

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

**VOLUME 30, Issue 10
October, 2020**

Black Holes: Astrophysics Final Frontier *by*

Dr. Marco Cavaglia
**Missouri University of
Science and Technology**

Dr. Marco Cavaglia of the Missouri University of Science and Technology will be featured at the October meeting of the Saint Louis Astronomical Society. The meeting will be held via Zoom online conference only, due to the COVID-19 outbreak. The meeting and lecture will begin at 7:30 p.m. on Friday, October 16. Zoom access information is posted on the Society's website, www.slasonline.org.

In 1916 Albert Einstein published a paper demonstrating that space and time can be warped in the shape of a wave. One hundred years later, scientists announced the first observation of a "ripple of space-time" from two colliding black holes. Astrophysicists have discovered that black holes are ubiquitous in the universe. They come in (almost)

all sizes, rule galaxies from their centers, make gold and platinum, and power the most energetic known phenomena in the sky. Black holes may even provide clues to the nature of the most mysterious substance yet to be found, dark matter.

Dr. Marco Cavaglia is Professor of Physics at the Missouri University of Science and Technology in Rolla, Missouri. He has authored over 230 publications in scientific journals. His scientific interests are in gravitational physics, astrophysics, theoretical physics, and education and public outreach.

Upcoming Meetings!

November-Brett McGuire, PhD Mirror Asymmetry in Life and in Space NRAO-WVa

December- Maura McLaughlin, PhD Still Thinking About a Topic! University of West Virginia

January- Robert Criss, PhD Galactic Rotation & Dark Matter Washington University

February- Raymond E Arvidson, PhD MARS!!! Washington University

March- K Michael Malolepszy Probing the Sub-Microwave Universe Part III SLAS

Mid States Region



Watch SLASdialogs and THIS newsletter for sales of telescopes nicely suited either for projects or ready-to-go mint telescopes. Great bargains will be for sale! See page 2 !!!

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Joining a Zoom Conference Meeting: Everyone can join! No Computer Required!

Joining us for a Zoom Conference is easy! All you need is any of the following: Computer, desktop or laptop, smartphone, **OR** any regular phone! The meeting will be open from 6:30-11pm. The extra time is to allow socializing before or after the meeting

**Below is the invitation to join:
To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone:
Just click the link below:**

<https://zoom.us/j/8604505790>

Meeting ID: 860 450 5790

Dial by ANY phone using your location (any phone will work)

+1 312 626 6799 US (Chicago)

Meeting ID: 860 450 5790

If you need help joining the meeting, don't hesitate to call Jim Small at 314-307-0692!!

(ps: the link for the meeting is the same each month so far. If there continue to be no problems)

President's Corner

by
Jim Small

The SLAS Regular meeting for October will be via Zoom conference only. This month features Dr. Marco Cavaglia of MO S&T speaking about Black Holes: To join the meeting, see the article on the front page for instructions and a link. Remember, you don't even need a computer to attend the meetings! We have already decided that even when we return to regular in-person meetings, we will continue to host them via zoom as well.

We will also continue holding SLAS Board meetings via Zoom conference. The link for the board meetings on the First Thursday of the month is the same as the link for the regular meetings.

Winners for the Special Awards have been determined by the committee and will be awarded at either the November or December meeting. Winners will be notified soon.

On the loaner scope front, we are having a massive sale of the telescopes we don't want to include in the loaner scope program. There are some good bargains to be had, so make sure you have your checkbook/credit card handy! See the article in the newsletter starting below for the complete list. We will use the funds obtained to improve the loaner scope program and/or the observatory.

The budget for next year is upon us and we need to make

some decisions about various aspects of the ways the Society spends its money. The next meeting is Sunday, October 18 at 4 pm via the same zoom link used for the meeting. The budget will be presented to the membership at the November meeting and will be voted upon at the December meeting. If you would like to offer some input, feel free to join the meeting!

