

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

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

**VOLUME 23, Issue 11
November, 2013**

Astronomy and Space Gadgets and Gifts

by Bill Biermann

Our next meeting will be Friday, November 15th at 7:30 pm at McDonnell Hall at Washington University. This meeting belongs to our members! That's right, we have over 150 members with great knowledge, talent and skills. So we are having members present to the group. The theme will be limited to "Astro and Space Gadgets". SLAS members will share their favorite Astro-Gadgets, widget or thing-a-ma-jig, space toy, (Robby the Robot), or game. Remember, November Astro-gadgets may become December's gift for your favorite astronomer! In addition to bringing in the gizmo, we are looking for members to display and give a 5-minute description of their favorite accessory. If it is impractical to carry, then bring in a photograph --anything from books and flashlights, to eyepieces, cameras, observing clothing, finders, toys, space memorabilia, collimators, you name it, and you bring it. In order to keep some law and order, please try and RSVP on NSN; I have set up a "presentation" event on that day. Or let me know at vicepresident@slasonline.org or call at 314-596-6738. We'll see you there!

December meeting: Mars Update by Ed Guinness

January meeting: Astrophotography by Dan Crowson

Volunteer Opportunities

by Jim Small

Fall is usually the busy season for volunteers and this fall is no exception! There are plenty of events you can participate in between now and the end of the year and there will likely be some more posted soon. Outreach is the most important job for SLAS and represents our mission for the public. As you will see on the next page, there are 31 members who have logged volunteer hours for SLAS outreach events so far this year. We have 170 members in the Society and we would like more of you to get involved in these programs. You might not be sure what to do or how to participate, but it's very easy to learn, and you don't even need a telescope! Any event can always use someone to pass out brochures, talk to people about astronomy or our group and even just to help direct traffic! We would love to see more people get involved because out of the 646 hours that have been logged by volunteers so far, half of those hours have been logged by only 6 people! That's a lot of hours for a few people and we need more people to step up to help us out. If you've volunteered already at a star party this year, make sure you sign up for at least one more before the end of the year. Remember too, that if you participate in a total of 5 events for the year, you will be eligible for a Volunteer Pin from Night Sky Network. For more information on how to participate, see the article later in the newsletter.

Mid States Region



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President's Corner

by Jim Small

It's budget time and the budget for 2014 may be found on page 7 of the newsletter. Make sure you have any questions ready for the discussion before we vote on the budget at the regular meeting this month. In addition to the budget, we will also be voting for a board member at large position left vacant by Greg Gaines (not by choice!) Once again, thanks to Greg for stepping up for that position. Perhaps you'll be able to return some time in the future! Thanks to Larry Campbell for accepting the nomination at the last meeting. If anyone else is interested, nominations are still open.

We had, for the first time in a long time, a cancellation of a star party due to a lack of volunteers. It was this past Friday, November 8 at Wildwood Middle School. I really wish this would not have happened, as Rockwood Schools had planned to have three middle schools attend the event. Not only that, but it was CLEAR! At the time of the cancellation, there was only one person who had RSVP'd for the event in Night Sky Network and no one had communicated with Mike that they might attend the event. If you check the list of volunteers on page 3, you will see that only 31 people out of 170 have volunteered to this point. It would be great if people could sign up for at least one more star party each before the end of the year to make sure the remainder of the events are covered.

One of those events will be the Challenger Learning Center 10th anniversary event this Saturday. We will have a table from 10-5 for two (or more!) people and it would be great if one or two people could set up some solar viewing outside (weather permitting) It is not necessary for you to attend the whole event, just a couple of hours would be great so others can explore the scene at the other booths! Ideally, we would have 4 people, (2 for the table, 2 for solar viewing. We don't need to provide the solar viewing all day, but at least a couple of hours would be great! Lunch will be provided, especially if you get your notice in quickly.

If you need help with the RSVP process or you would like some help before you decide to volunteer your equipment at a star party, don't hesitate to ask any of us who regularly attend them for assistance in getting started. We would love to help you out! In particular, Don Ficken, Mark Jones, Cook Feldman and Grant Martin have all been involved in training programs for the YMCA folks at Trout Lodge and would be happy to help you get started with volunteering for an event.

I have the ad placed in the Reflector for December for the MSRAL convention next June. The next committee meeting will be held Sunday night, November 17th at Young's Restaurant at 6:00pm.

We are ready to place the first order for equipment for the grant SLAS received to help disabled people enjoy the view at a star party just like anyone else. The first round will consist of an Orion Short tube 80mm telescope kit, tripod, easy arm and mount, some eyepieces and a case, a rigel finder and a video eyepiece.

Don't forget to bring some good stuff for the meeting this month!

Election for Board Member at Large

An election will take place at this month's meeting to replace the position vacated by Greg Gaines

Thank you to Greg for serving on the board. He wanted us to know that he would like to stay in the position, but didn't feel it was fair since he wouldn't be able to attend board meetings after being moved to second shift in his job. He will still be the Loaner Scope chair. Larry Campbell was nominated last month. Nominations are still open. The position runs through May, 2015, so there are 2 1/2 years left..

Comet ISON FAQ on SLAS Web Page

Comet ISON is here and offers a possibility of some nice views. To see the best times to view and locate it in the sky, see the ISON FAQ page created by Mark Jones for our web page. It has resources for astrophotography, maps, etc. Here is the link: http://slasonline.org/resources/FAQ_comet_ISON_20131107.pdf Send us your photos of the comet for next month's meeting! Happy viewing!

SkyCube Launches December 15th!

[SkyCube](#) - the first satellite funded and built by amateur astronomers - is barely a month away from launch. SkyCube will lift off on December 15th, 2013 from the [Mid-Atlantic Regional Spaceport](#) at Wallops Island, VA on the first Orbital Sciences commercial resupply mission to the International Space Station. This differs from our original SpaceX launch plan, but has turned out to be the fastest way to get SkyCube into orbit.

