

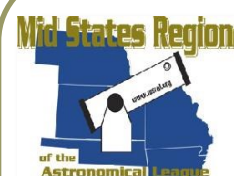
# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 24, Issue 3  
March, 2014**



## Probing the High Energy Universe

*by*

**Dr. Matthias Beilicke  
Washington University**

Dr. Matthias Beilicke will be featured at the March meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM Friday, March 21, in McDonnell Hall, Room 162, on the Washington University campus.

Gamma rays pack much more energy per particle than their more familiar cousins – light, heat, and radio waves. Gamma rays are produced in some of the most violent events that occur in the universe – exploding stars, colliding stars, black holes, supersonic shock waves. Fortunately for all forms of life, cosmic gamma rays are screened out by the atmosphere so that they cannot disrupt living cells. But as a result, gamma ray observations must occur out in space, using special remote-controlled devices rather than regular optical-type telescopes. Dr. Beilicke will talk about our present view of the gamma ray universe, particularly about the gamma ray instruments he uses and some of the recent discoveries from the high energy frontier.

Matthias Beilicke is a Research Assistant Professor in the Department of Physics and a member of the McDonnell Center for the Space Sciences at Washington University. He received his Doctorate in Physics from the University of Hamburg.

**April meeting:** Bob Criss - Rotational Dynamics of Planets, Stars and Galaxies

**May meeting:** Pamela Gay - Topic TBD

**June meeting:** Alex Meshik - Early History of the Solar System

## Homemade Fest 2014

**Saturday, March 22, 2014**

**Kirkwood Community Center at  
Geyer and Monroe**

Join fellow SLAS members for our annual winter pot-luck dinner meeting. Doors open at 5pm to unload equipment and food and set up the room. We will begin eating at 6pm. Formal Opening and presentation begin at 6:45pm. Attendance prizes will be drawn throughout the evening. If you have questions or wish to present, please contact Mark Jones for more information.

## MSRAL 2014 REGISTRATION Register Now!

Things are starting to fall into place for the MSRAL Convention to be held June 6-8, 2014. The registration page is open and ready to receive orders for the Registration, Star-B-Q, Banquet, and Lunch on Saturday. To register, visit [www.slasonline.org/msral2014.html](http://www.slasonline.org/msral2014.html) or click the link on the SLAS home page. The deadline for early registration is May 26! Our next MSRAL committee meeting will be held this Sunday, March 23rd at Young's Restaurant at 6:00 pm. If you would like to volunteer to help at the convention, let John Beaury or anyone on the committee know and he will forward your name to us to work at the meeting. THANKS to everyone on the committee for their help so far!

### Inside This Issue

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## **President's Corner**

**by Jim Small**

It's been a decent month for star parties at SLAS. While the Kirkwood event was canceled, we had a decent time at First Friday at the James S. McDonnell Planetarium and a nice turnout and evening at Creve Coeur Golf Course this past Friday. Saturday at Cedarlege wasn't a great day for star gazing, but with Jupiter, the Moon and the Pleiades poking through the clouds, the Girl Scouts got some decent viewing in. Thanks to all the volunteers for helping out with these events. It looks like our next big rush will be the beginning of April. I'm looking forward to getting the scope out for the public once again!

Homemade Fest is HERE! It will be held on March 22nd at the Kirkwood Community Center this year. Details and maps are available on Night Sky Network and more information is in an ad in this issue. If you have photos, memorabilia, stories, etc of John Dobson, Steven Best or Harry Lischer, you would like to share, let Mark Jones know and he will arrange for time and/or space at the event. Thanks again to Kirkwood Parks for providing us the room to hold the event! Our next Kirkwood event is in May. I think you will really enjoy the space we have reserved for the 2014 Homemade Fest!

Registration for MSRAL 2014 is open! Sign up by clicking the link on the SLAS home page or by clicking here: [www.slasonline.org/msral2014.html](http://www.slasonline.org/msral2014.html) The deadline for early registration is May 26. After that date, prices will increase.

Costs will be as follows as of this writing Registration: \$30, StarBQ: \$25, Saturday lunch: \$12, Banquet \$40. Coffee and a light continental breakfast will also be provided for both Saturday and Sunday. Rooms will be available at the Knight Center for \$99 plus tax. Not all of the speakers are established at this point, so if you have a paper to present or a speaker to suggest, contact myself or Mark Jones.

The next committee meeting will be a big one and is scheduled for **Sunday, March 23rd at 6:00 pm** at Young's Restaurant in Valley Park at 141 and Marshall just north of the railroad tracks. We need people to take over as committee heads and volunteers for various aspects about the convention such as registration, etc. Contact John Beaury if you are interested in volunteering. If you have a particular area you are interested in volunteering for (registration, etc) that would be useful, too. We will need lots of help when the convention comes.

## **SLAS Volunteers Recognized for 2013**

**by Mark Jones**



**Photo Above:** SLAS members who logged 5 or more Outreach events in 2013 were presented with their NSN certificate and pin. Front row (Left to Right): John Beaury; Rick Menendez; Connie Gleason; Larry Campbell; Nathan Biermann; Rich Jennings. Back Row (Left tot Right): Mark Jones; Jim Small; Don Ficken; Bill Biermann; and Grant Martin. Not pictured: Cook Feldman, Jim Trull, Ann Trull, Bill Breeden, and Michael Malolepszy.