I have been pleased with the added interest and attendance we have had at both the regular meetings and board meetings because of zoom conferencing. The board discussed the idea of having regular beginner conference meetings to address issues beginners might have getting involved in astronomy. Similar to some of the Special Interest Groups like the digital SIG offered by ASEM, we think there might be some interest in offering meetings for beginners. We are looking for input about how often and what days we should offer such meetings. Keep it on the same night? Move it around? Once per week? Once per month? That kind of information would be useful to know from interested people. If you have ideas, please let us know.

MARS is HERE! If you have been photographing Mars, please share your photos with us for the meeting Friday night! I would love to have even more images for the newsletter as well!

Hope to see you at the meeting Friday night! Until then, clear skies!

Jim Small

MASSIVE TELESCOPE SELL OFF!!

BARGAINS GALORE!

GOT AN IDEA FOR A PROJECT? WE MIGHT HAVE WHAT YOU WANT!

Telescopes for Sale! Below is a list, photos later in the article!

These have been donated to SLAS, all proceeds will go to the loaner scope program or the observatory.

A. Celestron Firstscope 114mm Short FL 1000mm f9 Model #31041 EQ mount 2 eyepieces 10mm, 20mm

Beginner scope

Suggested price: min \$25

B. Meade Jupiter 114mm FL 910mm f8 Model DS-114EC 3 0.965" eyepieces and 3x barlow, 2" eyepiece holder, dual motor with hand controller, option for #495 Autostar controller, original box

Good beginner scope. Not goto, but will track and has hand controller for fine adjustment!

Suggested price \$75

C. Orion Skyview 6" 152mm, Deluxe EQ reflector FL 750mm f5 9mm and 25mm EP + 2x shorty barlow and collimating eyepiece. Full EQ mount. All in original boxes, packed as it came from Orion. Mint condition. It would make a good starparty scope. Very portable, solid mount.

Suggested price \$200

D. Meade LX50 10" SCT, FL 2500mm f10, includes 8x50 straight through finder, fork mount, wedge, HD field tripod, hand controller, 1.25" diagonal, 26mm Meade Plossl EP, power cord. Corrector plate needs a bit of cleaning, motors might need some TLC, might need a DEC motor cord. Reviews say it has excellent images at the eyepiece. There are lots of cloudy night style articles about using and modifying this scope. There are also mint condition fork mounts available on the web from people that have deforked the scope. If you have a good mount, this might also be a candidate! Should be a quality scope once it's fixed up a bit. Should be a great bargain!

Suggested price \$400

More on the next few pages!!

(Continued on page 3)

(Continued from page 2)

Telescopes!

So all four of the telescopes on the previous page are from donations to SLAS. Any proceeds from that equipment will go toward purchases for the loaner scope program and/or the observatory. We already made some headway as we sold the Tasco 4.5" mentioned at the last meeting for \$100. Thanks to Ed Frey for that one! If you are interested in any of these scopes and wish to purchase one before the auction/sale Friday night, just call me at 314-307-0692!

This next listing will be equipment that had been stored at East Central College, so all the proceeds from any of this material will be used to purchase a telescope or other equipment for ECC.

Here is the list.

- 1. Criterion 6" long FL Newtonian and tripod pier eq motorized mount.** The mount is heavy duty and the mount head could easily be used on another scope. 1.25" focuser and a finder scope included. The mount has an AC powered Dec motor. It looks to be heavy duty. Mirror needs cleaning. Suggested price \$100
 - 2. 8" short FL Newtonian. OTA only.** No rings or other mounting equipment. Tube is heavy gauge aluminum. 2" focuser and eyepiece. Nice handle attached to the balance point. Suggested price \$50
 - 3. 6" long FL Newtonian mirror, tube, mirror cell, 4 vane secondary holder.** Focuser might be available. Suggested price \$25
 - 4. Wedge for SCT with tripod.** Looks very similar to older Celestron models. Suggested price \$25
 - 5. Nice wood tripod and mount.** The tripod is heavy duty and would be good for supporting a substantial scope. Suggested price \$25
 - 6. Meade straight through finder scope and bracket. 8x50.** Clean because it actually has the caps! Suggested price \$25
 - 7. Meade 6x30 finderscope and bracket.** Suggested price \$5
 - 8. Velbon video tripod with crank middle and three section legs.** Light to medium duty. Suggested price \$5
 - 9. Fishing rod caddy. 4" diameter, at least 5 feet long.** would be great for holding truss tubes. Come get it.
 - 10. Misc.** Two diagonals. 0.965-1.25", 1.25", 3 NICE wood cases, Couple of finder scope brackets, set of aluminum tubes that might make short trusses. Prices with photos.
- Again, all of the above items are from ECC, so all the proceeds from this equipment will go toward the college for equipment for the astronomy program. Ok, time for some pictures.



