

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

**VOLUME 26, Issue 4
April, 2016**

Evolution of the Cosmos by

**Dr. Ian Redmount
Saint Louis University**

Dr. Ian Redmount will be featured at the April meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM

Friday, April 22,

in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130.

Note that this meeting is on the 4TH FRIDAY, APRIL 22, NOT the 3rd Friday. THIS MONTH ONLY!

Cosmology – the study of the Universe as a whole – is one of the oldest areas of human thought. In the last century, cosmology has evolved from a branch of philosophy to a branch of physical science. The cosmologist's approach has changed from speculation to

experiment and observation, from general theory to precision science. Dr. Redmount will talk about the evolution of cosmology science and the advances cosmologists are making to our understanding of the universe on its largest scales.

Dr. Ian Redmount is an Associate Professor in the Department of Physics at Saint Louis University. He received his Doctorate from the California Institute of Technology and held several research positions before accepting the faculty position at St. Louis University in 1993. His research interests include black holes, spacetime wormholes, cosmology, and quantum field theory.

Upcoming Meetings:

May 20, 2016 - Extrasolar Planets - Heather Knutson, Ph.D. - California Institute of Technology

June 17, 2016 - Meteorologist Mike Roberts

July - TBA

August 20, 2016: 2017 Eclipse - One Year Out - John Wharton, SLSC

Mid States Region



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Mid-States Region of the Astronomical League Registration is Now Open

MSRAL 2016 registration is now open!

- Friday, June 3 - Sunday, June 5
- Columbia, MO
- Star B Q Friday 6 pm at Rockbridge HS with Planetarium Show
- Tour of Laws Observatory
- Speakers Saturday 8-5 in Physics Dept.
- Banquet Saturday 6 pm at University Center
- Tour of Morris Observatory after the banquet

- Speakers Sunday 8-12

- Costs:

- Registration \$35
- Star B Q \$20
- Box Lunch \$11
- Banquet \$40
- Dorms (1/2 block away)
- Single - 52.50
- Double occupancy - 29.50 each
- Linens included, no extra taxes
- Parking \$5/day at Virginia Ave Garage across street.
- Contact info on Reg page - reservations accepted after May 1

Link for the registration page: <http://www.slsonline.org/msra2016reg.html>

Presidents Corner—Jim Small

Don't forget!! We moved the meeting for April to the 22nd!!! We did so to avoid conflict with the James Lovell lecture which many members are attending. We will see you at the event!

MSRAL registration is open! You can find information about the conference and the registration page here:

<http://www.slasonline.org/msral2016reg.html>

There is also a link on the home page of the SLAS website or you can find one in the story on the front page of the newsletter.

Dorm information is now available and it seems to be a very good deal. Cost will be 52.50 for a single and 29.50 each if the room is shared. Linens are included. Parking for the dorm is right across the street in the Virginia Avenue Garage. The dorm most likely to be used will be the Discovery Dorm, about 1/2 block from the physics department. I don't think you will get a better deal even from an inexpensive hotel. You will be able to make reservations for the dorm beginning **AFTER May 1st**. Don't try to call before then. You won't have to worry about getting a room as there are nearly no groups scheduled to be there the weekend of the conference. Contact is Rita Houg
Phone: 573 882 4440

Email hougr@missouri.edu

We look forward to seeing you all at the conference! Be sure to register soon so we know you are coming! Please see me if you are interested in volunteering for any aspect of MSRAL 2016 to be held June 3-5 in Columbia, MO!

The Astrobiology Conference held at UMSL was a terrific event. 8 quality speakers and two panel discussion ses-

sions at the end of each day. It was then followed up by two different shows at the brand new planetarium at UMSL. We also had the new vertical banner and table cover on display, they looked great!

This month we have a week that will test our volunteers.

May 12, 13, 14, and 15 has a myriad of opportunities for our members to be a part of something special!

- The evening of the 12th will be the setup for the Air Show at Chesterfield
- All day Friday will be the STEM day for the Air Show
- All day Saturday will be Astronomy Day at the Planetarium AND the first public day at the Air Show
- Saturday night will be the Crestwood Star Party
- All day Sunday will be the Air Show.
- PLEASE contact Don Ficken at the meeting or before to sign up for the Air Show and make sure you're on the list
- PLEASE RSVP for Astronomy Day on Night Sky Netowrk

Mike Simonson sent me an email to offer a full day of conference for free for any member who will help with registration for the national meeting of the AAVSO to be held May 5-7 here in St. Louis. See me for details!

