpillars and grandma's knees. Mike Roberts will talk about modern meteorology and the tools and methods used to predict the weather.

Mike Roberts joined KSDK News Channel 5 in 1996. Prior to that he reported the weather for television stations in Kansas City, St. Louis, and Omaha. He has won four Emmy awards and in 2008 received the American Meteorological Society's Certified Broadcast Meteorologist Seal of Approval. Mr. Roberts is also an adjunct instructor at Saint Louis University in the Department of Earth and Atmospheric Sciences. He has recently retired from KSDK News Channel 5.

#### Upcoming Meetings:

**July 15, 2016** - Jane Rix - Sketching the Night Sky

**August 19, 2016** - John Wharton, St. Louis Science Center - The 2017 Eclipse - One Year Out

**September 16, 2016** - Gary Gackstatter - Archaeoastronomy of Chaco Canyon

**October 21, 2016** - Kater Murch, PhD - Washington University - How LIGO pushes the limits of quantum measurement to detect gravity waves

### Mid States Region



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## MSRAL 2016 Convention a Success

*by Jim Small*

So you stayed home for the Mid-States Region of the Astronomical League Convention this year? You missed a nice meeting and a great bunch of people and speakers!

Friday night was the Star BQ at Rock Bridge High School south of the Mizzou campus. The food was catered by Buckingham's Smokehouse and was excellent. Be sure to look them up if you get to Columbia. Melanie Knocke led us through a tour of the Planetarium at

Rock Bridge which featured a Star Projector by Spitz from around 1970 and has been nicely maintained. They have supplemented the Star Projector with a Digital Projector which allows them to implement a number of different kinds of programs.

The business meeting opened Saturday and Don Ficken followed with the first talk. He was followed by Dr. Linda Godwin, former astronaut and Dr. Mike Reynolds, eclipse expert. After lunch, the program featured Mike Clements speaking from Utah about his 70" Telescope, Zhiyuan Ma, a grad student at Mizzou spoke about extreme star formation and

*(Continued on page 2)*

**Presidents Corner—Jim Small**

As you can tell from the article on the front page, we had a good time at the 2016 MSRAL convention. We had three days of good experiences and everyone enjoyed both the talks and the good company. It is always good to get together with the crew that regularly comes to the conferences and is able to interact. We only had a little over 50 people (as opposed to 77 last year) but it was still a profitable conference and hey, that's just more door prizes for everyone! I am looking forward to next year convention and hope that someone picks up the ball and runs with it next year. If someone reading this would like to host it, we will give you all the materials you might need. (even Mark Jones's punch list!) I am looking forward to another convention this summer at ALCON in Washington DC. Yes, I have signed up for the tours!

It has been a BANNER year for SLAS outreach. Just this past weekend, SLAS members met face to face with possibly 500 people at the Gateway Arch event, with 20 people per scope as soon as they could get them set up. SLAS also passed out 750 eclipse glasses at the Life Outside event on Saturday. That's a lot of contact in just two events. Be sure to sign up for other events on the calendar in the next couple of months.

This past weekend, Don Ficken and I attended the American Astronomical Society (AAS) Eclipse conference in Carbondale, IL, hosted by Bob Baer of SIUC. It was a veritable who's who of eclipse professionals including Fred Espanek, Mike Reynolds, Mike Kentrianakis, Michael Batich and many others. It was also attended by vendors like Rainbow Symphony and American Paper showing off all the eclipse glasses and other materials. Artist Tyler Nordgren was also in attendance. I stayed at a place called the Train Inn right there on campus. A great choice if you are staying in Carbondale. Talks ranged from the science of eclipses to how to photograph, to how to set up an event. The discussion was great, and people from all walks were represented. If you want a free place to stay, offer Nebraska Parks some help with the eclipse and they will put you up! Don Ficken and Trish Erzfeld presented a report of what is going on in the St. Louis area and had a lot of requests to tell about the operation that's going on in our area.