A. Celestron Firstscope 114. (stock photo)



B. Meade Jupiter 114. (stock photo)

C. Right Orion Skyview 6" Deluxe EQ (stock photo)



(Continued on page 4)

(Continued from page 3)

Telescopes !!



D. Meade LX 50
10" SCT with
hand controller
and heavy duty
field tripod and
wedge.

Includes finder,
diagonal, 26mm
Plossl eyepiece,
hand controller.

Provides
excellent visual
views

More on page 5!!



Telescopes!!!

Materials from the ECC sale on this page:



1. Criterion 6" scope and mount with HEAVY duty dec motor!

2. 8" scope. Sturdy Al tube

3. 6" mirror, tube, mirror cell, spider for secondary. Finder, diagonal



4. SCT Wedge and tripod 8"



6. Meade 8x50 finder scope and bracket



7. Meade 6x30 finder scope and bracket



5. Heavy duty wood tripod and mount

Continued on page 6

Telescopes!!!!



8. Velbon Video tripod with bubble level



9. Rod Caddy



10. top - 1.25" diagonal
bottom - 0.965
-1.25" diagonal



LARGE wood case ~53" x 14" x 7.5" \$45



Unitron refractor case ~ 30" \$20



Unitron refractor case 48" \$25

Ok, so that's all for the fire sale this time! Got something of yours you want to sell? Feel free to send us an ad for inclusion in the newsletter!

If you really want any of these items before they are up for auction at the regular meeting, contact Jim Small at 314-307-0692!! I will be home all day on Friday.

This will do it for this edition of a fire sale! I've had discussions about this with several members and it seems we might have a market for an occasional swap meet for members to sell or trade items on a regular basis! We already have a "social hour" after the meetings where members hang out on the zoom conference and banter for a while after the meeting is dismissed. If you might be interested in having a swap meet occasionally where items may be traded for a while after meetings, let us know at the meeting Friday.

In addition to that, if you have something to offer for sale, simply send an article with photos to me at newsletter@slasonline.org and I'll be happy to put an ad in the newsletter for you at no charge for members. For non-members, I'll run an ad for 3 months for a charge of \$10.

Hope some of this material finds its way to a home where it will be used! See you at the auction online!! Jim Small



Syrtis Major/Hellas

18 Aug 2018
0509 UT
CM = 309

11 Oct 2020
0619 UT
CM = 290.6

13 Oct 2020
0508 UT
CM = 255.7



Equipment (all images):
Celestron C8/f10 w/Explore Scientific 3x focal extender
ZWO ASI385 camera
Grant Martin, Hazelwood Missouri

Now and Then

I finally got out to image Mars for this apparition. It's been 2 years since the last one. I notes a significant difference to the brightness of the Hellas Basin between then and now. In the past and in 2018, Hellas has presented itself as a brighter oval feature than its surroundings. But not any more! I don't know if this is caused by the huge dust storm of 2018 or the more recent ones.

There is a lot of speculation, in general, regarding changes in albedo features of Mars and the impacts caused by dust storms. Considering this change, and the lack of such extreme changes in the recent past, I'm pretty much a believer in a slow, gradual change with modifications brought on by significant events such as the 2018 dust storm. Only detailed imagery going forward will inform this discussion.

Grant Martin

Arsia Mons

Arsia Mons, one of the four monster-size volcanoes of the Tharsis region, is the home of a plume-shaped white cloud that is visible every late Spring and early Summer in the Southern hemisphere. It is visible in my first image of 2020. See below. I created a science project whose purpose is to identify the source of the cloud. A paper describing the project can be found at [Arsia Mons' White Cloud](#)

Two scientists came on board to the project and I am working using their guidance. They have also done some work. So far the source of the cloud has not been identified.