Last but not least ELECTION NOMINATIONS WILL TAKE PLACE AT THE SLAS MEETING ON APRIL 22ND. We are looking for someone to fill the board member at large position. If interested, contact a board member!

Jim Small

Jim Lovell Ticket Raffle Results

by
Brad Waller

The raffle for the tickets to see Astronaut Jim Lovell at SIU-Edwardsville on, 15 April 2016 @ 1930, was a success. At the March 2016 SLAS meeting the winning ticket was drawn by the Lovely and Gracious, Donna Ficken, and Bob Drzymala was the winner! Bob lives in Webster and was a former SLAS member who recently retired and joined SLAS again. Bob will be joining more than 20 SLAS Members who will also be attending the

Lovell talk at SIU-E. The photo below is Bob receiving the tickets from Board Member 16, Brad Waller.

And Now a Promotion for our Next Raffle!!!

This Raffle will be drawn at the May 2016 Monthly Meeting. It is for ONE, MSRAL 2016 Registration Fee. Same as before, 1 ticket \$2.00 or buy FIVE for \$10 and get a 6th Ticket!!! If you have already registered for MSRAL 2016, you can still participate. If your ticket is drawn, you will be reimbursed for the Registration Fee. We have PLENTY of tickets!!! So, "Come one, come all" and get your tickets for the MSRAL 2016 Raffle!!!!



SLAS Sky Orienteering Report for April by Mark Jones

On April 3rd we finally had a clear Sunday night for the SLAS Orienteering Event. About 10 members came to Babler to enjoy the night sky and practice observing skills. Bill Neubert led the event and provided sky maps for all to use. Temperatures were mild and there was a constant breeze during the evening. As skies darkened we competed to see who could spot Jupiter first. Jupiter was picked up initially in binoculars, then with the naked eye. Next came Sirius and other bright stars. Using the sky map we hopped from Jupiter to Regulus using before skies were dark enough to see this bright star in Leo. Once the skies were dark enough we could see the Beehive with the naked eye. We then practiced hopping around the sky using key constellation points to guide us. Over the course of the evening we found, M44, 45, 67, 41,42, 45,46,47,50, 35, 36, 37, 38 and the Double Cluster all with just binoculars!

As Leo rose higher in the sky we were reminded that on August 21, 2017 during the Total Eclipse, Regulus, Procyon and other bright stars might become visible.

Next month we will say goodbye to the Winter constellations and concentrate on Spring. All SLAS members are encouraged to RSVP and come out.

If you cannot make it in May, remember orienteering is scheduled one Sunday night each month, SLAS members will meet at the monument area in Babler State Park. Bring a chair and a pair of binoculars. We will explore the night sky together, identifying stars, constellations, clusters, nebula and galaxies. Each session will start as darkness falls and last no more than 2 hours. See the Night Sky Network

calendar for more details. Dates for each month will be close to last Quarter Moon.

The name of your orienteering guide is in parenthesis

May 1 (Mark Jones.)

June 26 (Mark Jones.)

July 24 (Bill Neubert)

August 28 (Bill Biermann)

September 25 (TBA)

October 23 (Bill Neubert.)

November 20 (TBA)

Go to the link below for a easy to use star map for each month <http://www.skymaps.com/downloads.html>

If you have a computer and want to download sky charts or planetarium programs, try the following:

Program - Stellarium <http://stellarium.org/>

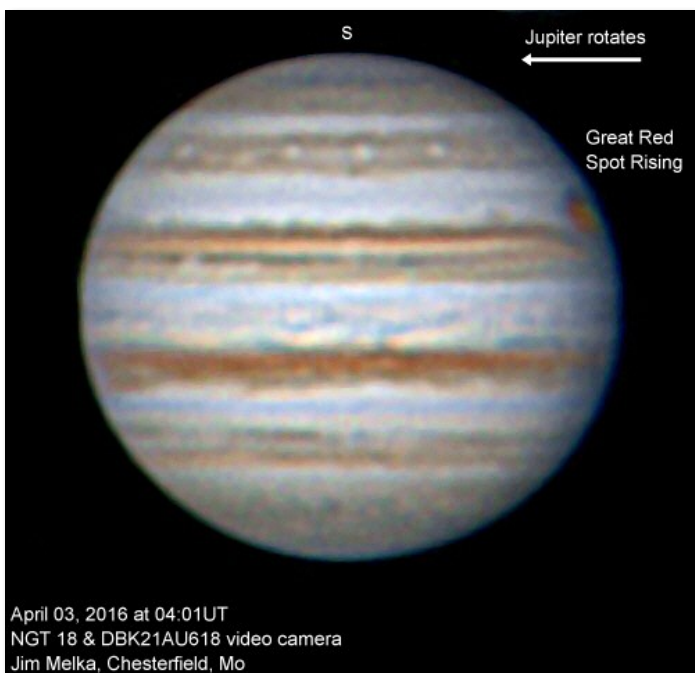
Program - Cartes du Ciel
<http://www.ap-i.net/skychart/en/start>

