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ST. LOUIS ASTRONOMICAL SOCIETY Devoted to the Interest and Advancement

VOLUME 24, Issue 9 September, 2014

of the Science of Astronomy

Global Climate Is Changing – Or Is It? And If So – Why? by

Jack Fishman - SLU & William Hayden Smith - WU

Professor Jack Fishman of Saint Louis University and Professor William Hayden Smith of Washington University, will be featured at the September meeting of the St. Louis Astronomical Society. The meeting will begin at 7:30 PM <u>Friday, September 19</u> in McDonnell Hall, Room 162, on the Washington University campus, Saint Louis, MO 63130. McDonnell Hall is accessible from Forsyth Boulevard via Tolman Way.

There is strong, but perhaps not yet conclusive, evidence that the climate is changing. Average temperatures are rising in many regions, leading to shifts in weather patterns. Local ecologies are stressed and shifting. Sea waters are rising. While the global climate is known to have changed many times in geologic history due to natural causes, most scientists believe that the current climate changes are either triggered or accelerated by human activity. However, some scientists dispute the projected rate of climate change and the role of human activity in causing the change. Dr. Fishman will present some of the findings of climatologists that support theories of global warming and point to human activity to explain the rate of climate change. Dr. Smith will examine climate data and

dispute the global projections and the assertions that human activity is a major factor. A discussion period will follow the two presentations.

Dr. Jack Fishman is Professor and Director of the Center for Environmental Sciences at Saint Louis University. His research interests are focused on satellite studies of atmospheric composition and pollution; global pollution and crops, atmospheric chemistry, and global change due to human activity.

Dr. William H. Smith is Professor of Earth and Planetary Sciences and a Fellow of the McDonnell Center for the Space Sciences at Washington University. His research projects involve climate change studies, the development and application of remote sensing instruments to environmental problems, and the development of medical diagnostics for longterm spacecraft missions.

The format for the meeting will be as follows:

1. Dr. Fishman and Dr. Smith will each be given 30 minutes for their presentations. There will be no questions during the presentations themselves.

2. Cards will be passed out to the audience before the presentations. After both presentations are finished, those who wish to ask questions will pass their card forward and cards will be randomly drawn to select who will ask a question. The time allotted for the question period will be limited to 30 minutes.

We look forward to a lively meeting!

Upcoming meetings October: Catarina Ubach

President's Corner by Jim Small

It has been an amazing month for SLAS. We are well on our way to becoming a major player in the St. Louis Region on several fronts.

First up, though, the date for the **Star-B-Q** is **THIS SATURDAY September 20.** We will be at the Alta Shelter this year and is indicated on the map on page 3. Things begin at 3 pm! We hope to see you there!

The Library Telescope program has taken off beyond our wildest dreams. The excitement and enthusiastic support from all three libraries we spoke to in the last week was fantastic. All three systems, (St. Louis County, St. Louis City and Independent (Kirkwood) were so taken with the program that they all ordered additional telescopes to place in the program. See details to the right.

I cannot thank Don Ficken enough for spearheading this effort and organizing the meetings with the libraries and ordering of the materials to make the scopes ready. It will be a fantastic opportunity for SLAS to work with the community through some new venues. Thanks to the committee (Rich Heurermann, Bill Winningham, John Newcomer and myself) for the work put into making the decisions) The PR from this project will be tremendous!

Thanks to John Lakey for agreeing to host organizational meetings for the solar eclipse team from the St. Louis area. This organizing committee will include representatives from various organizations around the area and will organize a community workshop to help area groups to prepare for the 2017 Total Solar Eclipse.

Many thanks also to Mark Jones for keeping the conversations about the eclipse going for the St. Louis area. Many discussions are in progress to make the decisions about what to do in the coming year to organize St. Louis groups for the eclipse. They will likely culminate with workshop(s) in the coming year.

We have a myriad of star parties coming up, so please check night sky network and see if you can volunteer for them. If you have not volunteered for a star party before and you would like some help, don't hesitate to contact me or anyone else whose contact information is on the back page of the newsletter for help.