But the investigation is ongoing. The link to the project page is sites.google.com/site/trailtopmarsastronomy/home/test-page

Jim Melka

Plume-shaped Cloud
from the Western
Slopes of the
Arsia Mons volcano

Olympus Mons

45cm Newt 2020-09-15: 06:18UT CM 161.2° Dia 21.0 Mag -2.2
S4/10 T2/6 Ls 278 De -17.7 Ds -24.9 Phase 0.95 Alt 49° ADC
DBK21AU618.AS, Registax 5, Pic Window 6.1, PIPP 2.3.7, UV/IR block
Jim Melka Chesterfield, Mo. 600 deBayer-raw color frames

**St. Louis Astronomical Society
Devoted to the Interest and Advancement
of the Science of Astronomy
Executive Board Meeting Minutes Sept. 3, 2020**

1. Opening Activities

- a. Attendance: Jim Small, Mark Jones, Larry Campbell, Bradley Waler (No Quorum) Guests: John Beaury, Rick Rodgers, Jeff Carpenter, Bill Breeden
- b. Open Meeting: Meeting opened at 710pm
- c. Approval of last month's meeting minutes. Minutes from August meeting will be approved by Board as email
- d. Next Board meeting date: Dates for 2020: Meetings will be via Zoom until further notice: Oct 1, Nov 5, Dec 3

2. Upcoming General Membership meeting topics:

- a. **Speaker: Amy Hoffmeister, PhD:** New Mechanisms for Plate Tectonics, Lunar Drift and Differential Rotation of the Lithosphere
- b. Special Awards needed: No special awards planned for September meeting
- c. Speaker Press Release: Brad to contact Amy to get Bio and abstract
- d. Special Business needed: none
- e. A101: Update on Jefferson College Observatory

3. SLAS Financial Report

- a. Balance Sheet – no report
- b. Profit/Loss report – no report
- c. Annual Budget meetings – We need to begin the budget process for 2021 this month.
- d. Corporate filings: none

4. Speaker Committee

- a. Budget - \$500
- b. Upcoming speakers: October: Marco Cavaglia, PhD, November: Brett McGuire, PhD, December: Maura McLaughlin, PhD
Speakers for 2021 Brad will send update for 2021

5. Membership Initiatives

- a. Budget - \$400
- b. Welcome Aboard Meetings – on hold due to COVID
- c. Raffles. None planned
- d. Attendance prizes this month. Equinox Attendance Prizes Brad wants to offer Sky Safari. 6+ for iPhone, \$15 for PC. Brad will give out \$10 gift cards and will buy 4 cards. Other prizes McDonald Observatory Newsletter.

6. Membership Recognition

- a. Total Budget \$900
- b. NSN Outreach Awards: planned for January
- c. Membership Report: Don submitted report prior to meeting. 179 memberships as of 8/31/20
- d. Member anniversary awards – none planned for September
- e. New Award program - \$600 budget
 - 1. New Award Committee report: Chairman – Larry Campbell, Jim Small, Mark Jones, Cook Feldman, Sharon Bertram, Fred Schovanez, Bill Neubert.
 - 2. New Award Policy and nomination process – Nominations received
 - 3. Submittal deadlines. Sept 1, 2020
 - 4. Nomination reviews: Set up Zoom meeting for Sep 9, 7-8pm
 - 5. Award selection: committee decision expected by 9/15/20.
 - 6. Plaques purchased: Design for plaques need to be chosen, committee meeting will be after selection.
 - 7. Awards presented: Presented in October or November

7. Outreach

- a. Budget - \$1100
- b. Member Training Program Status: on hold for the time being.
- c. Purchase of T-shirts for volunteers completed training - on hold for the time being.
- d. Purchase of lawn signs: Update from Bradley
- e. Upcoming outreach events: Virtual outreach for this fall include the Gateway Arch, Jefferson College, Francis Park
- f. Awards/recognitions – none until January
- g. NSN Outreach hours YTD - Virtual outreach counts!!