**In 2013, SLAS members volunteered for 59 events and logged 716 hrs for NSN events.** Examples of 2013 Events are: SLSC Public Telescope Viewing; New Horizons in Space; Francis Park Stargazing; SLAS Observing at Babler State Park; St. Josephs of Imperial Science Night; Rockwood Valley Astronomy Night; Avery Park in Kirkwood Stargazing; Southwest Middle School – Parkway; Planetarium Celebration Week; Planetarium 50th Anniversary Celebration; Old Bonhomme School Science Fair; National Astronomy DayAstronomy Day Evening Observing; Cub Scouts at Beaumont; Manchester Parks and Recreation; Astronomy Weekend YMCA Trout Lodge; Children's Hospital; Urban Camping;Get out and play; Stargazing at the Gateway Arch;Girl Scout Camp Cedarledge; Edward Jones Family YMCA; Stargazing at Crestwood Park; Camp Wyman Developmental Disabilities Weekend; Scout Library event; Scout Library event; An Evening under the stars (private); Babler Outdoor Education Center; Faith Academy @ Larson Park; International Observe the Moon; Pulitzer Foundation Solar Viewing; Babler State Park 75th Anniv; Night Skies Over Babler; WOW 2013; Pack 883 Family Camp out; Military Family Camping Weekend at Camp Lakewood; Challenger Learning Center 10-year anniversary; Pack 848; and Center for Creative Learning 2nd Grade Nature Symposium.

*(More on page 5)*



Please join us for one of SLAS's most fun evenings  
of science, astronomy, and socializing!

And let's not forget the DOOR PRIZES!  
That is what every astronomer lives for, right?

**Where:** Kirkwood Community Center, Room 300  
111 South Geyer Road  
Kirkwood, MO 63122

## All we need is YOU!

A large, illuminated, blue, hourglass-shaped structure at night, with silhouettes of people in the foreground. The structure is a large, illuminated, blue, hourglass-shaped structure, possibly a sculpture or a large container, with a wide opening at the top and a narrow waist. It is illuminated from within, casting a bright blue glow. In the foreground, the silhouettes of several people are visible, looking towards the structure. The background shows a dark sky and some distant lights, suggesting an urban setting at night.

A large, illuminated, hourglass-shaped structure, possibly a water tower, is the central focus of the image. It is brightly lit with a combination of purple and blue light, making it stand out against the dark night sky. In the foreground, the silhouettes of several people are visible, looking towards the illuminated structure. The base of the structure appears to be a multi-story building with some windows and balconies. The overall scene is a nighttime public display or event.

Below: At the Creve Coeur event, John Beaury looks through Larry Cambell's scope with Canis Major, Orion, Taurus and the Pleiades in the background.



"Entropy isn't what it  
used to be."

"Entropy isn't what it  
used to be."

## Remembering Harry Lischer, Jr.

Harry Lischer, Jr. March 17, 1931 - March 10, 2014

Harry was a current and long-time SLAS member. According to a letter he wrote for our 75th Anniversary book, Harry first joined SLAS in 1948. While not a continuous member since 1948, SLAS records indicate Harry was a member for at least 25yrs.

Harry served SLAS as the observing program chairman for a number of years and inspired others to pursue observing awards. Harry also would send us e-mails or newsletter articles of his travels to and from Hawaii

Lischer, Harry, Jr. of Crestwood, Missouri, was born March 17, 1931, in Saint Louis, Missouri, to Harrison and Ida (nee Mann) Lischer, Sr. and entered into rest, Monday, March 10, 2014, at St. Anthony's Medical Center in St. Louis, Missouri, at the age of 82 years, 11 months and 21 days.

Harry was an Aviation pilot in the war. He enjoyed astronomy, stamp collecting, gardening and was a great pianist.

He is fondly remembered and will be dearly missed by all who knew and loved him.

Below is a post from Harry that Cook Feldman found in the STL Astronomy archives that relates a good deal about his life.

Hi Fellow Observers,

Although my observing has slowed drastically, I am not supposed to drive at night, so don't get to meetings, nevertheless I'd still like to be considered one of the group, though most of you won't recognize my name.

I do enjoy reading your messages and several recent ones have prompted my input.

My introduction to the heavens took place before many of you were born. It was at Scout Camp Irondale when they marched us to the parade ground and asked us to lie in the tall grass and weeds while a counselor traced the constellations and prominent stars with his light. The lore and legends fascinated me and a few weeks later I looked up from my back yard and, Wow !, there they were. I borrowed a few books to recall a few forgotten names.

My personal book collection grew and for Christmas, or a birthday, I was given the classic two-volume 'Amateur Telescope Making'. The following summer found me in the basement grinding, grinding and finally polishing a 6" slab of glass. I then built the tube to fit the focal length of the mirror. Next came a Springfield mounting with stock worm

gears and faucet handles to turn the worms. Hey, it worked and I got the Astronomy Merit Badge and a top award at the Greater St. Louis Science Fair.

I joined the 'St. Louis Amateur Astronomical Society' in 1949 and still have my membership card signed by Stewart O'Byrne, President.

I gave serious thought to becoming an astronomer, but my horrified family and friends insisted that I'd have to spend years studying obscure mathematics and upon graduation, would have to work nights and live on a mountain top. I became an Engineer instead.

Military service, starting a family and beginning my career kept my eyes closer to the ground for the next decade.

I managed major projects throughout the U.S. but re-joined SLAS whenever I was back in St. Louis. I earned several A.L. Observing Awards, but disliked the 'scavenger hunt' approach, much preferring to study a nebula and few clusters all night long. My only attempt at astrophotography was several time exposures of circum-polar stars.