We will see you all at the meeting on Friday and the Star-B-Q on Saturday at Babler State Park!

Library Telescope Program *by* Jim Small

Don Ficken, John Newcomer, Bill Winningham, Rich Heuermann, and myself have been busy since the last meeting. We discussed the approach for meeting with the libraries, pooled resources and contacts, developed agendas for meeting with the library personnel, set up meetings, ordered the YMCA version of the Library Telescope, assembled a mockup of the instruction booklet, picked up some of the accessories, applied some of the stickers and the fanny pack to the scope, and finally MET with the librarians!

MANY thanks to Don Ficken for taking the ball and running with it. His experience with corporations and so on really made the difference when it came to meeting with the library personnel. We met with St. Louis County Library on Friday of last week, St. Louis City Library Monday morning, John Lakey at noon, and Kirkwood Library Monday afternoon. It was the easiest sales job I have ever been on!

By Monday afternoon, we had not only successfully set up the donation of the 3 telescopes provided by SLAS monies, but by Tuesday, we had added a fourth library (University City) and brought the total number of telescopes requested by the libraries and the YMCA to 18! All of the libraries requested additional telescopes that they would pay for to be put into circulation. In addition, John Lakey said the Science Center would be happy to promote the program in the planetarium shows!

Needless to say, we have since been busy. Don Ficken has been working tirelessly to order all of the parts for the modifications and should have nearly all of it by next week sometime. We will then assemble a single scope to test the modifications and become familiar with them so we can get a group effort together to do the assembly of the larger group. The steering committee will be putting the team together for the assembly party. Let us know if you are interested in helping with that.

We will also get recognition in Orion Telescope's magazine for the program. We haven't set up news releases, etc, but I think there might be a joint news release set up by the libraries with us present.

This program will be a huge boost to SLAS and astronomy! If you want to be involved, there will be plenty of opportunities for participating in training and star parties for the libraries as we start this program. **Get Involved!!!**

VOLUME 24, ISSUE 9 SEPTEMBER, 2014



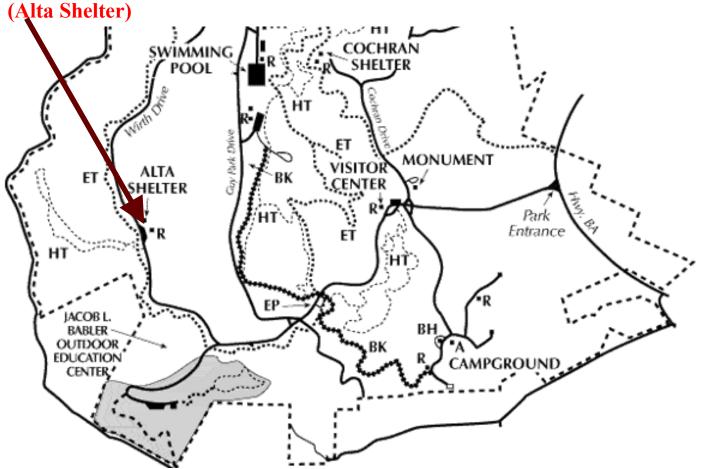
12th Annual SLAS Star-B-Q Saturday, September 20, 2014 Alta Picnic Shelter

Come join fellow members of the SLAS at **<u>Babler State Park</u>** for a day of food, games, and observing. SLAS will once again provide the hamburgers and hotdogs. We ask for you to bring your favorite drinks and side dish or dessert.

Activities will include: *games, prizes, solar viewing and plenty of socializing*! Then we pack up and move to the Babler Monument area where we will observe from 8-Midnight. Don't have a telescope? Don't worry this is a great chance to see other member's equipment.

3pm – Picnic begins 4pm-6pm Food line open 6pm-7pm Trivia Contest (with prizes) 7pm-8pm- cleanup shelter 8pm-midnight- Observing at Monument Area

Special Note: There will be solar viewing during the day.