Orbital Sciences just completed its first Antares/Cygnus [demonstration mission](#) to the ISS successfully. Orbital's proven that its rocket can deliver the goods. Over the summer, we rebuilt SkyCube and rewrote its firmware from scratch. SkyCube has passed every test we've given it. And - despite a government shutdown - we've demonstrated successful communication with the US Navy's MC3 communication network. To read more, [click here](#).

To track the International Space Station, SkyCube when it launches, and thousands of other satellites already in orbit, download [Satellite Safari](#) - now updated for iOS 7. Use the links below to download Satellite Safari for your device: [Satellite Safari for iOS](#) [Satellite Safari for Android](#)

Outreach Status as of November 9, 2013

by Mark Jones

Since the beginning of 2013, SLAS members have logged more than 622hrs of volunteer time for Outreach Events. Now the data is good if members log their hours on Night Sky Network (NSN). So if you have volunteered and don't see your name or if the numbers don't add up, please go to NSN and check each event you attended and update as necessary. It is not too late. Members who volunteer may be eligible for the 2014 NSN recognition pin.



Current records show the following people have hours logged in NSN. Thanks to everyone who has participated. Please check your hours and if there is an error, log into Night Sky Network and correct it before the end of the year.

Cook Feldman	25 events; 85 hours
John Beaury	22 events; 69 hours
Donald Ficken	18 events; 55 hours
James Small	15 events; 45 hours
Jim Trull	13 events; 39 hours
Mark Jones	13 events; 43 hours
Bill Breeden	12 events; 33 hours
Grant Martin	12 events; 40 hours
Rick Menendez	8 events; 20 hours
Larry Campbell	6 events; 20 hours
Ann Trull	5 events; 12 hours
Connie Gleason	5 events; 15 hours
Richard Jennings	5 events; 15 hours
Abby Gordon	4 events; 11 hours
Bill Biermann	4 events; 15 hours
Daniel Corso	4 events; 12 hours
Rita Breeden	4 events; 14 hours
Joe McHugh	2 events; 6 hours
Lee Halbeck	2 events; 6 hours
Lois Fitter	2 events; 11 hours
Michael Malolepszy	2 events; 10 hours
Nathan Biermann	2 events; 9 hours
Paul Baldwin	2 events; 9 hours
Wayne Clark	2 events; 8 hours
Beverly Wrobel	1 events; 2 hours
Brent Buch	1 events; 4 hours
Bryan White	1 events; 3 hours
Dale Engelbrecht	1 events; 3 hours
Doug Blum	1 events; 4 hours

Mount Lemmon SkyCenter SkyNights Stargazing Report – September 2, 2013

by Bill Breeden

TUCSON, ARIZONA – Monday, September 2, 2013 was the day my wife Rita and I had planned on ascending Mount Lemmon, just northeast of Tucson, for Adam Block's SkyNights stargazing session. The skies had been partly to mostly cloudy all day, with temperatures around 100 degrees. We were expecting a call from Adam between 11am and noon to confirm if the program was still a go. Rita and I spent the morning at Sentinel Peak Park ("A" Mountain), which overlooks downtown Tucson, taking pictures and just relaxing and watching the skies in anticipation of the evening stargazing program at the summit of Mount Lemmon. About 10:30am we decided that we better get into town, closer to Mount Lemmon, so we headed for In-N-Out Burger for lunch.

Adam called us on our home phone back in St. Louis, so I called him back to be sure the program was still on. He reported that although the forecast was not perfect, the program would go on. Yay!



This is just one of the amazing views we had while driving up Mount Lemmon, on the way to the SkyCenter. Photo by Rita Breeden.

Rita and I left our hotel in Tucson about 1:30pm to begin the journey to Mount Lemmon SkyCenter. We had a long drive ahead of us: We first had to get to the base of the mountain, then of course drive up the mountain itself. The drive up the mountain is about 28 miles, and that does not include driving to the base of the mountain. I also wanted to have time to take pictures on the way up the mountain, and we were supposed to meet Adam at the gate to the SkyCenter at 4:00pm. So, we had just two and a half hours. All of my worrying about the schedule notwithstanding, we did get there on time!

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We took many photos on the way to Mount Lemmon, and many more while driving up it on Mount Lemmon Highway. What awesome views up here! Mount Lemmon Highway offers spectacular views of the Catalina Mountains and Tucson, and there are several pull-outs that you can stop at and admire the view and take pictures. We set up our tripod at several of these pull-outs and took some great pictures!

We arrived at the gate to the SkyCenter at around 3:45pm (surprisingly!), so we took some photos and ate some snacks. We met a couple that had been camping on the mountain, and they were just packing up to drive back down. We talked for quite a while – people are sure friendly out here!



The drive up Mount Lemmon Highway is a real treat in itself. This is a view of the San Pedro River Valley. Photo by Bill Breeden

Adam arrived at the gate promptly at 4:00pm, and led a caravan of about five vehicles up to the SkyCenter. We parked in a small parking area, and Adam then drove all of us (about ten people) up to the observatory by bus. Inside the dome, Adam introduced us to the 32-inch Schulman Ritchey-Chrétien (RC) telescope, billed as “Arizona’s largest dedicated public viewing telescope.” We also met the observatory’s other inhabitants: Lady bugs! Hundreds of them crawling and flying around the observatory, landing on anything and anyone! Of course they were harmless, but took some getting used to nonetheless. We saw our personal “first light” through the 32-inch Schulman, the star Arcturus! Adam pointed out that bright stars could be seen during full daylight, especially with the help of a computer-guided telescope. When doing this, of course be careful to avoid pointing a telescope anywhere near the sun! Adam then showed us views of the Sun through another telescope mounted with a safe solar filter. Sunspots were clearly visible, as this was a white-light solar filter. Amazing!