Eventually I purchased a 10" LX200 and accumulated a large box full of eyepieces and accessories. We've traveled extensively throughout the U.S. and Europe and visited many large observatories along the way. About 20 years ago, we bought a condo in Maui and the viewing there sure put the Mid-west to shame. I bought a second 10" LX200 for Hawaii, so now I only have to take the eyepieces, etc. back and forth.

With some friends on the slopes of Haleakala I participated in about 6 Messier Marathons, but each time got so fascinated with the sheer beauty of some objects that I never reached the end before sunrise.

I used to associate with some veterans such as Al Woods and others and learned much from them. Now, they are gone and I must be getting older myself, because I have trouble hoisting the LX200 onto the tripod, have trouble seeing properly through the eyepiece, and am not supposed to drive at night, so I don't get to meetings any more. So I now observe vicariously through your messages and photos. Please keep them coming. Regards,  
Harry Lischer

*(Editor's note: Harry was my introduction to AL Observing programs and was always an inspiration to be interested in observing in general.)*



## **Remembering SLAS member Stephen Best**

Best, Stephen R. October 3, 1926 - February 14, 2014, age 87. Steve is survived by his wife of 62 years, Joyce, their two children. Steve was a social worker and active in civil rights and social justice causes. Steve enjoyed modern art and stereo photography. He combined these interests in his own stereo paintings, drawings, stabiles, and mobiles. Steve was known for his intelligence, wit and fondness for puns.

Photo: Exec Board Members at the SLAS 50<sup>th</sup> Anniversary Celebration, 1986.



Cook Feldman, Jim Trull and Mark Jones set up for the Creve Coeur event.

**LEFT: Front Row Left to Right:** Winifred Fallert, Wilber Gilles, Houston Jones, James Kocher, Cecilia Brown, Richard Heuermann.

**Back Row:** Norman Fallert, Stephen Best, Mark Jones, Wayne Clark, Frederick Geissow

## **SLAS Outreach Events**

Friday night SLAS members set up their telescopes on a tee-box at the Creve Coeur golf course. Skiers were very transparent and we had a nearly Full Moon, Jupiter and the

Orion Nebula to look at. We also saw 2 passes of an Atlas rocket booster. Volunteers were: Cook Feldman, John Beaury, Jim Small, Jim & Ann Trull, Carl Masthay, Larry Campbell and Mark Jones

Saturday night was telescope viewing at Camp Cedarledge Girl Scout Camp. Thin clouds did not prevent us from showing the scouts the Moon, Jupiter, the Orion Nebula, and the Pleiades. Volunteers were Bill and Annalise Biermann, Rick Menendez and Mark Jones

**LEFT:** Larry Cambell, Jim and Ann Trull, Mark Jones, Cook Feldman, John Beaury and Carl Masthay set up on the tee at the Creve Coeur Golf Course.



## Outreach Award Opportunities

We have many Outreach events coming up this spring and anyone can volunteer. Just go to the NSN link on the SLAS website. Look at the NSN calendar for opportunities, login to NSN and RSVP for the event you wish to attend. By RSVP'ing you can be notified if the event changes or is cancelled. You then log your hours after the event. You can track your hours throughout the year and at the end of the year, SLAS will submit the names of all volunteers who met the NSN criteria. Here is a link to SLAS' NSN site:

[https://nightsky.jpl.nasa.gov/club-view.cfm?Club\\_ID=718](https://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=718)

The Astronomical League also recognizes Outreach. Any member who meets the requirements for the award is eligible. Requirements are described below and can be found on the AL website at:

<http://astroleague.org/al/obsclubs/outreach/outreach.html>

### Other award opportunities

Member can qualify for AL Outreach Awards

Level 1 = 10hrs and 5 events (includes AL pin, right)

Level 2 = Additional 50 hrs

Level 3 = Additional 100 hrs (includes AL pin, left)

Volunteers since June 2007

Since June 2007 SLAS members have logged 3373 hrs for NSN events! Those who have received the AL award are indicated. Contact Mark Jones, Observing Chairman for details and assistance.

AL Award	Feldman, Cook	440 hrs, 136 events
	Beaury, John	346 hrs, 114 events
AL Award	Ficken, Don	248 hrs, 82 events
	Small, Jim	245 hrs, 77 events
	Trull, Jim	231 hrs, 74 events
AL Award	Breeden, Bill	169 hrs, 59 events
AL Award	Martin, Grant	155 hrs, 43 events
	McHugh, Joe	152 hrs, 51 events
AL Award	Jones, Mark	143 hrs, 45 events
	Menendez, Rick	137 hrs, 48 events
	Trull, Ann	115 hrs, 37 events
	Jennings, Rich	95 hrs, 32 events
	Malolepszy, Mike	79 hrs, 23 events
	Gordon, Abby	74 hrs, 25 events
AL Award	Breeden, Rita	60 hrs, 20 events
	Biermann, Bill	54 hrs, 15 events
	Whelan, Rhonda	51 hrs, 15 events
	Campbell, Larry	47 hrs, 16 events
AL Award	Greenway, Glenn	45 hrs, 14 events
	Halbeck, Lee	42 hrs, 13 events
	Baldwin, Paul	40 hrs, 10 events
	Clavenna, Ariana	37 hrs, 9 events
	Buch, Brent	31 hrs, 9 events
AL Award	Loethen, Jerry	30 hrs, 9 events
	Lynn Magnusson	27 hrs, 8 events
	Sands, Steve	26 hrs, 5 events