STARFLEET COMMAND MISSION UPDATES FOR SEPTEMBER 2014 EXTRA SOLAR PLANETS COUNT

The Extra Solar Planets Encyclopedia: Arecibo-The Exoplanets Catalog: The NASA Exoplanet Archive: Exoplanet Orbit Database: Open Exoplanet Catalog: 1822 www.exoplanet.eu

1826 www.phl.upr.edu/projects/habitable-exoplanets-catalog

1743 www.planetquest.jpl.nasa.gov

1516 www.exoplanets.org1789 www.openexoplanetcatalogue.com

As of: 11 September 2014

INTERNATIONAL SPACE STATION SUPPLY FLIGHTS

DESIGNATION LAUNCH DATE COMPANY/COUNTRY

CRS-4	12-Sept-2014	Space-X Dragon
Orb CRS-3	21-Oct-2014	Cygnus
Progress M-25M ISS-57-P	29-Oct-2014	Progress
ATV-005 Georges Lemaitre	24 July 2014	ESA
HTV-5 Kounotori 5	01 Feb 2015	JAXA
Soyuz TMA-14M	25 Sept 2014	Russia

INTERNATIONAL SPACE STATION CREWS

EXPEDITION 41: MISSION STARTED: 10 Sept 2014

CREW MEMBERS	COUNTRY	UP/DOWN
Maksim Surayev (CDR)	Russia	Soyuz: TMA-13M
Gregory R Wiseman	USA	Soyuz: TMA-13M
Alexander Gerst (Germany)	ESA	Soyuz: TMA-13M

MISSION UPDATES

New Horizons: 14 July 2015

On 25 August 2014, 25 years to the date of Voyage II's flyby of Neptune, New Horizons crossed the orbit of Neptune. It is scheduled to zoom through the Pluto system on 14 July 2015. New Horizons was launched on 14 Jan 2006 and rocketed away from Earth at 36,000 mph, making it the fastest spacecraft ever launched. The probe is now about 2.75 billion miles FROM Earth and is just 273 million miles from Pluto. On 29 August 2014, New Horizons was placed into hibernation. This deep space break will last until 06 Dec 2014, when it will then be awakened to begin its Pluto flyby phase of its mission. Mike Wall, Senior Writer, Space.com, 25 August 2014

OSIRIS-Rex: September 2016

NASA's OSIRIS-REx mission and The Planetary Society invite you to submit your name for a round-trip ride to Asteroid Bennu. Your name will hitch a ride to the Asteroid, spend 500 days there, and return in the Sample Return Capsule to Earth in 2023. Plus your name will be on the spacecraft, which will remain in space long after returning the Sample Return Capsule to Earth. The mission launches in September 2016. Messages to Bennu on the OSIRIS-REx spacecraft! The last day to summit names is: 30 Sept 2014 <u>http://www.planetary.org/get-involved/messages/bennu/</u>

ISS News

On 25 September 2014, Yelena Serova willed be joined by, Barry E Wilmore (USA) and Aleksandr Samokutyayev (Russia) as a member of Expedition 41. They will be launched on the Soyuz TMA-14M. She follows: Valentina Tereshkova (Vostok 6, 16 June 1963), Svetlana Savitskaya (Soyuz T-7, 19 Aug 1982 Salyut 7 SS) and Yelena Kondakova (TM-2004, Oct 1994 and spent 5 months on Mir and STS-84, Atlantis, 15 May 1997), as the fourth Soviet/Russian woman to journey into Space. Expedition 40 departed the ISS on, 10 Sept 2014, and return to Earth three and half hours later in the steppes of Kazakhstan.

St. Louis Astronomical Society Devoted to the Interest and Advancement of the Science of Astronomy Executive Board Meeting - July 17, 2014

1. Opening Activities Call to Order 7:04, attendance: Jim Small, Paul Baldwin, Bill Winningham, Grant Martin, Tom Nickelson, Brad Waller. June minutes were amended and approved.

2. External Business

SLSC no information about First Friday for August 1st.

Next board meeting: 8/7, Board meeting dates for the year are confirmed from the YMCA: 9/11, 10/9, 11/6, 12/11.