We then rode to the visitor center by bus. Once inside the visitor center, we were seated around tables in a medium-sized room, and Adam gave us an informative lecture on amateur astronomy. He covered most of the basics: The size of the solar system, the Milky Way galaxy, the size of our universe, definitions of common astronomical terms, how to use a planisphere, how to use and focus binoculars, and much more. Dinner is included in the price of the program, and it was very generous indeed, with enough sandwiches, chips, cookies, granola bars, veggies, and fruit to feed a small army.



As we ascend Mt. Lemmon, the Mt. Lemmon highway recedes in the distance, and Tucson can be seen as well. Photo by Bill Breeden.

Next, we made our way to an area atop Mount Lemmon that is ideal for watching the setting sun. From this location, we could see Kitt Peak! The Mayall 4.0-meter telescope observatory and the McMath-Pierce solar telescope building were distant but clearly visible, especially through binoculars! This was exciting because Rita and I were also going to Kitt Peak two days after this visit to Mount Lemmon SkyCenter. Before the sun set, Adam pointed out our shadows on the side of an observatory building. What color were our shadows? Black? Gray? No – Adam pointed out that our shadows are blue! He explained that since the sky is blue (sunlight is scattered by Earth’s atmosphere, which mostly absorbs red light leaving a blue sky), our shadows also appear blue! Then we watched and photographed the beautiful sunset, and we waited for the elusive “green flash.” (We didn’t see it.) Adam next pointed out Venus as it popped out of twilight. While walking back to the visitor’s center after sunset, a bright object, perhaps magnitude -6, could be seen in the northwestern sky about 25 to 30 degrees in altitude. Jupiter? No, too bright. Venus? No, we already see that in the sky! The Moon? Too small! What is it! Why – it’s a weather balloon! It was clearly a weather balloon – especially in binoculars! Too cool!

Once it got dark, Adam took us by bus to the area just outside the observatory to show us some binocular objects.

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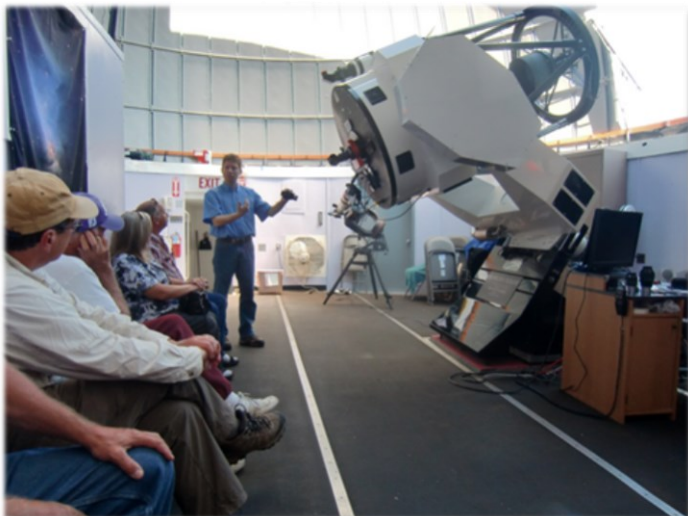
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The sky was cooperative for the most part, with just a few clouds drifting by now and then. It was dark enough now that most bright constellations could be seen, such as Ursa Major, Cassiopeia, Scorpius, and Sagittarius. Adam pointed out the double-star Mizar in the handle of the Big Dipper in Ursa Major. We then pointed binoculars at the Milky Way area of the sky around Sagittarius, and observed the Lagoon Nebula (M8) and the Trifid Nebula (M20). They appeared small but distinct in our binoculars. We also observed two open clusters (M6 and M7) in the same area of the sky.



Rita and I arrive at the gate to the Mt. Lemmon SkyCenter.
Photo by Bill Breeden.

The group then headed for the observatory and its 32-inch Schulman telescope. This telescope was set up tonight for visual observing, but typically Ritchey-Chrétien telescopes are used for imaging and astrophotography. Our first object would be the planet Venus. The cloud-covered planet, in gibbous phase, was clearly visible through the Televue Nagler eyepiece. Each visitor took a turn peering through the eyepiece, seemingly now unaware that the lady bugs we



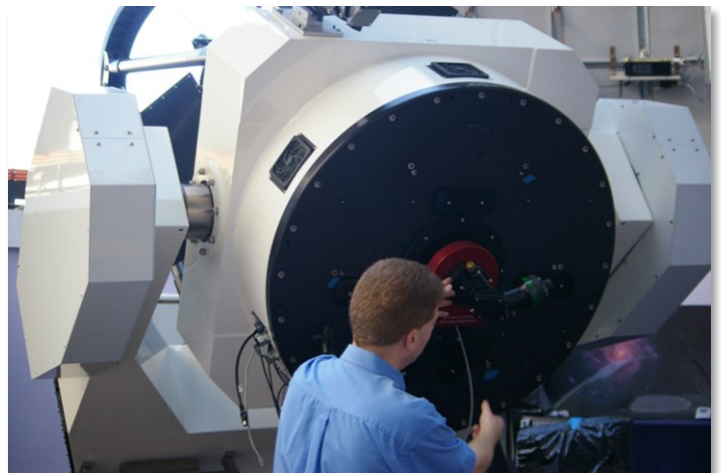
Adam Block introduces the group to the 32-inch Schulman Ritchey-Chrétien telescope. The telescope we used for safe solar observing is visible near the back. Photo by Rita Breeden

had dealt with earlier were all gone! Adam let me know that they all tend to clump together and hide somewhere by night.