Perhaps the most exciting event for the week, however is a phone call from Zana Dujmovic of Ameren UE. She is a lighting engineer and we had a great conversation about the lighting program Ameren is putting in place. They are installing LED 4000K downfacing lighting in many roadways. I was invited to attend a lighting test of different lights later in the month. Possibly look forward to darker skies! I'll keep you posted! jrs

*(Continued from page 1)*

**MSRAL 2016**

David Young of ASKC explained the Citizen CATE experiment that will take place during the 2017 Total Solar Eclipse. For the banquet at the Memorial Student Union, Angela Speck spoke about the upcoming eclipse and what we need to do to be ready. After the banquet, many of us traveled to Fayette and had a nice visit to Morrison Observatory and enjoyed views through the 12" Alvan Clark telescope there. Sunday morning featured Scott Roberts from Explore Scientific explaining how to choose eyepieces, then Sean Baldrige, another Mizzou grad student, talked about molecular hydrogen in NGC 2392. Tom Nickelson demonstrated the telescope for disabled viewing and Mike Reynolds wrapped up the conference with a talk about meteorites. We ended the conference looking at Mike's collection of meteorites. There were many door prizes for the conference and SLAS members walked away with several of the nice ones, most notably Cindi Jones with a 6" Astrograph and Cook Feldman with a 20mm 100 degree field Explore Scientific eyepiece.



**Don Ficken** receives the **2016 Amateur of the Year** from 2014 recipients Amy White and Jim Small

The highlight for the conference for me was the awarding of the Amateur of the Year to Don Ficken! With all the contributions to the region that Don has had a hand in including the whole Library Telescope program, involvement in the national eclipse conferences in 2014 and this year, and heading the St. Louis Eclipse committee that has been working for over a year, and serving as membership coordinator for SLAS, it was a no-brainer for this award. A hearty congratulations to Don! It is well deserved.

The conference was a very good time for all. Thank you so much to all who helped put the conference together. We couldn't have done it without you! We had a little over 50 people attending and we ended up with 1/4 of the profit from the meeting (MSRAL gets half and we split the other half with ASKC) which amounted to a little under \$400. We will have suggestions for what to do with our share later perhaps.

Now to get someone to host next years gathering! Photos are elsewhere in the newsletter.

jrs

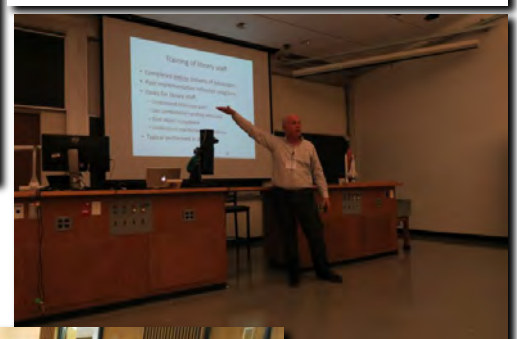


SLAS members attending the conference included: John Beaury, Thane and Marlene Bopp, Brent Buch, Larry Campbell, Wayne and Nancy Clark, Cook Feldman, Donald Ficken, Mark and Cyndie Jones, Karol Koch, Grant Martin, Don Mason, Tom Nickelson, Gregory Pernoud, and Jim Small.

**MSRAL Door Prize List**

Little Giant Astronomy Book signed by Melanie Knocke - Gary Pittman  
Cosmic Decoder Game - Don Ficken  
First Light Astronomy Kit - Jim Twellman  
Blue Moons to Black Holes signed by Mealnie Knocke - Emily Walters  
Necklace from Rick Astro Jewelry - Bill Bind  
How I killed Pluto signed by Mike Brown - David Young  
Cosmic Decoder Game - John Beaury  
Binoculars - Gil Machin  
Form Shaped - Karol Koch  
AL Baseball Cap - Thane Bopp  
AL Patch - Jim Small  
Planesphere from AstroMax - Larry Campbell  
Planesphere - Nancy Clark  
Astronomer's Journal - Liz (Tom's girlfriend)  
Astronomer Messier