3. Director Reports: If needed President – Jim S ALCON 2014 – Success 2015 ACLCON Las Cruces, 2016 ALCON DC, 2017 ALCON Casper, WY

Eclipse Conference is August 21/22 Columbia, MO Eclipse Glasses from AL

Vice President –Paul Baldwin: July: Rich Heuermann – Life and Death of Stars, Types of Stars, Spectroscopy August: Logan Brown – UMSL -Exoplanets September: Dr Jack Fishman–SLU and Dr. William Smith-WU: Solar impact on earth's weather-two opposing viewpoints

Speakers... Paul designed a plaque for Rich Heuermann. Discussion about speaker gifts. Discussion about upcoming speakers.

Astro 101: Topic

Secretary - Mark J minutes sent

Treasurer/ALCor – preliminary report, reimbursement procedures discussed.

MSRAL 2014 final report Over \$2100 profit

Board member at large reports

Larry Campbell absent

Tom Nickelson: No report

Brad Waller: no report July 20 - 45th anniversary Moon Landing 21:56CDT

4. Committee Reports: If needed

Membership – Report submitted

Merchandise – no report -

Telescope Making - no report submitted

Librarian - No changes

Newsletter - No report

Website - No report

Night Sky Network – No report.

SLASdialogs - No report submitted

Dark Site - July 26, Aug 30, Sep 27, Oct 25

Loaner Equipment – Mark returned the ETX 90, Cook purchased a Rigel Finder for ETX-125 loaner scope and was reimbursed.

Publicity - release sent

Observing Programs – Four new observing programs from AL, Radio Astronomy, Adv. Binocular Doubles, Bright Nebulae, Two In the View

Star Parties: Details for the next month's confirmed events below.

PTV Aug 1, Francis Park Aug 6, Movie in the Park Aug 7, Arch Aug 8, Edward Jones Aug 14

5. Old Business

6. New Business Any new business to bring before the board.

- Library Telescope program

We purchase three set-ups (Orion StarBlast 4.5 for \$200, Celestron 8-24 zoom eyepiece for \$60, and \$40 for miscellaneous) for Library Telescopes per the Library Telescope Program set up in New Hampshire to be placed in St. Louis County Library, one in St. Louis City Library, and a 3rd library to be determined. Total purchase will be approximately \$900. Proposed by Brad Waller, seconded by Tom Nickelson. Unanimous.

- Social media for SLAS Tom Nickelson proposed setting up SLAS facebook and twitter accounts. Seconded by Paul Baldwin Almost unanimous

Brad Waller proposed to sponsor Mark Jones or another representative for SLAS for the Eclipse conference on August 21st for the registration fee of \$150. Said representative will report on the proceedings to the club. Seconded by Tom Nickelson.

7. Closing Activities Bill Winningham, Grant Martin seconded....

MISSION UPDATES (con't.)

Resupply Flights to ISS

*The Cygnus Mission, CRS-2, SS Janice Ross, completed its mission on 17 August 2014 when it re-entered the atmosphere. *Progress M-23M completed its mission when it was deorbited on, 01 Aug 2014. *ATV-005, Georges Lemaitre, docked with the ISS on 12 August 2014. On, 25 Jan 2015, it will undock and re-enter the atmos-

phere. *Check the ISS Supply Flight Section for future resupply missions.

Mars News

*USA: MAVEN is expected to enter into Mars orbit on 21 Sept 2014. It is expected to last at least one Earth year, but with careful use of fuel, it could last a decade... long enough for controllers to watch the upper atmosphere change through almost an entire 11year cycle of solar activity. MAVEN: Mars Atmosphere and Volatile EvolutioN. Launched: 18-Nov-2013 *India: MOM is expected to enter into Mars orbit on 24 Sept 2014. It is expected to last six to 10 months near Mars.