Next up was the beautiful blue-and-gold double star Albireo in the constellation Cygnus. I am used to viewing this star through my 8-inch telescope; through the 32-inch, it was big and bright! The colors were obvious to me, but not quite as much for the observers that were new to stargazing. After Albireo, we viewed an intense red carbon star, which was an amazing sight. As visitors moved about in the dark observatory taking turns at the eyepiece, my wife and I discussed the objects we were observing through the 32-inch RC, since we have had much experience at the eyepiece of my 8-inch Schmidt-Cassegrain telescope (SCT) back in St. Louis, as well as views through many different telescopes during the past ten years.

It was time to view a deep-sky object through this big telescope! Next up was the Swan Nebula in Sagittarius (M17). This cloud of dust and gas is about 5,000 light-years away, and through the 32-inch RC, the nebula stood big and bright, although no color was visible. The Dumbbell Nebula (M27) in Vulpecula also appeared as a very large, cloudy smudge that took up a very large percentage in the field of view. Spectacular!

Now, Adam pointed the large telescope at a planetary nebula in the constellation Ophiuchus. This planetary nebula, NGC6572, shines at magnitude 8.1. Now, this would be quite bright even in my 8-inch SCT back home, so what would it look like through a 32-inch telescope? Rita and I took a look through the eyepiece. It was small but quite bright, and obviously not stellar. Planetary nebula are usually not that exciting (with the exception of the Ring Nebula), and some require averted vision. Through the 32-inch telescope, this one was easily seen with direct vision.



Adam Block prepares the 32-inch Schulman telescope for visual observing. Photo by Bill Breeden.

If you are a regular reader of my stargazing reports, then you know that I absolutely love open clusters in a low-

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power eyepiece of a telescope. Open clusters are most of the reason that I bought my two TeleVue Panoptic eyepieces, 19mm and 24mm. So I was excited when Adam announced that he was pointing the 32-inch Schulman at the Wild Duck Cluster (M11) in Scutum. And indeed, the view was impressive! It appeared as diamonds on black velvet!

Unlike me, most experienced observers prefer globular clusters to the open clusters that I love so much. Why? Well, it is easy to understand – they are big, bright, and beautiful. Adam was moving the large scope to M13, the biggest, brightest globular cluster in the northern sky. I have seen this cluster in just about every shape and size telescope imaginable, so I was curious to see how it would look through this one. It was big and bright, with stars resolved almost to the core! In my experience, if M13 does not impress a first-time observer, then that individual will never catch ‘the fever’ for astronomy.



Sunset from atop Mount Lemmon. Photo by Bill Breeden

The Veil Nebula in Cygnus is notorious for being difficult to observe, for two reasons. First, it is DIM. An OIII filter helps, but large aperture is the best bet for spotting this nebula. Second, it is LARGE. Low power is required, and low power is hard to get with large-aperture telescopes. So, you basically have two properties (dim and large) that work against each other for best viewing. Adam pointed the big 32-inch Schulman at the Veil (NGC6960/6992) and I braced for a jaw-dropping view. Wow! There it was, sprawling across the entire Nagler field of view. Our observing experience obviously helped me and Rita enjoy the view, as others in the observatory were hard pressed to understand what we were so excited about. Even through such a large telescope, a view of the Veil Nebula by an inexperienced observer can be challenging to appreciate. Yes, they see it, but I would suspect that they do not understand the meaning of being able to observe such an elusive deep-sky object with direct vision. The ability to look right at the Veil – without having to rely

on averted vision, an OIII filter, or other tricks – is not to be underrated. The trouble is, the casual observer will never understand this, but then again, they have never struggled to see the Veil with an 8-inch telescope using averted vision. I still get excited about getting a fleeting glimpse of it with averted vision through my 8-inch SCT!

After the program, Adam emailed us a listing of all the sky objects we observed, complete with images and descriptions. This keepsake souvenir is quite unique and makes for a clever and thoughtful memento of your night of observing at the SkyCenter. It also provided me with a guide when writing this article. Thanks, Adam!

I am also currently in an online discussion with Adam Block and Jim Small about the possibility of Adam coming to St. Louis to do a talk for the St. Louis Astronomical Society. More information is needed at the time of this writing, so nothing has yet been planned.

Mount Lemmon SkyCenter is a division of the University of Arizona’s Science department. It is supported by individuals and public and private foundations in order to advance the mission of SkyCenter – “to provide unique educational experiences in their sky island setting to all ages.” If you are going to be in the Tucson area, I recommend this program. At the time of this writing, the cost is \$60 per adult (age 18 and up) and \$30 per youth (ages 7 to 17). Please note that for safety reasons, children under age 7 are not permitted at the SkyCenter. For more information, visit the SkyCenter SkyNights website at <http://skycenter.arizona.edu/programs/public/skynights>.

Clear Skies, Bill Breeden
St. Louis Astronomical Society, Francis Park Stargazing Lead
River Bend Astronomy Club, Newsletter Editor

MSRAL Convention June 6-8 2014

**Hosted by the
St. Louis Astronomical Society**

**Sponsored by
St. Louis Science Center
James S. McDonnell Planetarium
Washington University Physics and
Earth and Planetary Science
Departments**