Charts- 7th Magnitude Star Atlas
<http://www.cloudynights.com/page/articles/cat/articles/observing-skills/free-mag-7-star-charts-r1021>

Charts - 8.5 Magnitude Star Atlas
http://www.geocities.jp/toshimi_taki/atlas_85/atlas_85.htm

Charts - Star Hopping Guide to the Messier Marathon
<http://www.robhawley.net/mm/SHG-MM-charts-v6.pdf>

Charts - Your Sky
<http://www.fourmilab.ch/yoursky/>



Left: The latest image of Jupiter from Jim Melka

Below: Our Sunspotter solar viewing telescope in use.



Arch and Sunrise *by Mark Jones*

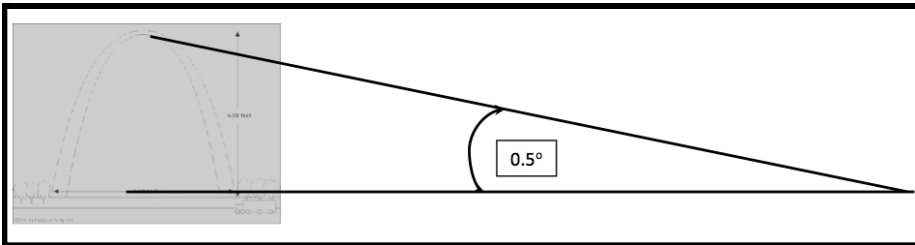
Opportunity coming, read below

The Arch is one of St Louis' most recognizable landmarks. Photographing the Sun or Moon rising in the east with the Arch silhouetted would make for a very interesting image. How far away from the Arch must the camera be for the Sun or Moon to appear to be the same size as the Arch?

The Sun and Moon subtend an angle of approximately 0.5 degrees. The Arch is 630 feet tall. For the Arch to appear to be 0.5 degrees tall, the camera would need to be 72,000 feet (13.6 miles) from the Arch.

Here is a simplified formula: Distance= 630 feet divided 0.5 degrees divided 57.3 degrees/radian = 72,198 feet

Ecliptic is tilted 23 degrees to the equator, therefore Sun/Moon rise point will vary in azimuth with the seasons. The Summer and Winter solstices mark the approximate northern and southern extremes of the Moon and Sun rise points.

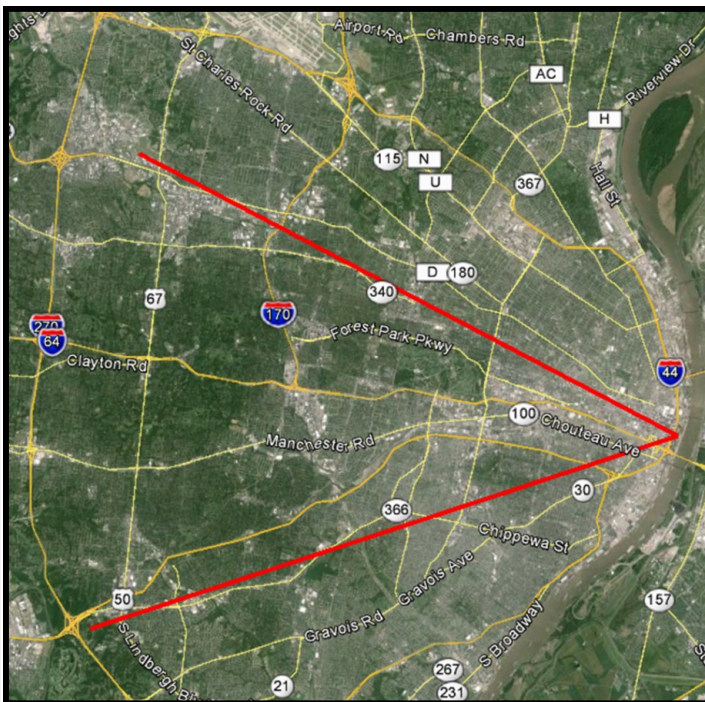


From St. Louis this is approximately compass headings ranging from 67 degrees (Gemini) to 113 degrees (Sagittarius).