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St. Louis Astronomical Society Devoted to the Interest and Advancement of the Science of Astronomy Executive Board Meeting - August 10, 2014

1. Opening Activities

Attendees: Jim Small, Mark Jones, Bill Winningham, Brad Waller Meeting called to order 7:10pm. No quorum

2. External Business SLSC September First Friday theme is Dr. Who

Next board meeting: 9/11, Board meeting dates for the year are confirmed from the YMCA: 10/9, 11/6, 12/11.

3. Director Reports: If needed

President - Jim Small

Eclipse Conference is August 21/22 Columbia, MO

Library Telescope Program committee: Don Ficken, chair of 5 person steering committee, other members include Jim Small, Bill Winningham, Rich Heuermann and a TBA by Don.

Vice President – Paul Baldwin: August: Logan Brown – UMSL -Exoplanets September: Dr Jack Fishman–SLU and Dr. William Smith -WU: Solar impact on earth's weather-two opposing viewpoints

Astro 101: Topic. Jim will contact Michael Malolepszy about doing a Rosetta Mission Update, or Jim Small will give a travelog of his trip to Wyoming

Secretary – Mark J 2017 Eclipse Workshop has the following members planning to attend: Mark Jones, Jim Small, John Beaury, Jerry Loethen, Don Ficken, Grant Martin Ann and Jim Trull

Thank you letter from Dr Friedlander from MSRAL2014

Star-B-Q scheduled for Sept 20th at Babler State Park, Alta Shelter. John Beaury has volunteered to run Trivia contest again this year. We are looking for door prizes. Like last year SLAS will supply meat, I am thinking of cooking hamburgers and hot dogs and I am looking for volunteers to help cook

SLAS members have been invited to Grupe's farm for Dark Sky observing on Sep 26 near Hamburg IL

Council Bluffs Dark Sky Observing planned for Aug 22-23

Observing Chair – I have awards to submit for Grant Martin and Jerry Loethen

Super Moon is tonight

Treasurer/ALCor -

MSRAL 2014 final report - Check for Banquet was not cashed by

Knight Center, Cook cancelled check and issued new check. Still working on getting second check for banquet payment cleared so books can be closed.

Charges to SLAS debit card was done by Sky&Telescope (2x\$37.95). They will reimburse.

Hospitality - Grant M no report submitted

Board member at large reports

Larry Campbell- no report

Tom Nickelson- no report

Brad Waller- Coffee mugs for speakers, Brad to discuss with Paul Baldwin who is the Speaker Chairman. Talk to Greg Gains about new location for loaner scopes

4. Committee Reports: If needed

Membership - Report submitted

Merchandise - no report -

Telescope Making - no report submitted

Librarian - No changes

Newsletter – Newsletter will be out by Monday.

Website – Site is averaging about >10,000 hits a month, number of unique site >1000 month

Night Sky Network – Due to our Outreach activities SLAS qualified for and won and S&T Mars Globe for our club!

SLASdialogs – no report submitted

Dark Site - Aug 30, Sep 27, Oct 25

Loaner Equipment -

Publicity - Press release sent by Rich Heuermann

Observing Programs - Two awards to submit

Star Parties: Details for the next month's confirmed events below.

Edward Jones Aug 14

5. Old Business -

The following old business items will be presented to the general membership at the August meeting

Library Telescope program

Eclipse Workshop Reimbursement

6. New Business Any new business to bring before the board.

How to Volunteer for Star Parties!

If you've never volunteered for a star party, you are in for a real treat! You do not need any experience, you don't even need a telescope or binoculars. If you log into Night Sky Network, on the right side, you will see a link for "Sharing the Universe" videos. If you don't know how to log into NSN, just click this link: <u>http://www.astrosociety.org/</u> <u>SharingTheUniverse/index.html</u> and it will take you to the page with the videos. Click on the <u>Getting Started</u> <u>With Outreach</u> link. On the page you will see a link for a video and a link for tips. The tips are great! The video is also well done and will get you inspired to work with the public! If you like the first video, you will certainly enjoy the rest of the videos for Sharing the Universe! Then, just RSVP for any star party and lets get started! Other SLAS members will be there to help you get going! We look forward to all the joy you will have sharing the universe with the public!