8. Old Business:

- a. Training Program start a committee

9. New Business:

10. Other Committee Reports: If needed

A. SLSC Business:

- a. First Friday actions: First Friday has started but SLSC does not want to start telescope observing yet
- b. Other immediate business - None

B. SLCL Business:

- a. Annual contract – virtual programs this fall?
- b. Upcoming events - SLCL wants to do four events in Nov – Dec. SLAS looking for volunteers

C. Jefferson College Business:

- a. Committee Meeting report: Zoom meeting scheduled for Wed Sept 9
- b. Upcoming Outreach Event: Virtual event Sunday, Sept 6

D. Library Telescope Committee

- a. Budget – \$650
- b. Upcoming builds or maintenance events. John has serviced 7 scopes since July. John has Lois Fitter scope that needs missing parts. Brad will re-attach the missing items.
- c. Maintenance budget - \$200
- d. Mileage re-imbursement - \$250
- e. Promotional materials - \$200

E. SLAS Social Events

- a. Budget - \$300
- b. Homemade Fest - \$100 budget
- c. Star-B-Q - \$200 budget. Board has decided to cancel Star-B-Q for 2020 due to COVID

Other

F. SLAS Brochures

- a. Budget \$325
- b. Quarter cards – Plenty in stock

G. Loaner scope Program

- a. Budget - \$100
- b. New donations: one 6"-EQ Orion Telescope
- c. Replacement Parts for the LPTs – not needed
- d. Items for sale

H. SLAS Library

- a. Budget - \$400
- b. Other

11. Closing Activities Motion to adjourn

**St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through September 2020**

| | Jan - Sep 20 | Budget | \$ Over Bud... |
|---------------------------------|-----------------|-------------------|-------------------|
| Ordinary Income/Expense | | | |
| Income | | | |
| Events Income | 100.00 | 1,215.00 | (1,115.00) |
| Magazine Subscription | 1,668.50 | 1,202.25 | 466.25 |
| Membership Dues | 3,785.00 | 3,445.00 | 340.00 |
| Total Income | 5,553.50 | 5,862.25 | (308.75) |
| Cost of Goods Sold | | | |
| Magazine Subscriptions | 1,701.45 | 1,202.25 | 499.20 |
| Total COGS | 1,701.45 | 1,202.25 | 499.20 |
| Gross Profit | 3,852.05 | 4,660.00 | (807.95) |
| Expense | | | |
| 1-Programs & Events | 980.16 | 3,282.00 | (2,301.84) |
| 2-Newsletter | 79.20 | 535.00 | (455.80) |
| 3-Library expense | 81.53 | 375.00 | (293.47) |
| 4-Astronomical League Dues | 815.00 | 860.00 | (45.00) |
| 5-Loaner Scopes | | 75.00 | (75.00) |
| 6-Brochures | | 400.50 | (400.50) |
| 7-Insurance | 1,049.50 | 1,050.00 | (0.50) |
| 8-Website | 239.39 | 535.00 | (295.61) |
| 9-Administrative Expenses | 258.13 | 234.50 | 23.63 |
| Total Expense | 3,502.91 | 7,347.00 | (3,844.09) |
| Net Ordinary Income | 349.14 | (2,687.00) | 3,036.14 |
| Other Income/Expense | | | |
| Other Income | | | |
| Donations | 102.05 | | 102.05 |
| Interest Income | 95.04 | 150.00 | (54.96) |
| LTP Receipts | 1,776.81 | | 1,776.81 |
| Proceeds from Lens Sales | 694.10 | | 694.10 |
| Total Other Income | 2,668.00 | 150.00 | 2,518.00 |
| Other Expense | | | |
| LTP Disbursements | 1,799.26 | | 1,799.26 |
| YMCA Trout Lodge ESCROW Expe... | 14.21 | | 14.21 |
| Total Other Expense | 1,813.47 | | 1,813.47 |
| Net Other Income | 854.53 | 150.00 | 704.53 |
| Net Income | 1,203.67 | (2,537.00) | 3,740.67 |