Journal - Grant Martin  
Eris Photo signed by Mike Brown- Amy White  
How I killed Pluto signed by Mike Brown - Henry Stratman  
\$25 Certificate from Telescopes.net - Brent Buch  
\$50 Certificate from Woodland Hills - Cook Feldman  
AL Book "Math for Amateur Astronomers - Mrs Mike Reynolds  
Nexstar Camera - Carol Iorg  
How I killed Pluto signed by Mike Brown - Nancy Clark  
Infinites T-shirt - Wayne Clark  
\$50 Certificate from Woodland Hills - Jim Small  
Daystar Filter - Dennis Budd  
TPO 6" Astrograph - Cyndie Jones  
Eris Photo signed by Mike Brown- Bob Leonard  
\$25 Certificate Woodland Hills - Henry Stratmann  
Pamela Gay surprise gift - Jim Twellman



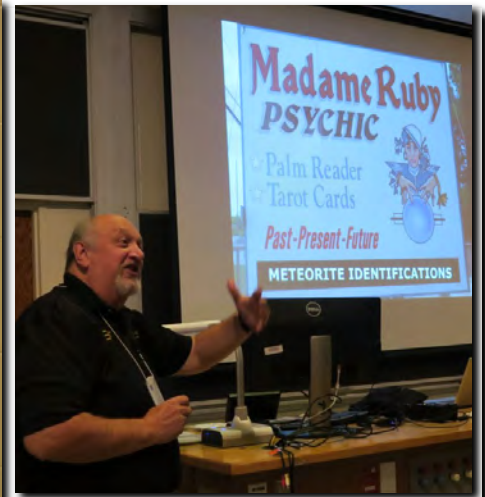
Above left: Melanie Knocke demonstrates the 1970 Spitz Star Ball in the Rock Bridge Planetarium. Above Right: Former NASA Astronaut Dr. Linda Godwin of the University of Missouri signs Brad Waller's Space Shuttle Model.



Above: Don Ficken explains the Library Telescope program. Far left: Mike Reynolds talks about his experience with eclipses. Left: The audience for the meetings



**Photos from MSRAL 2016 Convention**  
**-Saturday talks**  
**-Banquet**  
**-Morrison Observatory**



From upper left: Sean Baldrige, Tom Nickelson, Mike Reynolds, meteorite study



**Upper left:** crowd at the Stars Under the Gateway Arch Event. There were an estimated 500 people in attendance at this event. As soon as scopes were set up, there were 20+ lines at every telescope!  
**Left:** Rich Heuermann explains the Library Telescope.  
**Above:** Cook Feldman demonstrates the Sunspotter Scope. Both photos were at the Life Outside event. There were an estimated 750 people at that event!

## Boy Scout “Powderhorn” Star Party

*by*  
**Bill Neubert**

I led a star party for 50 Boy Scouts and adult advisors at the Swift Explorer Base in the S-F Scout Ranch. The event was part of their Powderhorn leader training program. I setup early and was able to show the Moon and Jupiter before the clouds overtook us. I distributed star maps and demonstrated how use them. With the overcast skies, I switched over to the projector and gave a video and Power-Point presentation on astro photography.

Because of the great outreach that SLAS performs for the scouts, they awarded me the Powderhorn Consultant award, which I accepted for the club.

If you haven't held a star party for a scout group, you are missing a unique event. I can't tell you how many people offered help in setting up and tearing down my equipment. They also make events like this fun in unique ways, beside just the unexpected award. Many of them dressed in space-themed pajamas, and—before my arrival—agreed on a code word. Whenever I used the word “yellow”, they broke into loud applause.

I hope you will join me for some scouting outreach in the near future. And I hope you remember to bring the SLAS brochures, which I always manage to forget!



Jim Brodack (in his optically themed sleep ware) and Amanda Vogt presenting Bill Neubert with the Powderhorn Consultant award for the St. Louis Astronomical Society

## Francis Park Stargazing Report *by*

**Bill Breeden**

Date: Wednesday, June 8, 2016

Setup Time: 6:30PM

Event Time: 7:00PM - 9:30PM

Volunteers: John Beaury, Rita Breeden, Cook Feldman, Lee Halbeck, Bill Breeden (Lead).

Guests: About 150 adults and kids.