St. Louis Astronomical Society			
Profit & Loss Budget vs. Actual January through August 2014			
	Jan - Aug 14	Prorated Budget	\$ Over Budget
Ordinary Income/Expense			
Income			
Magazine Subscription	666.35	3,241.30	(2,574.95)
Membership Dues	2,240.00	2,300.00	(60.00)
Total Income Cost of Goods Sold	2,906.35	5,541.30	(2,634.95)
Magazine Subscriptions*	633.40	3,241.30	(2,607.90)
Total COGS	633.40	3,241.30	(2,607.90)
Gross Profit	2,272.95	2,300.00	(27.05)
Expense			
1-Programs & Events**	326.72	2,441.66	(2,114.94)
2-Newsletter	347.86	190.00	157.86
3-Library expense	88.62	150.00	(61.38)
4-Astronomical League Dues	650.00	660.00	(10.00)
5-Loaner Scopes	155.25	150.00	5.25
6-Brochures	43.69	166.66	(122.97)
7-Insurance	380.00	380.00	
8-Website	113.88	108.00	5.88
9-Administrative Expenses	195.97	304.00	(108.03)
Total Expense	2,301.99	4,550.32	(2,248.33)
Net Ordinary Income	(29.04)	(2,250.32)	2,221.28
Other Income/Expense			
Other Income			
Donations Interest Income	231.33 28.57	66.00	231.33 (37.43)
Non-Operating Income***	1,032.66	00.00	1.032.66
Total Other Income	1,292.56	66.00	1,226.56
Other Expense			
Non-operating Expense	92.93		92.93
Total Other Expense	92.93		92.93
Net Other Income	1,199.63	66.00	1,133.63
Net Income	1,170.59	(2,184.32)	3,354.91

One Sky and Telescope subscription fullfilled after the end of the period

** Reflects member approved additions of \$150 for Eclipse Conference fees and \$1,000 for the Library

Scope Program (funds available through 2015)

*** Residual net income from MSRAL 2014

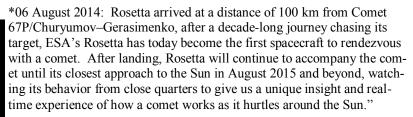
St. Louis Astronomical Society Balance Sheet

As of July 31, 2014

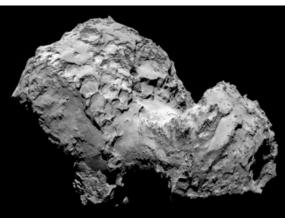
	Dec 31, 13	Aug 31, 14
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	3,263.28	6,476.39
Deposit, Certificate of	20,027.97	20,055.43
Merchandise Change Fund	20.00	20.00
PayPal	24.15	0.00
Savings - First Bank	3,357.60	3,358.71
YMCA Trout Lodge Escrow	877.87	877.87
Total Checking/Savings	27,570.87	30,788.40
Accounts Receivable		
Accounts Receivable	0.00	5.00
Total Accounts Receivable	0.00	5.00
Other Current Assets		
Inventory Asset	1,707.15	1,614.22
Investment in Mid-States 2014	2,000.00	0.00
Total Other Current Assets	3,707.15	1,614.22
Total Current Assets	31,278.02	32,407.62
Fixed Assets		
Accum Depr - Office Equp	(216.65)	(216.65)
Office Equipment	216.65	216.65
Total Fixed Assets	0.00	0.00
TOTAL ASSETS	31,278.02	32,407.62
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable		
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	23,099.37
Net Income	3,885.22	1,170.59
Total Equity	31,237.03	32,407.62
TOTAL LIABILITIES & EQUITY	31,278.02	32,407.62

MISSION UPDATES (CON'T)

Rosetta



*14 September, the five candidate sites will have been assessed and ranked, leading to the selection of a primary landing site and a backup. The landing itself is currently scheduled for 11 November. The announcement of the primary landing site for Rosetta's lander Philae, will be made the following day.