The distance of 72,198 feet or 13.6 miles, from the Arch lies between I-270 and Lindbergh Blvd in St. Louis County. The headings of 67 degrees to 113 degrees prescribes a wedge-shaped section on the county defined by Page Avenue on

the north boundary and Watson Road on the south boundary. Any land area high enough to see the Arch is a candidate for silhouetting the Arch by the Sun or Moon.

The map below shows the northern and southern limits for the Sun with the Arch as the vertex.



Upcoming opportunity. The intersection of Geyer and Big bend at RR Tracks, is a location where the Arch is visible. This intersection is located 69,240 feet from the Arch at a azimuth of 72.2 degrees. The Sun will cross this point centered around the dates of April 25th and August 16th. During these times of year, the Sun changes azimuth at a rate of 23 arc-min per day! Observers should try these locations starting a few days before the dates mentioned above.

The image below shows the view towards the Arch as seen from the Big Bend and Geyer intersection.



If you know of other favorable Arch viewing locations, with the limits mentioned, please post them on SLASDialogs

SLAS Membership Service Recognition

SLAS would like to recognize the following members who have been supporting SLAS by maintaining their regular membership. These members have served in a variety of ways including officers; committee members; outreach volunteers; public speaking; and advocacy and participation in regional and national meetings all on behalf of SLAS and the science of astronomy.

+60 years

Thane Bopp
Jim Melka

Karen Loethen
James & Yvonne Roe
Gary Mockli
Mike Saville

50-60 years

William Davis

40-50 years

Wayne Clark

Mark Jones

Rich Heuermann

Gregg Ruppel
Rhonda Whelan

Joe McHugh

James Wells

Lee Halbeck

Cathy Hooper

Bradley Waller

John Schwartz

Daniel Howard

Bill Breeden

Rita Breeden

James Twellman

John Duchek

Daniel Corso

Thomas Schloemann

Edward Frey

Ann Trull

Jim Trull

Phyllis Weber

30-40 years

Lawrence Doepke

Carl Masthay

James Timper

Thomas Kuehling

Mark Fedde

Thomas Ryan

Dr. Henry Stratmann Jr

John Beury

20-30 years

Bruce Logan

Gregory Rigelman

Steve Sands

Richard Brouk

Allan Stewart

Dr. Bruce Wilking

Cook Feldman

Marvin Fridley

Rick Menendez

Paul Baldwin

5-10 years

Randy Gibbs

James Griffith

Gregory Gaines

Richard Jennings

Brian Mills

Colleen O'Toole

Grant Martin

Bruce and Diana Boston

Donald Ficken

Larry Campbell

Brent Buch

Earl Schultz

Dan Duffy

Bill Biermann

Doug Blum

Alan Sapia

Richard Fefferman

10-20 years

Lisa Holderle

Richard Myhra

James Small

Michael Malolepszy

John & Linda Follis

John Newcomer

John Simmons

Jerry Loethen

Outreach Volunteers Jan-March 2016

Mark Jones

So far in 2016, SLAS members have logged more than 326 hrs for NSN outreach events. Your hours for the successful Library Telescope Build on March 5th are included.

Thank you to all our volunteers!

Donald Ficken	25 events; 54.5 Hours
Cook Feldman	11 events; 29.5 Hours
Larry Campbell	8 events; 25 Hours
Mark Jones	8 events; 23 Hours
James Small	7 events; 17 Hours
Frank Mack	6 events; 11.5 Hours
John Beury	6 events; 19.5 Hours
Rich Heuermann	4 events; 8.5 Hours
Bill Biermann	3 events; 5.5 Hours
Richard Fefferman	3 events; 7 Hours
Rick Menendez	3 events; 8 Hours
Dale Engelbrecht	2 events; 7.5 Hours
Gaylene Engelbrecht	2 events; 7.5 Hours
Richard Jennings	2 events; 4 Hours
Sharon Bertram	2 events; 10 Hours
Alan Sapia	1 events; 7 Hours
Doug Blum	1 events; 1.5 Hours
Edward Frey	1 events; 7 Hours
Gary Holt	1 events; 7 Hours
Gerald Hutchins	1 events; 7 Hours
Gregory Rigelman	1 events; 2.5 Hours
Lynn Fee	1 events; 4.5 Hours
Mark Fedde	1 events; 4 Hours
Marlene Bopp	1 events; 8 Hours
Michael Callaghan	1 events; 1.5 Hours
Michael Malolepszy	1 events; 2 Hours
Michelle Birch	1 events; 8 Hours
Mike Saville	1 events; 7 Hours
Robert Beebe	1 events; 6 Hours
Thomas Schloemann	1 events; 6 Hours
Wayne Clark	1 events; 6 Hours
William Neubert	1 events; 5 Hours
William Winningham	1 events; 2 Hours