	Heuermann, Rich	26 hrs, 7 events
AL Award	Fitter, Lois	24 hrs, 7 events
	Nathan Biermann	24 hrs, 7 events
	Clark, Wayne	20 hrs, 6 events
	Gaines, Greg	19 hrs, 5 events
	Griffith, Brad	19 hrs, 5 events
	Logan, Bruce	18 hrs, 6 events
AL Award	Naethe, Jeromy	17 hrs, 5 events
	Duffy, Dan	15 hrs, 5 events
	Connie Gleason	15 hrs, 5 events
	Newcomer, John	14 hrs, 5 events
	Waller, Brad	14 hrs, 5 events
	Follis, John	13 hrs, 5 events
	Mekla, Jim	13 hrs, 5 events
	Corso, Dan	12 hrs, 4 events
	Follis, Linda	12 hrs, 4 events
	Schloemann, Tom	11.5 hrs, 3 events
	James Griffith	11 hrs, 3 events
	Keutzer, Tom	10 hrs, 4 events

## Telescope Danger by Rick Menendez

I've had many odd things happen to me in my life but this was one of the oddest and a word of caution to unlucky telescope owners. A couple weeks ago I put my 12 inch reflector in my car and went to do some snowboarding at Our local ski resort Hidden Valley. I parked the car pointing slightly to the southeast. I have a cover over the front of the scope but it frequently falls off due to the unevenness of the hilly roads into the parking lot but I figured no big deal. After a couple hours of boarding I went to the car and had a drink and a snack. After a few minutes I began smelling something burning. Now when I loaded the scope I noticed I hit the roof and broke a small wire that was dangling down so I immediately took out the keys and shut down the power, assuming I had caused a short or open circuit.

This didn't stop it so I went to look around the car and at the back I saw smoke waft from the rear seat area and saw a burn mark on the leather on the top of my back seat.

By sheer chance, the car was parked at such an angle that the sunlight hit the main mirror and the opposite at off axis angle put the focal point precisely on my seat. In fact the Sun's motion in the sky made the finger length burn a curved line that matched the Sun's movement; quite a surprise! Fortunately, a handful of nearby snow put out the combustion but it did put a scare into me. Had I not taken a break I could have set fire to my entire car!

Now this have the making of a good daytime telescope demonstration but I would have preferred not to use my car to discover this. It does point out a bit of caution. Aside from keeping your optics clean, if you have your scope out in the daytime it's not a bad idea to keep the optics covered, even the finder scope. I'm betting that this rather rare event isn't the only time this has ever happened. I glad this didn't end up as a video on YouTube. This was funny but scary at the same time. Rick M



**Scientists from the  
Collaboration BICEP2 find  
Evidence for the Effects of  
Gravitational Waves from the  
Inflationary Period.**

Monday, scientists from the experiment at the South Pole called BICEP2 held a press conference reporting their discoveries about an aspect of the Cosmic Microwave Background (CMB) called B-mode polarization. BICEP2 is a polarimeter specifically designed to look for evidence of gravitational waves in the CMB. There are two choices for polarization, E-mode (radio) and B-mode, which is tangential to E-mode. Inflation theory predicted that RAPID expansion in early times that B-modes would be created. Successful measurement of B-mode polarization is a confirmation of this inflation model and is an indication that the results of gravitational waves have been imaged. It is perhaps the most significant result of this century and has physicists extremely excited not only about the results but the questions it now raises.

There are many sources around the net for more information and here are a few:

**Full BICEP2 Website**

<http://bicepkeck.org/>

**Video of Press conference** for B Polarization of CMB measured at BICEP2

[http://www.cfa.harvard.edu/pao/Bicep2\\_news\\_con.mp4](http://www.cfa.harvard.edu/pao/Bicep2_news_con.mp4)

**FAQ for BICEP2** – a good place to start.

<http://bicepkeck.org/faq.html>

**The Scientific Paper for this Discovery** – pretty intense, read the abstract here. <http://arxiv.org/abs/1403.3985>

**Information from the particle physics blog Resonances** interpreting results of the BICEP2 discoveries and what they mean for our model of the universe. <http://resonances.blogspot.com/2014/03/curly-impressions.html>

**Information from three more physics blogs on the subject:**

**From Blank on the Map** - Seshadri Nadathur

<http://blankonthemap.blogspot.com/2014/03/first-direct-evidence-for-cosmic.html>

**From Lumps and Bumps** - Phil Bull

<http://philbull.wordpress.com/2014/03/17/how-solid-is-the-bicep2-b-mode-result/>

**From The Reference Frame** - Liam McAllister

<http://motls.blogspot.com/2014/03/bicep2-primitive-gravitational-waves.html>

**SLAS Dark Sky Parties for 2014**

**by Mark Jones**

With warmer weather approaching it is time for SLAS to plan monthly dark sky viewing. SLAS' monthly dark sky viewing is held on the Saturday nearest the New Moon and is normally held at Danville Conservation Area. For many of us, these monthly sessions offer the opportunity to stretch the limits of our scopes and observing skills. For others it is a chance to relax and just enjoy skies where a pair of binoculars will reveal objects not seen from suburbia.

This is a member and family event so we would appreciate it if there are no Public Announcements about the location or date. Danville is a public area and is used by other clubs and individuals interested in astronomy so expect other people to be there, enjoying dark skies. Members are requested to be courteous to other observers.