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SLAS EVENTS

September

19 Fri

20 Sat

26 Fri

27 Sat

29 Mon

October

2 Thurs

1 Wed

3 Fri

4 Sat

7 Tue

9 Thurs

13 Mon

17 Fri

17 Fri

18 Sat 25 Sat

29 Wed

1 Sat

7 Fri

21 Fri

6 Thurs

November

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 10/9/2014

11/6/2014 12/11/2014

Dark Sky Observing Dates

Sep 27 Oct 25

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

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 October 3 November 7 December 5 **YMCA Edward Jones Star Parties**



Which is God's Favorite Planet ????

For you...John Beaury :-) (bw) The Argyle Sweater 03 Sept 2014

Night Skies Over Babler SLAS Dark Sky Observing Francis Park Faith Academy Larson Park SLAS Board Meeting

SLAS Regular Meeting

Halls Ferry Elementary

Stargazing at the Arch Edward Jones YMCA

SLAS Board Meeting

SLAS Regular Meeting

Cub Scouts Babler

SLAS Dark Sky Observing

Public Telescope Viewing SLSC

SLAS Star-B-Q

Babler Center

Francis Park

Babler Center

Manchester Park

SLAS Board Meeting Public Telescope Viewing SLSC SLAS Regular Meeting



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				ST. LOUIS
First, Middle Initial			(
Address			-	
City, State, Zip Code				ON SUT
email address				Founded 1936
			Please send complete	d form with check (no
Youth @ \$10.00 / 1 year (18 yrs or young	ger) \$	·	cash please) m	
Individual @ \$25.00 / 1 year		·	St Louis Astron	-
Family @ \$40.00/1 year	\$	· · · · · · · · · · · · · · · · · · ·	Don Ficken, 13024 Barret	Membership t Crossing CT
Publications with discount available w	vith your SLAS	membership:	St. Louis, I	
Sky and Telescope @ \$32.95 / 1 year	\$			
(S&T may also be renewed at their webs http://www.skyandtelescope.com)	ite:		Check all that apply: Renewal	
Astronomy @ \$34.00 / 1 year	\$		Address Change Or	ıly
TOTAL ENCLO		-	Please send my new New Member!	vsletter by regular mail
SLAS OFFICERS			COMMITTEE C	HAIRS
President Jim Small president at slasonline.org	314-307-0692			
Vice President Paul Baldwin vicepresident at slasonline.org	314-596-6738	Membership membership a Publicity	Don Ficken t slasonline.org Rich Heuermann	636-225-0269 314-962-9231
Secretary Mark Jones secretary at slasonline.org	636-394-2342	publicity at sla	sonline.org <u>' Moderator</u> Mark Jones	s, Rhonda Whelan
Treasurer Bill Winningham, (Don Ficken	- membership)	dialogsmodera	ator at yahoo.com	
treasurer at slasonline.org <u>Hospitality</u> Grant Martin	636-225-0269	Webmaster webmaster at	Jim Small slasonline.org	314-909-7211
hospitality at slasonline.org		<u>Newsletter</u> Econewsletter at s	litor Jim Small lasonline.org	314-909-7211
Board Members at Large:		Loaner Equip	ment Greg Gaines	314-277-3082
Tom Nickelson board17 at slasonline.org		Merchandise	Grant Martin at slasonline.org	
Larry Campbell board15 at slasonline.org	636-244-2867	Librarian librarian at sla	Jim Small	314-909-7211
Bradley Waller board16 at slasonline.org	314-481-7250	Library Teles	<u>cope</u> Program <i>Don Ficke</i> pe at slasonline.org	e n 636-851-9630
ALCOR Bill Winningham (Astronomical League Correspondent) treasurer at slasonline.org	636-225-0269		ordinator Mike Maloleps	zy 314-781-4701
MSRAL Rep. Jim Small msral rep at astroleague.org	314-909-7211	Dark Site Coc darksite at slas	ordinator Mark Jones sonline.org	636-394-2342
		observing at s		636-394-2342
		telescope at sl	aking Bill Davis, Jim Me asonline.org	lka 314-469-3061

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY



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 any-one 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.