**Targets/Notes:** This was a very memorable evening, with temperatures in the 80s and mainly clear skies, with a few high, thin clouds drifting by. No matter, as we had four very bright targets, in addition to the Sun, to observe. Since this event is so near the Summer Solstice, we started out by providing safe views of the Sun. Cook set up his PST, providing views of the Sun in Ha wavelengths. This provides views of solar prominences and flares. I set up my LX90 with a white-light solar filter, which showed viewers three distinct sunspots at the 5 o'clock position on the Sun's disk. This event was well-attended due to the participation of two large groups of Girl Scouts, and many families.

Guests set up chairs, brought their own planispheres, and lent a feeling of excitement and wonder to the event. Once the Sun finally dropped below the western horizon, we set our sights on the crescent Moon and Jupiter. A young man named Josh brought an LX90 and set it up next to mine. He provided views of the Moon, Jupiter, and Mars. Mars is just past opposition, placing it nicely in the evening sky. We were able to see some faint detail on Mars, as well as one of the polar ice caps. Later in the evening, Saturn poked up above the trees in the eastern sky. We were able to see Saturn's beautiful rings, and its large moon, Titan. Over the course of the busy evening, we had about 150 adults and kids, many of them stayed with our group for much of the evening. Others simply stopped by during their evening walk to take a quick look. It was a very pleasant and fun evening!

This event has been logged on Night Sky Network.

The next Francis Park Stargazing event is scheduled for Wednesday, July 6, 2016.

Clear Skies,

Bill Breeden

Francis Park Stargazing Lead and Star Party Coordinator



**American Astronomical Society (AAS) Eclipse Conference**

**From upper left**

Solar viewing, American paper eclipse glass display, Sophia from Rainbow Symphony, Don Ficken and Fred Espanek "Mr Eclipse", banquet at Blue Sky winery, outdoors at blue sky, Michael Batich with Trish E. from Perryville, Mike Kentrianakis just google "Oh my God Look at That and eclipse", Don Ficken, Trish E. and Tyler Nordgren in front of the Rainbow Symphony Booth The conference was held in Carbondale and hosted by Bob Baer.



## SLAS Executive Board Meeting Minutes for May 12, 2016

**1. Opening Activities:** Attendees: Bill Winningham, Larry Campbell, Jim Small, Tom Nickelson, Brad Waller, and Mark Jones.

Meeting opened at 7:09pm.

Minutes for April meeting were distributed before the meeting.

Motion to approve minutes by Brad Waller, and second by Tom Nickelson.

Minutes were approved.

**2. External Business** SLSC/SLAS agreement was sent to SLSC last month we have not heard back yet.

Couple of outreach events held this past month at SLSC:

Yuri's night, and the Mercury Transit

The 3<sup>rd</sup> Saturday of each month will be Solar Saturdays: next event will be May 21

**Next board meeting:** June 9, July 7, Aug 10 (Wed), Sep 8, Oct 6, Nov. 10, Dec 7 (Wed).

### 3. Director Reports:

**President – Jim Small:** Elections: Nominations from the April General Meeting:

President – Jim Small,

Vice-President- Brad Waller,

Treasurer- Bill Winningham,

Secretary – Mark Jones,

Hospitality- Larry Campbell,

BM2019- Rich Heuermann

Astronomy Day at SLSC is May 14<sup>th</sup> from 10-4pm

Crestwood Star Party will be that same night, May 14th

**Spirit of St. Louis Airshow** SLAS will have a large booth in the STEM area. Setup will be on Thursday, May 12. The booth will be open on May 13-15.

**MSRAL 2016:** Speakers and Dorm information available.

Still need a speaker or two for the conference.

Get the word out about the conference! Are you coming?

Have you registered yet?

**Give St. Louis Day May 3:** SLAS received \$75 in donations from 3 donors. There were issues with website which had big impact on donations.

**Zoom.us** webcasting software: NSN is using this software for their video conferences. We plan to use it at May SLAS presentation with Dr. Knutson from Cal. Tech.

**Vice President –Paul Baldwin: No Report**

**Secretary – Mark Jones:** check for \$4100 (2 lenses) from lens sales received

Treasurer/ALCor – Bill Winningham: Donations YTD \$450 Our expenses YTD are under budget by \$573.

Net ordinary income YTD \$635.