**Keynote Speaker
Ray Arvidson**

ST. LOUIS ASTRONOMICAL SOCIETY
OPERATING BUDGET - 2014

	Projection			Budget		
	Year to Date	Year to date	Year to Date	Oct-13 to	Year to date	Annualized
	Sep-13	Dec-13	Dec-13	Dec-13	Dec-13	Dec-14
Income						
Magazine Subscription						
Astronomy Magazine Sales	\$ 612.00	\$ 374.00	\$ 986.00	\$ 1,530.00	\$ 2,074.00	\$ 2,074.00
Sky & Telescope Sales	934.65	263.60	1,198.25	2,273.55	2,372.40	2,372.40
Total Magazine Subscription	\$ 1,546.65	\$ 637.60	\$ 2,184.25	\$ 3,803.55	\$ 4,446.40	\$ 4,446.40
Membership Dues	\$ 2,600.00	\$ 745.00	\$ 3,345.00	\$ 3,700.00	\$ 3,550.00	\$ 3,550.00
Merchandise Sales	-	-	-	-	-	-
Total Income	\$ 4,146.65	\$ 1,382.60	\$ 5,529.25	\$ 7,503.55	\$ 7,996.40	\$ 7,996.40
Cost of Goods Sold						
Magazine Subscriptions						
Astronomy Magazine Cost	\$ 612.00	\$ 374.00	\$ 986.00	\$ 1,530.00	\$ 2,074.00	\$ 2,074.00
Sky & Telescope Cost	934.65	263.60	1,198.25	2,273.55	2,372.40	2,372.40
Total Cost of Goods Sold	\$ 1,546.65	\$ 637.60	\$ 2,184.25	\$ 3,803.55	\$ 4,446.40	\$ 4,446.40
Gross Profit	\$ 2,600.00	\$ 745.00	\$ 3,345.00	\$ 3,700.00	\$ 3,550.00	\$ 3,550.00
Operating Expense						
Programs & Events						
Trout Lodge 1000 yd model (2014 Only)	-	-	-	-	200.00	200.00
Carlyle Campout (2013 only)	98.97	-	98.97	250.00	-	-
Home Made Fest	173.31	-	173.31	175.00	100.00	100.00
Star BBQ Expense	-	-	-	175.00	175.00	175.00
Meeting Expenses						
Meeting Refreshments	292.83	98.00	390.83	420.00	450.00	450.00
Meeting Speaker Fees	-	-	-	500.00	250.00	250.00
Total Meeting Expenses	\$ 292.83	\$ 98.00	\$ 390.83	\$ 920.00	\$ 700.00	\$ 700.00
Membership Initiatives	\$ 129.70	\$ -	\$ 129.70	\$ 430.00	\$ 325.00	\$ 325.00
Membership Recognition	-	436.00	436.00	250.00	200.00	200.00
Programs & Events	\$ 694.81	\$ 534.00	\$ 1,228.81	\$ 2,200.00	\$ 1,700.00	\$ 1,700.00
Newsletter Postage	\$ 114.00	\$ 39.00	\$ 153.00	\$ 150.00	\$ 150.00	\$ 150.00
Newsletter Printing	239.88	80.00	319.88	180.00	135.00	135.00
Depreciation	144.49	-	144.49	145.00	-	-
Total Newsletter	\$ 498.37	\$ 119.00	\$ 617.37	\$ 475.00	\$ 285.00	\$ 285.00
Library expense	\$ 19.92	\$ 40.00	\$ 59.92	\$ 60.00	\$ 300.00	\$ 300.00
Astronomical League Dues	695.00	-	695.00	705.00	660.00	660.00
Loaner Scopes	-	-	-	350.00	300.00	300.00
Brochures	109.00	35.00	144.00	250.00	250.00	250.00
Insurance	380.00	-	380.00	380.00	380.00	380.00
Website	197.83	-	197.83	198.00	108.00	108.00
Administrative Expenses						
Banking Fees	-	-	-	-	-	-
Corporate Filings	22.34	10.00	32.34	20.00	20.00	20.00
Office Supplies	-	-	-	213.00	245.00	245.00
Other Expenses	24.51	10.00	34.51	17.10	35.00	35.00
PayPal Fees	46.00	15.00	61.00	138.00	150.00	150.00
Postage	-	-	-	-	-	-
Printing / Copying Expense	167.88	-	167.88	165.00	-	-
Administrative Expenses - Other	260.73	\$ 35.00	\$ 295.73	\$ 578.10	\$ 450.00	\$ 450.00
Administrative Expenses	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Total Operating Expense	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Net Income/(Loss) From Operations	\$ (255.66)	\$ (18.00)	\$ (273.66)	\$ (1,496.10)	\$ (883.00)	\$ (883.00)
Required versus Discretionary Spending						
Gross Profit	\$ 2,600.00	\$ 745.00	\$ 3,345.00	\$ 3,700.00	\$ 3,550.00	\$ 3,550.00
Required Expenses						
Newsletter Postage	\$ 114.00	\$ 39.00	\$ 153.00	\$ 150.00	\$ 150.00	\$ 150.00
Newsletter Printing	239.88	80.00	319.88	180.00	135.00	135.00
Newsletter - Other / Printer	144.49	-	144.49	145.00	-	-
Depreciation	-	-	-	-	-	-
Astronomical League Dues	695.00	-	695.00	705.00	660.00	660.00
Insurance	380.00	-	380.00	380.00	380.00	380.00
Website	197.83	-	197.83	198.00	108.00	108.00
Banking Fees	-	-	-	-	-	-
Corporate Filings	-	-	-	20.00	20.00	20.00
Office Supplies	22.34	10.00	32.34	213.00	245.00	245.00
PayPal Fees	24.51	15.00	39.51	17.10	35.00	35.00
Postage	46.00	-	46.00	138.00	150.00	150.00
Printing / Copying Expense	167.88	-	167.88	165.00	-	-
Administrative Expenses - Other	260.73	\$ 35.00	\$ 295.73	\$ 578.10	\$ 450.00	\$ 450.00
Administrative Expenses	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Total Operating Expense	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Net Income/(Loss) From Operations	\$ (255.66)	\$ (18.00)	\$ (273.66)	\$ (1,496.10)	\$ (883.00)	\$ (883.00)