Astrobiology Conference Held at UMSL



Above left: We had the new SLAS table cover and vertical banner on display at our table at the Astrobiology Conference held at UMSL April 8-9. The conference included 8 great talks and two panel discussions as well as planetarium shows. **Above Right:** Rachel Whitaker. **Below top:** Dr. Erika Gibb answers a question. **Bottom:** Panel discussion from Saturday led by Dr. Bruce Wilking. All of the talks were excellent and the question sessions were lively!

Speakers included: **Mars Session: 1.** “Early Mars: Warm, Wet, and Habitable” Dr. Ray Arvidson, Washington University; **2.** “The Martian Environment: The potential for Current Life and Habitability of the Red Planet”, Dr. David Horne, UMSL; **Exoplanet Session: 3.** “The Age of Exoplanets: From First Discoveries to the Search for Living Worlds”, Dr. Avi Mandell, NASA Goddard Space Flight Center; **4.** “The Golden Age of Exoplanet Discovery”, Dr. Peter Plavchan, Missouri State University; **5.** “Astrobiology of Icy Ocean Worlds: Habitability and Habitancy”, Dr. William McKinnon, Washington University; **6.** “Woesian View of the Origin and Evolution of Life on Earth”, Dr. Rachel Whitaker, University of Illinois; **Comet Session: 7.** “From Comets to Interdisciplinary Science”, Dr. Boncho Bonev, Catholic University of America; **8.** “The Comet-Disk Connection: Could Comets have Delivered the Ingredients for Life?”, Dr. Erika Gibb, Professor and Chair, Department of Physics & Astronomy, UMSL Photos by Grant Martin



Mastodon Art and Science Fair

by Mark Jones

On March 19th SLAS participated in the annual Mastodon Family Science Fair at Jefferson College.

The Mastodon Fair Family Day is an event to promote art and science education through fun and free informational booths, demonstrations, and activities suitable for grades K-12. Attendance at this event averages from 800-1200

students, teachers, and families.

SLAS had a table inside to talk about our club, the Library Telescope Program and the August 21, 2017 Total Solar Eclipse.

Visit the link below for more photos http://www.myleaderpaper.com/gallery/news/mastodon-art-and-science-fair/collection_edff748c-f6c9-11e5-b208-138c442dca1e.html

Photo below shows Don Ficken demonstrating the Moon's shadow on a map of Missouri.



Photo below shows kids looking through one of our Library Telescopes.



Photo below: Jefferson College Physics Instructor, Bob Brazzle, PhD, assisting at our table. Bob is a member of our Eclipse Task Force Committee.



Photo below: students use eclipse viewers and Moon model to make their own solar eclipse



SLAS Executive Board Meeting Minutes for March 10, 2016

1. Opening Activities:

Meeting opened: **708pm** Jim Small, Paul Baldwin, Larry Campbell, Bill Winningham, Brent Buch, Brad Waller, Mark Jones and Tom Nickelson

February meeting minutes distributed before the meeting. Correction identified by Brad and changes incorporated. Motion to approve the minutes made by Brad seconded by Paul. Minutes were approved.

2. External Business:

Memorandum of Understanding between SLAS and the SLSC has been forwarded to Cook and Don for review and final approval. Cook that sent copy to Bill Kelly at SLSC for approval

Next board meeting: Apr 7, May 12, June 9, July 7, Aug 10 (Wed), Sep 8, Oct 6, Nov. 10, Dec 7 (Wed).

3. Director Reports:

President – Jim Small:

MSRAL 2016 Report on latest progress on MSRAL 2016 convention to be held June 3-5, 2016 in Columbia, MO. Call for committee members. Brent has volunteered for Vendors, Larry Campbell has volunteered for Hospitality.