Net total income YTD \$7801

Mark had \$20 sales for eyepiece kit.

Bill filed 990N for 2016. Working on corporate filing with state.

Bill looking at changes on PayPal form: add phone number,

change Astronomy Magazine price, correct price for PayPal fee

**Hospitality – Larry Campbell:** Sharon and Larry sharing refreshment duties.

### Board member at large reports

**Brad Waller: (2016)** New member meeting will be held before regular meeting SLAS Meeting Speaker Line-up 2016

January, Mark Jones, Preview of Interesting Astronomical Events for 2016, SLAS

February, William Neubert, Night Sky Photography, SLAS  
March, Donald Snyder, PhD, Sundials, The World's Oldest Clocks, NA Sundial Assoc

April, Ian Redmount, PhD, Cosmological Evolution, SLU

May, Heather Knutson, PhD, Extra Solar Planets "Skype Event", Cal-Tech

June, Mike Roberts, Meteorology, Channel 5

July, Jane Rix, Sketching the Night Sky

August, John Wharton, Eclipse of 2017 One Year Out, SLSC

September, Gary Gackstatter, Archeo Astronomy of Chaco Canyon, SLCCC

October, Kater Murch, PhD, How LIGO pushes the limits of quantum measurement detect gravity, Wash U

Astro 101 June 2016: Bill Neubert: "An Excel-based Observing Planning Spreadsheet", July 2016: Grant Martin: Laser Pointer for your telescope

**Tom Nickelson: (2017)** All Ability scope TV camera has been repaired and ready for use

**Brent Buch (2018)** No report

### 4. Committee Reports: If needed

**Library Telescope Program: Orders due July 1<sup>st</sup>. Build will be in Aug-Sep**

**Membership –** SLAS membership dropped since January to 156. See separate report

**Librarian –Newsletter –** ARTICLES, please!

**Website –** [www.slasonline.org/joomla](http://www.slasonline.org/joomla)

**Night Sky Network –** Telecons, new Planetary toolkit  
Jim Small has it.

**SLASdialogs –** up to 102 members

**Dark Site –** see NSN calendar for dates

**Loaner –** Brad W has 3 scopes ready for loan LTP

**Observing Programs –** Universe Sampler being Hosted by Bill Biermann.

Mark Jones to pick up copies of book while at MSRAL.

Bill Biermann, Bill Neubert and Mark Jones continue to host once per month Sky Orienteering events at Babler.

Average attendance so far 8 people.

**Star Parties:** star party list submitted by star party coordinator, Bill Breeden.

### 5. Old Business –

**Membership Name Tags-** Plan to rollout for June meeting.

### 6. New Business

None

### 7. Closing Activities

None

A motion to adjourn the meeting was made by Brad Waller, and second by Larry Campbell. Meeting adjourned at 8:55pm



**St. Louis Astronomical Society**  
**Balance Sheet**

As of May 31, 2016

	Dec 31, 15	May 31, 16
<b>ASSETS</b>		
<b>Current Assets</b>		
<b>Checking/Savings</b>		
Astronomy Magazine Award**	465.72	0.00
Checking - First Bank	2,040.49	2,088.89
Deposit, Certificate of	20,108.23	20,125.87
Library Telescope Escrow*	444.55	507.46
Merchandise Change Fund	20.00	20.00
PayPal	82.51	24.15
Savings - First Bank	5,361.90	16,198.76
SLAS Eclipse Conference Escrow***	539.12	809.58
YMCA Trout Lodge Escrow	542.87	542.87
<b>Total Checking/Savings</b>	<b>30,505.39</b>	<b>40,408.88</b>
<b>Other Current Assets</b>		
Inventory Asset	1,410.53	1,408.02
Investment in Mid-States 2016	1,000.00	1,000.00
Undeposited Funds	55.00	20.00
<b>Total Other Current Assets</b>	<b>2,465.53</b>	<b>2,428.02</b>
<b>Total Current Assets</b>	<b>32,970.92</b>	<b>42,836.70</b>
<b>Fixed Assets</b>		
Accum Depr - Office Equip	(218.65)	(218.65)
Office Equipment	218.65	218.65
<b>Total Fixed Assets</b>	<b>0.00</b>	<b>0.00</b>
<b>TOTAL ASSETS</b>	<b>32,970.92</b>	<b>42,836.70</b>
<b>LIABILITIES &amp; EQUITY</b>		
<b>Equity</b>		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	24,464.84	24,833.26
Net Income	368.42	9,865.78
<b>Total Equity</b>	<b>32,970.92</b>	<b>42,836.70</b>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>32,970.92</b>	<b>42,836.70</b>

\* 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.