	Projection			Budget		
	Year to Date	Year to date	Year to Date	Oct-13 to	Year to date	Annualized
	Sep-13	Dec-13	Dec-13	Dec-13	Dec-13	Dec-14
Other Income / Expense						
Other Income	\$ 50.00	\$ -	\$ 50.00	\$ -	\$ -	\$ -
City of Crestwood	100.00	-	100.00	-	-	-
City of Manchester	-	-	-	-	-	-
St. Anthony's	-	200.00	200.00	-	-	-
Camp Wyman	-	100.00	100.00	-	-	-
SLAS Club Members	2,275.68	-	2,275.68	-	-	-
Donations - Other	-	-	-	-	-	-
Total Donations	\$ 2,425.68	\$ 300.00	\$ 2,725.68	\$ -	\$ -	\$ -
Interest Income	\$ 59.14	\$ 20.00	\$ 79.14	\$ 105.00	\$ 100.00	\$ 100.00
Non-Operating Income	200.00	-	200.00	-	-	-
Total Other Income	\$ 2,684.82	\$ 320.00	\$ 3,004.82	\$ 105.00	\$ 100.00	\$ 100.00
Other Expense						
Physical Inventory Adjustment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Other Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Other Income / (Expense)	\$ 2,684.82	\$ 320.00	\$ 3,004.82	\$ 105.00	\$ 100.00	\$ 100.00
Net Income / (Loss)	\$ 2,429.16	\$ 302.00	\$ 2,731.16	\$ (1,391.10)	\$ (783.00)	\$ (783.00)
Required versus Discretionary Spending						
Gross Profit	\$ 2,600.00	\$ 745.00	\$ 3,345.00	\$ 3,700.00	\$ 3,550.00	\$ 3,550.00
Required Expenses						
Newsletter Postage	\$ 114.00	\$ 39.00	\$ 153.00	\$ 150.00	\$ 150.00	\$ 150.00
Newsletter Printing	239.88	80.00	319.88	180.00	135.00	135.00
Newsletter - Other / Printer	144.49	-	144.49	145.00	-	-
Depreciation	-	-	-	-	-	-
Astronomical League Dues	695.00	-	695.00	705.00	660.00	660.00
Insurance	380.00	-	380.00	380.00	380.00	380.00
Website	197.83	-	197.83	198.00	108.00	108.00
Banking Fees	-	-	-	-	-	-
Corporate Filings	-	-	-	20.00	20.00	20.00
Office Supplies	22.34	10.00	32.34	213.00	245.00	245.00
PayPal Fees	24.51	15.00	39.51	17.10	35.00	35.00
Postage	46.00	-	46.00	138.00	150.00	150.00
Printing / Copying Expense	167.88	-	167.88	165.00	-	-
Administrative Expenses - Other	260.73	\$ 35.00	\$ 295.73	\$ 578.10	\$ 450.00	\$ 450.00
Administrative Expenses	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Total Operating Expense	\$ 2,855.66	\$ 763.00	\$ 3,618.66	\$ 5,196.10	\$ 4,433.00	\$ 4,433.00
Net Income/(Loss) From Operations	\$ (255.66)	\$ (18.00)	\$ (273.66)	\$ (1,496.10)	\$ (883.00)	\$ (883.00)

**St. Louis Astronomical Society
Balance Sheet
As of October 31, 2013**

	Oct 31, 13	Dec 30, 12
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	2,369.88	1,524.51
Deposit, Certificate of	20,020.23	19,958.46
Merchandise Change Fund	20.00	20.00
Savings - First Bank	3,324.23	3,084.64
YMCA Trout Lodge Escrow	877.87	877.87
Total Checking/Savings	26,612.21	25,465.48
Other Current Assets		
Inventory Asset	2,083.55	2,587.36
Investment in Mid-States 2014	2,000.00	0.00
Undeposited Funds	91.95	125.00
Total Other Current Assets	4,175.50	2,712.36
Total Current Assets	30,787.71	28,177.84
Fixed Assets		
Accum Depr - Office Equip	(216.65)	(54.12)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	162.53
TOTAL ASSETS	30,787.71	28,340.37
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Other Current Liabilities		
SLAS Bucks	386.00	530.00
Total Other Current Liabilities	386.00	530.00
Total Current Liabilities	386.00	530.00
Total Liabilities	386.00	530.00
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	19,214.15	21,112.92
Net Income	3,049.90	(1,440.21)
Total Equity	30,401.71	27,810.37
TOTAL LIABILITIES & EQUITY	30,787.71	28,340.37

**St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through October 2013**

	Jan - Oct 13	Budget	\$ Over Budget
Ordinary Income/Expense			
Income			
Magazine Subscription			
Astronomy Magazine Sales	646.00	1,292.00	(646.00)
Sky & Telescope Sales	1,000.55	2,009.95	(1,009.40)
Total Magazine Subscription	1,646.55	3,301.95	(1,655.40)
Membership Dues	2,905.00	3,240.00	(335.00)
Merchandise Sales			
General Merchandise	4.00		
Total Merchandise Sales	4.00		
Total Income	4,555.55	6,541.95	(1,986.40)
Cost of Goods Sold			
Magazine Subscriptions			
Astronomy Magazine Cost	646.00	1,292.00	(646.00)
Sky & Telescope Cost	1,000.55	2,009.95	(1,009.40)
Total Magazine Subscriptions	1,646.55	3,301.95	(1,655.40)
Merchandise			
General Merchandise	2.51		
Total Merchandise	2.51		
Total COGS	1,649.06	3,301.95	(1,652.89)
Gross Profit	2,906.49	3,240.00	(333.51)
Expense			
1-Programs & Events			
Caryle Campout		250.00	(250.00)
Home Made Fest	98.97	175.00	(76.03)
Meeting Expenses			
Meeting Refreshments	292.83	350.00	(57.17)
Meeting Supplies		417.00	(417.00)
Total Meeting Expenses	292.83	767.00	(474.17)
Membership Initiatives	129.70	377.00	(247.30)
SLAS Bucks Expense		205.00	(205.00)
Star BBQ Expense	173.31	175.00	(1.69)
Total 1-Programs & Events	694.81	1,949.00	(1,254.19)
2-Newsletter			
Newsletter Postage	124.79	131.00	(6.21)
Newsletter Printing	239.88	158.00	81.88
Total 2-Newsletter	364.67	289.00	75.67
3-Library expense	19.92	60.00	(40.08)
4-Astronomical League Dues	695.00	705.00	(10.00)
5-Loaner Scopes		350.00	(350.00)
6-Brochures	144.99	205.00	(60.01)
7-Insurance	380.00	380.00	
8-Website	197.83	198.00	(0.17)
Total Expense	2,845.82	4,801.50	(1,955.68)
Net Ordinary Income	60.67	(1,561.50)	1,622.17
Other Income/Expense			
Other Income			
Donations	2,725.68		
Interest Income	63.55	87.50	(23.95)
Non-Operating Income	200.00		
Total Other Income	2,989.23	87.50	2,901.73
Net Other Income	2,989.23	87.50	2,901.73
Net Income	3,049.90	(1,474.00)	4,523.90