Issues with **AT&T** blocking our email. Jim now has a phone number with AT&T to call and get it white listed

Vice President –Paul Baldwin:

March, Dr. Don Snyder, Washington University: “North American Sundial Society”, April: Dr. Ian Redmount, St. Louis University: “Cosmological Evolution”, May: Dr. Heather Knutson, Caltech: “Extrasolar Planets”, (Skype), June: Mike Roberts, KSDK Channel 5: “Weather Forecasting” Brad has confirmed, July: TBD, Aug: John Wharton, St. Louis Science Center: “The 2017 Total Solar Eclipse” Speaker budget balance is \$250

Astro 101: March 18– Grant Martin, Computer-controlled laser finder April 22- Mark Jones, Transit of Mercury Preview and Planetary Transit Award May 20 –

Secretary – Mark Jones: None

Treasurer/ALCor – Bill Winningham:

- Reports distributed at meeting
- Balance Sheet: Telescope escrow balance down as expected due to buying telescope parts
- Jim needs to submit bill for website renewal
- Don Ficken wants SLAS to have a booth at Airshow this year and is working with the fair to get a no charge.
- Paid this year’s insurance earlier than normal no change in price of \$380
- Filing of IRS 99N club tax report due May 15th.
- Threshold of 3 year average might put us into complex filing.
- Now able to buy Astronomy magazine at lower price (\$29.95) via Night Sky Network. Need to change PayPal on Website, Brochures, and we owe small refund to some members that have already paid.

Hospitality – Larry Campbell: No change since last month. Sharon buying food and Larry drinks for meeting. Brad will bring the 40 cans of soda left over from Homemade Fest.

Board member at large reports

Bradley R Waller (2016): New members meeting report

- Found company for reflective vests. Approx \$15 each with logo. Price includes setup charge.
- Jim will check with Head n Threads about glow-n-dark lettering.
- Brad gave Mark two Chap Percival books for future door prizes at Star-B-Q or eclipse events.
- Raffle two Lovell tickets 14 sold. Drawing will be held at end of Friday meeting.
- Will start raffle for MSRAL 2016 registration.

Tom Nickelson (2017): No report

Brent Buch (2018):

- Posted January and February SLAS Meeting videos on YouTube.
- Set to private so only viewable by invitation Sent email with Youtube links to Board members to try out. Brent wants to hear back from Board if experiment worked.
- Brent to keep posting videos on YouTube and sending links to Board.

4. Committee Reports: If needed

Library Telescope Program:

Membership – Report submitted by Don Ficken – Membership down from 171 at end of year to 160 at end of February For this year, we have had only added three new members which is well below the 13 new members added during the same period last year. We also had 14 members not renewing. I have not had a chance to analyze this number in detail, but eight of the 14 are members not renewing were due in January 2016. I believe the remaining six shown in the “other” column are: **1) Members switching Membership types (family to individual memberships)** and 2) December 2015 expirations that did not renew. Mark needs to add to his welcome letter announcing Brad’s new member orientation meeting.

Merchandise – report regarding Johnny Mac’s. Online store to be created and made available for two weeks.

Newsletter – Articles needed.

Website – www.slasonline.org/joomla

Loaner – Brad Waller - Two LTP are currently checked out and a third is being **repaired** by Tom Nickelson

Observing Programs – Universe sampler will be start by a subgroup of members need article for newsletter Mark Jones AL Double Star Award received