If you have questions, post messages on SLASDialogs to find out who is planning to attend the event.

The dates selected for this year include: March 29<sup>th</sup>; April 26<sup>th</sup>; May 3<sup>rd</sup>, 24<sup>th</sup> and 31<sup>st</sup>; June 28<sup>th</sup>; July 26<sup>th</sup>; August 30<sup>th</sup>; September 27<sup>th</sup> and October 25<sup>th</sup>.

Here are some simple guidelines:

1. try to arrive before dark to avoid headlights in the observing area
2. always park your car with headlights facing toward the exit so you can easily leave with minimal disturbance
3. SAFETY FIRST, if you need to use your headlights or parking lights so you can see please use them. We don't want people, equipment or cars hit.
4. drive SLOW through observing area, rocks and dust can damage sensitive equipment
5. bring a red flash light to see
6. bring bug spray in the summer and warm clothes in the winter.
7. please obey all Missouri Conservation rules when on their facility and don't speed when on CA property or the surrounding roads. We have a long history of cooperation and friendly behavior between amateur astronomers and the CA agents and the local population. We want to keep them supportive of our hobby.

Helpful links:

Details and directions can be found on the SLAS Night Sky Network Calendar

[https://nightsky.jpl.nasa.gov/club/event-view.cfm?Event\\_ID=40130](https://nightsky.jpl.nasa.gov/club/event-view.cfm?Event_ID=40130)

Forecast of viewing conditions can be found on the Clear Sky Clock for Whiteside:

<http://cleardarksky.com/c/WhtsdMOkey.html?1>

## STARFLEET COMMAND

## MISSION UPDATES FOR MARCH 2014

## EXTRA SOLAR PLANETS COUNT

The Extra Solar Planets Encyclopedia:	1771	<a href="http://www.exoplanet.eu">www.exoplanet.eu</a>
The NASA Exoplanet Archive:	1690	<a href="http://www.planetquest.jpl.nasa.gov">www.planetquest.jpl.nasa.gov</a>
Exoplanet Orbit Database:	775	<a href="http://www.exoplanets.org">www.exoplanets.org</a>
Arecibo-The Exoplanets Catalog:	1793	<a href="http://www.phl.upr.edu/projects/habitable-exoplanets-ca">www.phl.upr.edu/projects/habitable-exoplanets-ca</a>
Open Exoplanet Catalog:	1769	<a href="http://www.openexoplanetcatalogue.com">www.openexoplanetcatalogue.com</a>
As of:	18-Mar-2014	

## ON GOING MISSIONS

MISSION	LAUNCHED	ARRIVAL DATE	DESTINATION
Cassini	15-Oct-1997	1-Jul-2004	Saturn: Orbital
Mars Odyssey (USA)	7-Apr-2001	24-Oct-2001	Mars: Orbital
Mars Express (ESA)	2-Jun-2003	25-Dec-2003	Mars: Orbital
Opportunity (USA)	7-Jul-2003	25-Jan-2004	Mars: Rover Meridiani Planum
Rosetta (ESA)	2-Mar-2004		
Messenger (1) (USA)	3-Aug-2004	18-Mar-2011	Mercury: Orbital
MRO (6) (USA)	12-Aug-2005	10-Mar-2006	Mars: Orbital
Pluto Express (USA)	19-Jan-2006	14-Jul-2015	Planet: Pluto Flyby
Dawn (USA)	27-Sep-2007	March-April 2015	Dwarf Planet: Ceres (Orbital)
NEOWISE (5) (USA)	14-Dec-2009		
Juno (USA)	5-Aug-2011	Aug 2016	Jupiter Orbital
Curiosity (USA)	26-Nov-2011	6-Aug-2012	Mars: Rover Gale Crater
LADEE (2) (USA)	7-Sep-2013	6-Oct-2013	Moon: Orbital
Mars Orbiter Mission (MOM) (India)	5-Nov-2013	24-Sep-2013	Mars: Orbital
MAVEN (3) (USA)	18-Nov-2013	22-Sep-2013	Mars: Orbital
Chang'e (4) (China)	1-Dec-2013	14-Dec-2013	Moon: Rover

(1) Mercury Surface, Space Environment, Geochemistry, and Ranging

(2) Lunar Atmosphere and Dust Environment Explorer

(3) Mars Atmosphere and Volatile Evolution

(4) The Chang'e mission has a rover. It is called, Yutu..Jade Rabbit.

(5) Near-Earth Object Wide-field Infrared Survey Explorer

(6) Mars Reconnaissance Orbiter USA

## MESSENGER

\*18 Dec 2013: MESSENGER reached 1000 Earth days in orbit around Mercury.

\*06 February 2014: MESSENGER Surpasses 200,000 Orbital Images of Mercury.

## NEOWISE

\*01 Feb 2011 was placed into hibernation.

\*21 Aug 2013 was reactivated and tasked with a new mission. Finding Near Earth Asteroids.

## ROSETTA

\*08 June 2011 was placed into hibernation.

\*20 Jan 2014 was re-activated.