SAINT LOUIS ASTRONOMICAL SOCIETY

MINUTES OF EXECUTIVE BOARD MEETING: October 10, 2013

1. Opening Activities Meeting called to order at 7:03 Attendees: Jim Small, Bill Biermann, Grant Martin, Mark Jones, Tom Nickelson, Brad Waller September meeting minutes had been distributed prior to meeting. Tom made motion to accept minutes, Brad second minutes passed

2. External Business SLSC-October 12th. Observe the Moon Night. Need only a couple of scopes, no inside program, rental that night. Parking lot will fill up early. We can park on drive or archery field access road. 6:30-10 pm. Jim to put on NSN November 6. The Sky Tonight at 7:00pm. Telescope viewing until 10:00. Zombie Theme. No Laserium show that night. December 6. First Friday – focus on planetarium, debut of full dome projection system. “Planetarium of the Future” Gene Cernan will be at a 45 year anniversary program for the Moon launches next May, probably May 15-16.

MSRAL 2014 Deposit for Banquet paid, Starlight is working with us for the Star-B-Q, Infini-tees and Point Grey have both talked to Jim Small on the phone about attending. The next MSRAL meeting is Sunday, October 20 at Young’s.

Jim would like members to send suggestions for vendors. Also need help contact vendors, could talk to Jen Winters and Fred Brungues about also providing workshop or door prizes.

Next board meeting November 7

3. Director Reports: If needed

President – Jim Small See above reports

Vice President – Bill Biermann **Speakers: September** Cosmology - Mark Alford; **October** Comet C/2012 S1 (ISON) - Gary Kronk Astro 101 - Mission Reports Board decided to move the Astro-Gadgets talk to the **November** meeting **December** meeting will be Grant Martin and Bill Biermann on topics of Archeoastronomy and Polynesian Astronomy

Secretary – Mark J Night Skies Over Babler planned for Saturday October 19th. This will be a daytime and nighttime event. Details are on Night Sky Network. November Dark Sky event planned for November 2.

Treasurer/ALCor – Rhonda W Treasurer reports filed prior to meeting.

Rhonda’s health status requires other SLAS members to step forward and handle Treasurer duties. Jim Small has contacts two former SLAS Treasurers and they have agreed to take over as treasurer until May elections. These two members are Cook Feldman and Don Ficken. Jim has defined the following split of responsibilities:

1. Cook will take over the budget duties. (BTW, please send all budget requests to treasurer@slasonline.org <<mailto:treasurer@slasonline.org>> , asap, we will decide how to route email tomorrow night. At the moment, Rhonda and Jim Small are both on the email forward for treasurer.)
2. Don will take over membership issues.
3. Cook will take over MSRAL 2014 duties. There are three sections for this. Funds paid out for deposits prior to the conference, expenses for speakers and guests at the conference, and handling registrations as they come in next year.
4. Cook, Don if necessary for deposits will be listed on accounts.
5. Don will receive mail from memberships. (have to change the website, newsletter and brochures to reflect. I have already suggested that Rhonda can simply stick renewals in a manila envelope and forward to whomever will do the membership duties until her PO Box no longer gets mail. That could take a while) Jim will discuss with Don or Cook who will take over ALCOR duties

Motion: Temporarily relieve Rhonda Whelan of her duties as treasurer of SLAS and have duties taken over by former SLAS Treasurers, Cook Feldman and Don Ficken. Motion made by Brad Waller and seconded Bill Biermann. Motion passed

Announcement for treasurer changes mention above will be created by Jim Small and placed in Newsletter and sent to membership via NSN
Budget: Itemized budget requests for next year are due NOW! We also need to set up a meeting for setting the budget outside of the board meeting. Budget meeting will be 6:30pm, Oct 21st. at Young’s. Need spreadsheet of budget report.

Hospitality – Grant M No report

Board member at large reports

Greg Gaines – Board member at Large No report

Tom Nickelson – Board member at Large Space Grant for people with disabilities. Next meeting will be after October Member meeting.