4:49 PM  
06/09/16  
Accrual Basis

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

	Jan - May 16	Budget	\$ Over Budget
<b>Ordinary Income/Expense</b>			
<b>Income</b>			
Total Magazine Subscription	496.50	698.45	(201.95)
Membership Dues	1,670.00	1,685.00	(15.00)
Total Merchandise Sales	4.00	0.00	4.00
<b>Total Income</b>	<b>2,170.50</b>	<b>2,383.45</b>	<b>(212.95)</b>
<b>Cost of Goods Sold</b>			
Total Magazine Subscriptions	455.45	698.45	(243.00)
Total Merchandise	2.51	22.50	(19.99)
<b>Total COGS</b>	<b>457.96</b>	<b>720.95</b>	<b>(262.99)</b>
<b>Gross Profit</b>	<b>1,712.54</b>	<b>1,662.50</b>	<b>50.04</b>
<b>Expense</b>			
1-Programs & Events	452.61	741.66	(289.05)
2-Newsletter	96.40	83.34	13.06
3-Library expense		41.66	(41.66)
5-Loaner Scopes		12.50	(12.50)
7-Insurance	380.00	380.00	
8-Website	155.40	150.00	5.40
9-Administrative Expenses	201.64	587.50	(385.86)
<b>Total Expense</b>	<b>1,286.05</b>	<b>1,996.66</b>	<b>(710.61)</b>
<b>Net Ordinary Income</b>	<b>426.49</b>	<b>(334.16)</b>	<b>760.65</b>
<b>Other Income/Expense</b>			
<b>Other Income</b>			
<b>Donations</b>			
SLAS Club Members	0.05	0.00	0.05
Donations - Other	450.00	0.00	450.00
<b>Total Donations</b>	<b>450.05</b>	<b>0.00</b>	<b>450.05</b>
Eclipse Escrow Receipts	800.00		
Interest Income	19.49	41.00	(21.51)
LTP Receipts	8,773.00		
Mistaken Membership*	59.00	0.00	59.00
Proceeds from Lens Sales	10,836.01		
<b>Total Other Income</b>	<b>20,937.55</b>	<b>41.00</b>	<b>20,896.55</b>
<b>Other Expense</b>			
Astro Mag Award Disbursements	472.76	0.00	472.76
Eclipse Escrow Disbursements	515.17	0.00	515.17
Eclipse Escrow Funding	800.00	800.00	0.00
LTP Disbursements	8,651.33	0.00	8,651.33
LTP Escrow Funding	1,000.00	1,000.00	0.00
Non-operating Expense*	59.00	0.00	59.00
<b>Total Other Expense</b>	<b>11,498.26</b>	<b>1,800.00</b>	<b>9,698.26</b>
<b>Net Other Income</b>	<b>9,439.29</b>	<b>(1,759.00)</b>	<b>11,198.29</b>
<b>Net Income</b>	<b>9,865.78</b>	<b>(2,093.16)</b>	<b>11,958.94</b>

\* An Individual mistakenly signed up for SLAS instead of the Science Center, membership and magazine funds refunded.



Rhonda Whelan finally gets treatment for her Cubbie Condition! She seems to be responding very well to the program!

Photo by Brad Waller

**Wanted: Volunteers!**

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

## Upcoming Star Parties and Other Events

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

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

### Dark Sky Observing Dates

7/2/2016, 8/6/2016, 9/3/2016, 10/1/2016, 11/5/2016.