Star Parties: **Star Party** list submitted by Bill. Check email

5. Old Business Jim Small to buy blank certificate paper for future recognitions

6. New Business None

7. Closing Activities Motion to adjourn the meeting by Tom, second by Brad. Meeting **adjourned at: 930pm**

5:35 PM
04/07/16
Accrual Basis

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

St. Louis Astronomical Society
Balance Sheet
As of March 31, 2016

	<u>Jan - Mar 16</u>	<u>Budget</u>	<u>\$ Over Budget</u>
Ordinary Income/Expense			
Income			
Magazine Subscription	400.65	597.50	(196.85)
Membership Dues	1,270.00	1,175.00	95.00
Merchandise Sales	4.00	0.00	4.00
Total Income	1,674.65	1,772.50	(97.85)
Cost of Goods Sold			
Magazine Subscriptions	392.55	597.50	(204.95)
Total Merchandise	2.51	22.50	(19.99)
Total COGS	395.06	620.00	(224.94)
Gross Profit	1,279.59	1,152.50	127.09
Expense			
1-Programs & Events	249.34	565.00	(315.66)
2-Newsletter	102.90	50.00	52.90
3-Library expense		25.00	(25.00)
5-Loaner Scopes		12.50	(12.50)
7-Insurance	380.00	380.00	
8-Website	155.40	150.00	5.40
9-Administrative Expenses	33.07	352.50	(319.43)
Total Expense	920.71	1,535.00	(614.29)
Net Ordinary Income	358.88	(382.50)	741.38
Other Income/Expense			
Other Income			
Donations	250.05	0.00	250.05
Eclipse Escrow Receipts	800.00	0.00	800.00
Interest Income	0.72	25.00	(24.28)
LTP Receipts	8,753.00	0.00	8,753.00
Proceeds from Lens Sales	6,687.00	0.00	6,687.00
Total Other Income	16,490.77	25.00	16,465.77
Other Expense			
Astro Mag Award Disbursements	472.76	0.00	472.76
Eclipse Escrow Disbursements	160.98	0.00	160.98
Eclipse Escrow Funding	800.00	800.00	0.00
LTP Disbursements	8,380.27	0.00	8,380.27
LTP Escrow Funding	1,000.00	1,000.00	0.00
Total Other Expense	10,814.01	1,800.00	9,014.01
Net Other Income	5,676.76	(1,775.00)	7,451.76
Net Income	6,035.64	(2,157.50)	8,193.14

	<u>Dec 31, 15</u>	<u>Mar 31, 16</u>
ASSETS		
Current Assets		
Checking/Savings		
Astronomy Magazine Award**	465.72	0.00
Checking - First Bank	2,940.49	1,889.63
Deposit, Certificate of	20,108.23	20,064.13
Library Telescope Escrow*	444.55	792.28
Merchandise Change Fund	20.00	20.00
PayPal	82.51	0.00
Savings - First Bank	5,361.90	12,049.62
SLAS Eclipse Conference Escrow***	539.12	1,240.01
YMCA Trout Lodge Escrow	542.87	542.87
Total Checking/Savings	30,505.39	36,598.54
Other Current Assets		
Inventory Asset	1,410.53	1,408.02
Investment in Mid-States 2016	1,000.00	1,000.00
Undeposited Funds	55.00	0.00
Total Other Current Assets	2,465.53	2,408.02
Total Current Assets	32,970.92	39,006.56
Fixed Assets		
Accum Depr - Office Equip	(216.65)	(216.65)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	32,970.92	39,006.56
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,137.66	8,137.66
Retained Earnings	24,464.84	24,833.26
Net Income	368.42	6,035.64
Total Equity	32,970.92	39,006.56
TOTAL LIABILITIES & EQUITY	32,970.92	39,006.56

* 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.

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

Wanted: Newsletter Articles!

The Event Horizon needs articles from people like YOU!

Interviews, current astronomy topics, historical articles, you name it, we can use it! Send what you have to: newsletter@slasonline.org

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.
May 12, June 9, July 7, **Wed, Aug 10**, Sep 8, Oct 6, Nov. 10, Dec 7

Dark Sky Observing Dates
See you in April!

Francis Park Events: These events are on Thursdays the week nearest the first quarter Moon
4/13/2016, 5/11/2016, 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
3/4/2016

YMCA Edward Jones Star Parties (generally third Mondays)

4/18/2016, 5/16/2016, 6/20/2016, 7/18/2016, 8/15/2016, 9/19/2016, 10/17/2016,

Pattonville Observatory Public Viewing Dates
3/17/2016, 4/8/2016, 4/22/2016, 5/6/2016, 5/19/2016

Broemmelsiek Astronomy Park Public Viewing
Every Friday night with ASEM members

UMSL Observatory
For directions and map
<http://www.umsu.edu/~physics/astro/directions.html>

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

Skywatch Hotline: 314-516-5706

Saturdays: 4/16, 5/14, 6/11, 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

April

13 Wed
14 Thur
16 Sat
18 Mon
22 Fri
22 Fri
30 Sat

Francis Park
Manchester Parks
Night Skies Over Babler
Edward Jones YMCA
SLAS regular meeting
Snores n Smores Kirkwood Parks
Ballwin Family Campout

May

1 Sun
6 Fri
7 Sat
9 Mon
11 Wed
13 Fri

SLAS dark sky orienteering
Public Telescope Viewing SLSC
SLAS dark sky observing
Mercury Transit - SLSC AM
Francis Park
Powder Horn Boy Scouts

(S-F Ranch)