Brad Waller – Board member at Large No report

4. Committee Reports: If needed

Membership – report filed, currently 171 members

Librarian – might add budget for next year

Newsletter – budget OK because printing expenses have been for Newsletters and Brochures

Night Sky Network – make sure you log in your hours

Star Parties: 10/11 Faith Academy, Stargazing at the Arch, 10/12 Observe the Moon night, 10/15 Bristol Elementary, 10/18 Family Campout 10/19 Babler, Grand Center, Night Skies Over Babler, 10/26 WOW, Beaumont, Nov 1 PTV, Nov 8 Wildwood Middle, Nov 16 Challenger Center

\$200 dollar donation from St. Anthony’s Surgeons

Also expect donation from Rockwood School District

5. Old Business None

6. New Business None

7. Closing Activities Motion to close meeting Brad second by Mark. Meeting adjourned 9:05

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.*
Thursday, December 12, 2013

Dark Sky Observing Dates

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

December 11, 2013 (8 day old Moon)

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

*Planetarium shows start at 7pm for the summer months
December 6
January 3, 201

SLAS EVENTS

November

- 15 (FRI) SLAS Regular Meeting
- 16 (SAT) Challenger Center
- 16 (SAT) Stargazing at the Arch
- 19 (TUE) Pack 848

December

- 4 (WED) Creative Learning Center
- 6 (FRI) SLSC PTV
- 12 (THUR) SLAS Board Meeting
- 20 (FRI) SLAS Reg Meeting

January

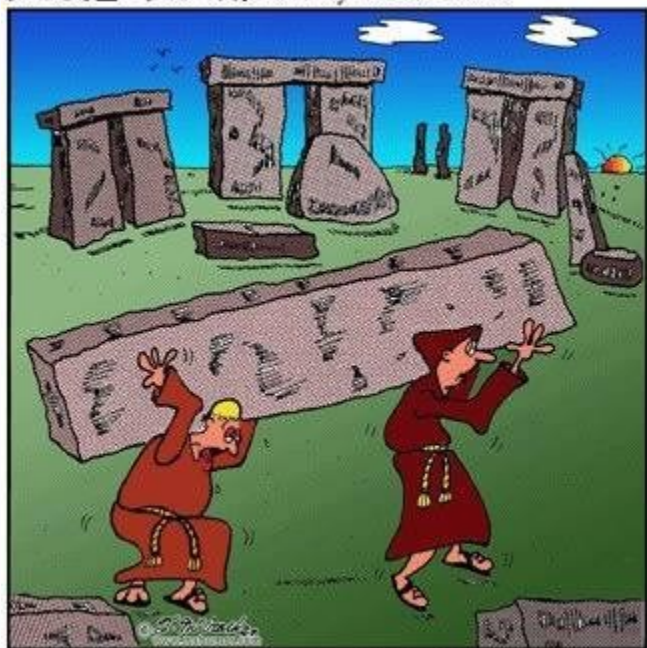
- 3 (FRI) SLSC PTV
- 9 (THUR) SLAS Board Meeting
- 17 (FRI) SLAS Reg Meeting

February

- 7 (FRI) SLSC PTV
- 13 (THUR) SLAS Board Meeting
- 21 (FRI) SLAS Regular Meeting

JUNE 6-8 Mid-States Region of the Astronomical League Convention

McHUMOR.com by T. McCracken



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 <i>Jim Small</i>	314-307-0692	
president at slasonline.org		
Vice President <i>Bill Biermann</i>	314-596-6738	
vicepresident at slasonline.org		
Secretary <i>Mark Jones</i>	636-394-2342	
secretary at slasonline.org		
Treasurer <i>Rhonda Whelan, Cook Feldman, Don Ficken (membership)</i>	636-225-0269	
treasurer at slasonline.org		
Hospitality <i>Grant Martin</i>		
hospitality at slasonline.org		
Board Members at Large:		
<i>Tom Nickelson</i>		
board14 at slasonline.org		
<i>Vacant</i>		
board15 at slasonline.org		
<i>Bradley Waller</i>	314-481-7250	
board16 at slasonline.org		
ALCOR <i>Rhonda Whelan</i>	314-750-0262	
(Astronomical League Correspondent) treasurer at slasonline.org		
MSRAL Rep. <i>Jim Small</i>	314-909-7211	
msral_rep at astroleague.org		

COMMITTEE CHAIRS		
Membership <i>Don Ficken</i>	636-225-0269	
membership at slasonline.org		
Publicity <i>Rich Heuermann</i>	314-962-9231	
publicity at slasonline.org		
'SLASdialogs' Moderator <i>Mark Jones, Rhonda Whelan</i>		
dialogsmoderator at yahoo.com		
Webmaster <i>Jim Small</i>	314-909-7211	
webmaster at slasonline.org		
Newsletter Ed. <i>Jim Small</i>	314-909-7211	
newsletter at slasonline.org		
Loaner Equip. <i>Greg Gaines</i>	314-277-3082	
loaner at slasonline.org		
Merchandise <i>Grant Martin</i>		
merchandise at slasonline.org		
Librarian <i>Jim Small</i>	314-909-7211	
librarian at slasonline.org		
Star Party Coord <i>Mike Malolepszy</i>	314-781-4701	
starparty at slasonline.org		
Dark Site Coord. <i>Mark Jones</i>	636-394-2342	
darksite at slasonline.org		
Observing Programs <i>Mark Jones</i>	636-394-2342	
observing at slasonline.org		
Telescope Making <i>Bill Davis, Jim Melka</i>	314-469-3061	

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

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

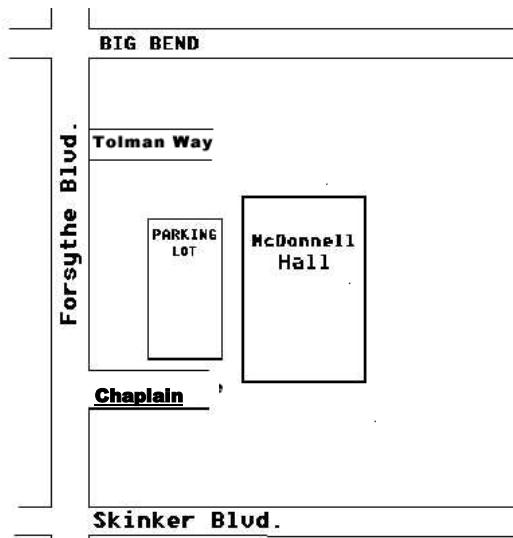


Who We Are and What We Do

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