## UPCOMING MISSIONS

MISSION	LAUNCH DATE	DESTINATION
Insight (1) (USA)	8-Mar-2016	Mars Landing
OSIRIS-Rex (2) (USA)	Sept 2016	Asteroid Bennu Sample Return Mission
James Webb Space Telescope (USA)	Oct 2018	

(1) Interior Exploration using Seismic Investigations, Geodesy and Heat Transport

(2) Origins Spectral Interpretation Resource Identification Security Regolith Explorer

To have your name place on the OSIRIS-Rex mission:

[www.planetary.org/get-involved/messages](http://www.planetary.org/get-involved/messages)St. Louis Astronomical Society  
Profit & Loss Budget vs. Actual  
January through February 2014

	Jan - Feb 14	Budget	\$ Over Budget
Ordinary Income/Expense			
Income			
Magazine Subscription	200.85	1,036.15	(835.30)
Membership Dues	545.00	720.00	(175.00)
Total Income	745.85	1,756.15	(1,010.30)
Cost of Goods Sold			
Magazine Subscriptions	167.90	1,036.15	(868.25)
Total COGS	167.90	1,036.15	(868.25)
Gross Profit	577.95	720.00	(142.05)
Expense			
1-Programs & Events	84.99	304.16	(219.17)
2-Newsletter	78.78	47.50	31.28
3-Library expense	22.91		
5-Loaner Scopes	2.69		
6-Brochures		41.66	(41.66)
8-Website	113.88	108.00	5.88
9-Administrative Expenses	43.02	71.00	(27.98)
Total Expense	346.27	572.32	(226.05)
Net Ordinary Income	231.68	147.68	84.00
Other Income/Expense			
Other Income			
Donations	3.79	16.00	(15.73)
Interest Income	0.27		
Total Other Income	4.06	16.00	(11.94)
Net Other Income	4.06	16.00	(11.94)
Net Income	235.74	163.68	72.06

St. Louis Astronomical Society  
Balance Sheet  
As of February 28, 2014

	Dec 31, 13	Feb 28, 14
<b>ASSETS</b>		
Current Assets		
Checking/Savings		
Checking - First Bank	3,263.28	3,481.91
Deposit, Certificate of	20,020.23	20,020.23
Merchandise Change Fund	20.00	20.00
PayPal	24.15	0.00
Savings - First Bank	3,357.60	3,357.87
YMCA Trout Lodge Escrow	877.87	877.87
Total Checking/Savings	27,563.13	27,757.88
Other Current Assets		
Inventory Asset	1,707.15	1,707.15
Investment in Mid-States 2014	2,000.00	2,000.00
Total Other Current Assets	3,707.15	3,707.15
Total Current Assets	31,270.28	31,465.03
Fixed Assets		
Accum Depr - Office Equip	(216.65)	(216.65)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	0.00
<b>TOTAL ASSETS</b>	<b>31,270.28</b>	<b>31,465.03</b>
<b>LIABILITIES &amp; EQUITY</b>		
Liabilities		
Current Liabilities		
Accounts Payable	40.99	0.00
Accounts Payable	40.99	0.00
Total Accounts Payable	40.99	0.00
Total Current Liabilities	40.99	0.00
Total Liabilities	40.99	0.00
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	19,214.15	23,091.63
Net Income	3,877.48	235.74
Total Equity	31,229.29	31,465.03
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>31,270.28</b>	<b>31,465.03</b>



## SAINT LOUIS ASTRONOMICAL SOCIETY

### MINUTES OF EXECUTIVE BOARD MEETING:

### February 13, 2014

**1. Opening Activities** Call to Order Read/Approve January Minutes. Meeting called to order at 7:07pm Attendees: Grant Martin, Tom Nickelson, Brad Waller, Larry Campbell and Mark Jones. January minutes had been distributed for review prior to meeting. Brad made motion to accept the January minutes, second by Tom minutes approved

**2. External Business SLSC:** March 7 – First Friday theme is Titans of the Ice Age **Homemade Fest: (report submitted by Jim Small)** The Homemade Fest is set for Kirkwood Community Center, room 301 from 5-10 on Saturday, March 22<sup>nd</sup>. After a brief conversation with the director of Kirkwood Parks via the person in charge of scheduling the rooms for the Community Center, the Director agreed to provide the room for FREE to us for Homemade Fest in exchange for the star parties we are providing this year. What a nice arrangement! The room is very spacious and would easily provide for 85 people. There is a very nice kitchen directly across from the entrance to the room that has TWO doors. So we'll set up the food in the kitchen around the sidewalls and/or via tables between the doors and people can enter one door, work through the buffet, and then exit the other door at the end! Should be a smooth delivery for the food. There are outlets on each wall for slow cookers and warmers, etc. Advertisements will be posted in this month and next month's newsletters for the event. Members should let Mark Jones know if they have something to present at the event. We will be using our projector and screen for any computer presentations. **Volunteers: Grant Martin will bring Hospitality goods like plates napkins utensils cups, coffee pots, SLAS sign. Mark will bring ice cubes, door prizes. Jim Small will provide the raffle tickets for the door prizes.**

Next board meeting is March 6<sup>th</sup>. Board meeting dates for the year are confirmed from the YMCA: 3/6, 4/10, 5/8, 6/12, 7/10, 8/7, 9/11, 10/9, 11/6, 12/11.

#### 3. Director Reports:

**President – Jim S (report submitted) MSRAL 2014:** Last committee meeting went very well. Some committee heads are established. Brent Buch is in charge of tracking vendors and door prizes; Wayne Clark is in charge of speakers; Ann Trull is in charge of banquets, Star-B-Q and lunches. Rich Heuermann and Ann are working on dorm rooms. The registration page went live around February 1<sup>st</sup> and the form is working well. It includes all the information we need and sends an email to us automatically when someone fills out the form. The form also automatically sends the person registering a copy of the email and the success page has the address for mailing the check as well as links to the PayPal button to submit payment via credit card or PayPal account. Both of those pieces of information are also automatically included in the email sent to the registrant. Jim tested both the form and the PayPal button with a visa card as a guest. They both worked flawlessly. A letter is being composed for mass mailing and posting to groups and websites. It will be sent to all presidents and ALCORS in the region and other people who are on the list to be contacted. A PowerPoint was also put together for presenting info about the convention to other clubs. That will be made available as well.