12 Thur
12 Thur
13 Fri
13 Fri
14 Sat
14 Sat
14 Sat
16 Mon
16 Mon
17 Tues
20 Fri
21 Sat
22 Sun

SLAS board meeting
Setup for Air Show
Spirit of St. Louis Air Show
Powder Horn (scouts)
Spirit of St. Louis Air Show
Astronomy Day SLSC
Crestwood Park
St. Charles Library Corp
Edward Jones YMCA
Florissant Valley
SLAS regular meeting ELECTIONS!
Sidewalk Solar Observing - SLSC
Opposition of Mars - SLSC

June

3 Fri
3-5 Fri-Sun

Public Telescope Viewing
MSRAL Convention—Columbia, MO

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 @ \$34.00 / 1 year \$ _____
TOTAL ENCLOSED \$ _____

Please send completed form with check (no cash please) made payable to
 St Louis Astronomical Society
 Don Ficken, Membership
 13024 Barrett Crossing CT
 St. Louis, MO 63122

Check all that apply:
 Renewal
 Address Change Only
 Please send my newsletter by regular mail
 New Member!

SLAS OFFICERS

President	Jim Small	314-307-0692
president at slasonline.org		
Vice President	Paul Baldwin	314-781-4080
vicepresident at slasonline.org		
Secretary	Mark Jones	636-394-2342
secretary at slasonline.org		
Treasurer	Bill Winningham, (Don Ficken - membership)	636-225-0269
treasurer at slasonline.org		
Hospitality	Larry Campbell	636-244-2867
hospitality at slasonline.org		
Board Members at Large:		
	Brent Buch	314-239-0329
Board18 at slasonline.org		
	Tom Nickelson	314-346-9565
board17 at slasonline.org		
	Bradley Waller	314-481-7250
board16 at slasonline.org		
ALCOR	Bill Winningham	636-225-0269
(Astronomical League Correspondent) treasurer at slasonline.org		
MSRAL Rep.	Jim Small	314-909-7211
msral_rep at astroleague.org		

COMMITTEE CHAIRS

Dark Site Coordinator	Mark Jones	636-394-2342
darksite at slasonline.org		
Librarian	Jim Small	314-909-7211
librarian at slasonline.org		
Library Telescope Program	Don Ficken	636-851-9630
lirbrarytelescope at slasonline.org		
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loaner at slasonline.org		
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membership at slasonline.org		
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Recognition	Larry Campbell	636-244-2867
recognition at slasonline.org		
'SLASdialogs' Moderator	Mark Jones, Rhonda Whelan	
dialogsmoderator at yahoo.com		
Star Party Coordinator	Bill Breeden	314-276-3613
starparty at slasonline.org		
Telescope Making	Bill Davis, Jim Melka	314-469-3061
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Webmaster	Jim Small	314-909-7211
webmaster at slasonline.org		

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

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

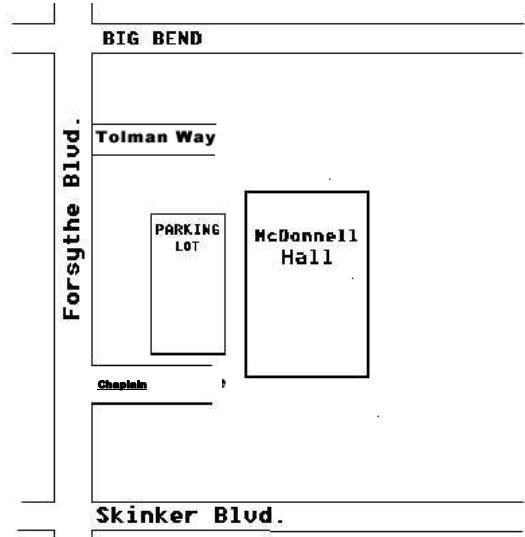


Who We Are and What We Do

St. Louis Astronomical Society is a not-for-profit organization established in 1936. SLAS is devoted to the interest and advancement of the science of astronomy. Our mission is to promote an understanding of the science of astronomy to our members and to the public. Membership is open to anyone with an interest in astronomy.

For more information contact any SLAS officer or visit our website listed above. SLAS is affiliated with the Astronomical League, Night Sky Network and the Mid-States Region of the Astronomical League.

Meetings are held the 3rd Friday of each month at McDonnell Hall at Washington University. See the map to the right for directions.



St. Louis Astronomical Society

Jim Small
13128 Cozyhill Drive
St. Louis, MO 63122