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

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

7/1/2016, 8/5/2016, 9/2/2016, 10/7/2016, 11/4/2016, 12/2/2016

**YMCA Edward Jones Star Parties (generally third Mondays)**

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

**Pattonville Observatory Public Viewing Dates**  
Finished for the school year! See you in September!

**Broemmelsiek Astronomy Park Public Viewing**  
Every Friday night with ASEM members

### UMSL Observatory

For directions and map

<http://www.umsl.edu~physics/astro/directions.html>

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

Skywatch Hotline: 314-516-5706

Saturdays: 7/9, 8/13, 9/10, 10/8, 11/5

### LET US KNOW YOU ARE COMING!

To RSVP for any of these events log in to the Night Sky Network and submit your RSVP. If the event is canceled, you will be notified immediately according to the preferences you have selected.

## SLAS EVENTS

### June

17 Fri  
20 Mon  
24 Fri

SLAS regular meeting  
Edward Jones YMCA Star Party  
Vanderwall Montessori Summer Camp

25 Sat

Great American Camp Out  
Des Peres Park

26 Sun  
27 Mon

SLAS Sky Orienteering Event  
Junior High Camp

### July

1 Fri  
2 Sat  
6 Wed  
7 Thur  
10 Sun  
12 Tue  
14 Thur  
15 Fri  
16 Sat  
18 Mon  
24 Sun

SLSC Public Telescope Viewing  
SLAS dark sky viewing  
Francis Park  
SLAS Board meeting  
Stargazing at the Arch  
McClay Library Star Party St. Chas  
Deer Run Library Star Party St. Ch.  
SLAS regular meeting  
Sidewalk Solar Observing  
Edward Jones YMCA Star Party  
Sky Orienteering

### August

5 Fri  
6 Sat  
14 Sun  
15 Mon  
19 Fri

SLSC Public Telescope Viewing  
SLAS Dark sky viewing  
Stargazing at the Arch  
Edward Jones YMCA Star Party  
SLAS regular meeting

### SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at

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

There are two locations:

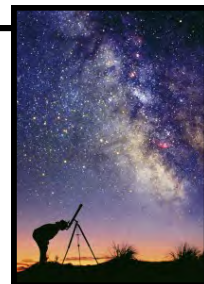
**Galleria:** 2495 St. Louis Galleria, St. Louis, MO 63117 Telephone: 314.862.2695  
galleria@headznthreadz.com

**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

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president at slasonline.org		
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vicepresident at slasonline.org		
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<b>Treasurer</b>	<b>Bill Winningham, (Don Ficken - membership)</b>	636-225-0269
treasurer at slasonline.org		
<b>Hospitality</b>	<b>Larry Campbell</b>	636-244-2867
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<b>Board Members at Large:</b>		
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Board19 at slasonline.org		
	<b>Brent Buch</b>	314-239-0329
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<b>MSRAL Rep.</b>	<b>Jim Small</b>	314-909-7211
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## COMMITTEE CHAIRS

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<b>'SLASdialogs' Moderator</b>	<b>Mark Jones, Rhonda Whelan</b>	
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<b>Star Party Coordinator</b>	<b>Bill Breeden</b>	314-276-3613
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***Devoted to the Interest and Advancement of the Science of Astronomy***

**ST. LOUIS ASTRONOMICAL SOCIETY**

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

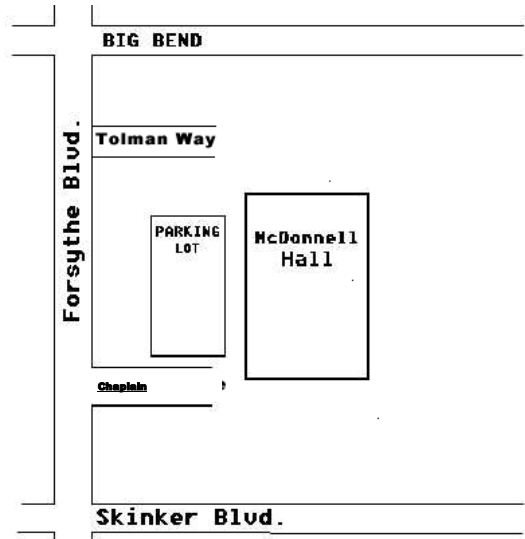


**Who We Are and What We Do**

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