**Vice President – Bill Biermann (report submitted). Speakers:** February Bill Biermann and Grant Martin; **Astro 101:** Dale Engelbrecht will present an interesting story on a piece of hardware from the space program.

**Secretary – Mark J** NSN certificates have been created as pdf's for each person receiving the 2013 Award and pin. Certificate paper purchased. Certificates are ready to print. Brad Waller will print certificates.

**Treasurer/ALCor –** Treasurers reports were sent out to board. Positive balance for the year

**Hospitality – Grant M** No report

**Board member at large reports**

**Larry Campbell** - Bring Mova globe to homemade fest

**Tom Nickelson:** Space Grant for people with disabilities. First round of equipment will be ordered within the next month. Tom pointed out we need to start pushing for nominations for May elections at the next meeting.

**Brad Waller:** Will get certificates printed for NSN Outreach Awards and bring to February meeting.

#### 4. Committee Reports:

**Membership –** Membership list with all expired members from 2013 was sent out by Cook. People on the list should be contacted by phone to investigate reason membership expired. Rhonda forwarded information about some of the members on the list. As at 1/31/2014, our member count is 152 members. This includes 100 individual, 46 family and 6 youth memberships. We added 5 new members during the month, 5 memberships expired and one expired member renewed resulting in a net gain of one member for the month

**Librarian –** Ottewell Calendar and RASC Handbook arrived for Library. Sky and Telescope 2013 Compilation DVD has been ordered and will be here by the meeting.

**Newsletter –** Brad Waller has volunteered to provide Space Mission updates for newsletter

**Night Sky Network –** Globe at Night Telecon audio and slides are posted on NSN. March Telecon will be on Mars.

**Dark Site –** Dark Site Observing Dates are 3/1, 3/29 (Messier Marathon), 4/26. No other dates scheduled on the calendar at this time.

**Publicity –** Rich Heuermann sent out press release for February meeting

**Observing Programs – Messier Marathon:** A joint SLAS-ASEM Messier Marathon is being planned for March 29 at Broemmelsiek Park.

**Star Parties:** Some star parties are listed below. The March 8 event will be a dedicated event in honor of John Dobson and sidewalk astronomy! It is a national (international) event offered up in his memory by the Sidewalk Astronomers. We already happened to have the Kirkwood event scheduled.

#### Details for the next month's confirmed events below.

Feb. 20, 2014 (THUR) Incarnate Word Science Olympiad

March 4, 2014 LaSalle Springs

March 7, 2014 (FRI) McDonnell Planetarium / SLSC PTV

March 8, 2014 (SAT) Kirkwood Park

March 14, 2014 (FRI) Creve Couer Star Gazing

March 15, 2014 Camp Cedarledge

April 4, 2014 Public Telescope Viewing

April 7, 2014 Edward Jones YMCA

April 9, 2014 Francis Park

April 11, 2014 Bonhomme School

April 14, 2014 Mallinckrodt Career Night

April 26, 2014 Snores and Smores Camp Out Kirkwood Park

#### 5. Old Business None

**6. New Business** The following was deferred until next month. Recommendations by Don Ficken for contacting members whose memberships have expired

1. Send a second notice letter. We could send a second notice letter. Probably should be an automatic reminder sent three months after expiration. But it will cost us more stamps (at least 38 stamps for this effort alone). But it only takes one or two renewals to make up the difference. I don't mind to draft and mail the letter if Cook will get the letter embedded into quicken for easy generation.

2. Call members. This one takes more time. If we want to take this approach, it will require board members to help make the calls. If you want to volunteer to make a call, let Don Ficken know and he will send you the contact information.

#### Closing Activities

Motion to adjourn the meeting made by Larry, second by Grant meeting adjourned at 8:40pm

## 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**

4/10/2014	5/8/2014
6/12/2014	7/10/2014
8/7/2014	9/11/2014
10/9/2014	11/6/2014
12/11/2014	

### Dark Sky Observing Dates

3/29/2014 (Messier Marathon)  
April 26  
May 3  
May 24 (Memorial Day weekend)  
May 31 (new moon)  
June 28  
July 26  
Aug 30  
Sep 27  
Oct 25

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

April 9 (9 day old Moon) (2nd Wed.)  
May 7 (7 day old Moon) (1st Wed.)  
June 4 (6 day old Moon) (1st Wed.)  
July 2 (4 day old Moon) (1st Wed.)  
August 6 (9 day old Moon) (1st Wed.)  
September 3 (8 day old Moon) (1st Wed.)  
October 1 (7 day old Moon) (1st Wed.)  
October 29 (6 day old Moon) (5th Wed.)

**SLSC Public Telescope Viewing Events: These events are held the first Friday of the month-**

Planetarium shows start at 7pm  
April 4, 2014

### YMCA Edward Jones Star Parties

4/7/2014  
5/5/2014  
6/2/2014  
6/30/2014 (two in June is because of Moon timing)  
8/14/2014

### Pattonville Observatory Open House Dates

**April 4, 2014** Friday 8:30-10:30 p.m. Public Program  
Small Crescent Moon, Jupiter, Saturn and Mars (late), M44 (the Beehive Cluster), M45 (the Pleiades), Mizar, stars and star colors  
**April 25, 2014** Friday 9:00-11:00 p.m. Public Program  
Jupiter, Saturn, Mars, M104 (Sombrero Galaxy), M96, M44, Double Stars and various constellations

**May 2, 2014** Friday 9:00-11:00 p.m. Public Program  
Jupiter, Saturn, Mars, M104, M96 and globular cluster of M3 and M5, open cluster of M44

**May 16, 2014** Friday 9:00-11:00 p.m. Public Program  
Jupiter (early), Saturn, Mars, M13 (the Great Hercules cluster), M104, M96, globular clusters, constellations and stars

## SLAS EVENTS

### March

**21 FRI  
22 SAT**

**27 THUR  
29 SAT**

**APRIL  
4 FRI  
5 SAT  
7 MON  
9 WED  
10 THUR  
11 FRI  
14 MON  
18 FRI  
26 SAT  
26 SAT**

**May  
2 FRI  
3 SAT  
5 MON  
7 WED  
8 THUR  
8 THUR  
9 FRI  
10 SAT  
10 SAT  
10 SAT  
16 FRI  
24 SAT  
31 SAT**

**JUNE 6-8**

**SLAS Regular Meeting  
HOMEMADE FEST !! (Kirkwood Community Center)  
Rockwood Valley Middle  
Messier Marathon**

**SLSC Public Telescope Viewing  
Stargazing Crestwood Park  
Edward Jones YMCA  
Francis Park  
SLAS Board Meeting  
Old Bonhomme School  
Mallinckrodt Career Night  
SLAS Regular Meeting  
SLAS Dark Sky Observing  
Kirkwood Snores and S'mores  
Camp Out**

**SLSC Public Telescope Viewing  
SLAS Dark Sky Observing  
Edward Jones YMCA  
Francis Park  
SLAS Board Meeting  
Manchester Parks  
Stargazing at the Arch  
Astronomy Day  
Creve Coeur Camera Expo  
Kirkwood Park  
SLAS Regular Meeting  
SLAS Dark Sky Observing  
SLAS Dark Sky  
Observing  
MSRAL Convention**



## 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. For more information about events, such as Moon phase, clear sky clock, weather report or a map of what's up, see the calendar online.

## 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 @ \$34.00 / 1 year \$ \_\_\_\_\_

**TOTAL ENCLOSED** \$ \_\_\_\_\_

Please send completed form with check (no cash please) made payable to

St Louis Astronomical Society

Don Ficken, Treasurer  
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**

201309.pub

**President** *Jim Small* 314-307-0692  
president at slasonline.org**Vice President** *Bill Biermann* 314-596-6738  
vicepresident at slasonline.org**Secretary** *Mark Jones* 636-394-2342  
secretary at slasonline.org**Treasurer** *Rhonda Whelan, Cook Feldman, Don Ficken (membership)* 636-225-0269  
treasurer at slasonline.org**Hospitality** *Grant Martin*  
hospitality at slasonline.org**Board Members at Large:***Tom Nickelson*  
board14 at slasonline.org  
*Larry Campbell* 636-244-2867  
board15 at slasonline.org  
*Bradley Waller* 314-481-7250  
board16 at slasonline.org**ALCOR** *Rhonda Whelan* 314-750-0262  
(Astronomical League Correspondent )  
treasurer at slasonline.org**MSRAL Rep.** *Jim Small* 314-909-7211  
msral\_rep at astroleague.org**COMMITTEE CHAIRS****Membership** *Don Ficken* 636-225-0269  
membership at slasonline.org**Publicity** *Rich Heuermann* 314-962-9231  
publicity at slasonline.org**'SLASdialogs' Moderator** *Mark Jones, Rhonda Whelan*  
dialogsmoderator at yahoo.com**Webmaster** *Jim Small* 314-909-7211  
webmaster at slasonline.org**Newsletter Ed.** *Jim Small* 314-909-7211  
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loaner at slasonline.org**Merchandise** *Grant Martin*  
merchandise at slasonline.org**Librarian** *Jim Small* 314-909-7211  
librarian at slasonline.org**Star Party Coord** *Mike Malolepszy* 314-781-4701  
starparty at slasonline.org**Dark Site Coord.** *Mark Jones* 636-394-2342  
darksite at slasonline.org**Observing Programs** *Mark Jones* 636-394-2342  
observing 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>

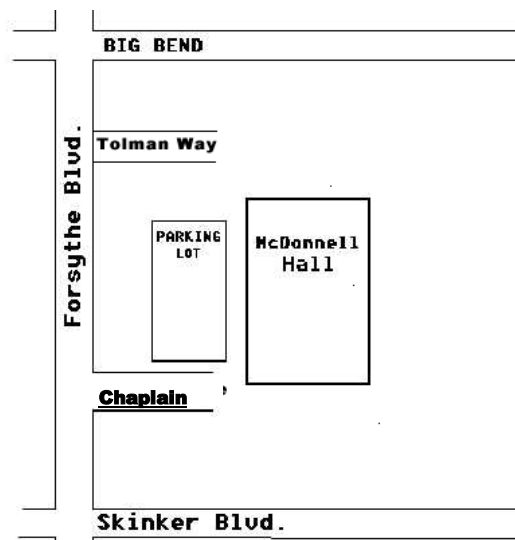


### **Who We Are and What We Do**

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