**St. Louis Astronomical Society
Balance Sheet
As of September 30, 2020**

| | Dec 31, 19 | Sep 30, 20 |
|---------------------------------------|------------------|------------------|
| ASSETS | | |
| Current Assets | | |
| Checking/Savings | | |
| Checking - First Bank | 7,187.45 | 7,834.78 |
| Deposit, Certificate of | 15,841.67 | 15,915.06 |
| Library Telescope Escrow | 1,053.86 | 1,106.41 |
| PayPal | 77.94 | 296.90 |
| Savings - First Bank | 41,122.69 | 41,144.34 |
| YMCA Trout Lodge Escr... | 14.21 | 0.00 |
| Total Checking/Savings | 65,297.82 | 66,297.49 |
| Other Current Assets | 781.53 | 761.53 |
| Total Current Assets | 66,079.35 | 67,059.02 |
| Fixed Assets | 15,000.00 | 15,224.00 |
| TOTAL ASSETS | 81,079.35 | 82,283.02 |
| LIABILITIES & EQUITY | | |
| Equity | | |
| Opening Bal Equity | 8,497.66 | 8,497.66 |
| Retained Earnings | 69,757.14 | 72,581.69 |
| Net Income | 2,824.55 | 1,203.67 |
| Total Equity | 81,079.35 | 82,283.02 |
| TOTAL LIABILITIES & EQUITY | 81,079.35 | 82,283.02 |

We could use articles for the newsletter. The following topics are fine for submission.

- 1. Star party reports. Let us know how a star party you attended went! Photos would be most welcome in addition to the article.**
- 2. Observing reports. Actually made it out observing? Let us know how it went. Taken some astro photos? Please submit!**
- 3. Bought something or built something? How about a review or an article!**

Send to newsletter@slasonline.org

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 Nicoletti's Restaurant in Valley Park* All meetings are on First Thursdays unless noted. **Note: Board meetings will be via Zoom until further notice.**

Oct 1, Nov 5, Dec 3

Dark Sky Observing Dates

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon
Sept 23, Oct 21

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park

Please RSVP if you plan to come!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month
Planetarium shows start at 7pm Oct 2, Nov 6, Dec 4

Pattonville Observatory Public Viewing Dates
See you next year! Maybe!

Broemmelsiek Astronomy Park Public Viewing
Every Friday by appt

UMSL Observatory
For directions and map
<http://www.umsl.edu/~physics/About%20the%20Department/astro.html>

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

Skywatch Hotline: 314-516-5706

Saturdays:

SLAS Events

October

16 Fri SLAS Regular Meeting
17 Sat SLAS Dark Sky Observing
18 Sun SLAS Sky Orienteering
19 Mon Constellation Tour 17
21 Wed Francis Park
24 Sat Stargazing at the Arch
26 Mon Constellation Tour 18
29 Thur Carbon Library Star Party

November

2 Mon Constellation Tour 19
5 Thur SLAS Board Meeting
6 Fri SLSC First Friday
8 Sun Aim for the Stars - Jeffco
9 Mon Constellation Tour 20
14 Sat SLAS Dark Sky Observing
16 Mon Constellation Tour 21
23 Mon Constellation Tour 22
30 Mon Constellation Tour 23

December

3 Thur SLAS Board Meeting
4 Fri First Friday
6 Sun Aim for the Stars - Jeffco
7 Mon Constellation Tour 24
12 Sat SLAS Dark Sky Observing
14 Mon Constellation Tour 25
18 Fri SLAS Regular Meeting
21 Mon Constellation Tour 26
28 Mon Constellation Tour 27

31 Thur New Year's Eve!

January

1 Fri Happy New Year!
4 Mon Constellation Tour 28
7 Thur SLAS Board Meeting

For other events, watch the calendar on the website. Virtual stargazing events and other online activities will be registered there. We hope you can join us for some of these activities!

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 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

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



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 | Bradley R Waller | 314-481-7250 |
| vicepresident at slasonline.org | | |
| Secretary | Mark Jones | 636-394-2342 |
| secretary at slasonline.org | | |
| Treasurer | Bill Winningham, (Don Ficken - membership) | 636-357-2763 |
| treasurer at slasonline.org | | |
| Hospitality | Larry Campbell | 636-244-2867 |
| hospitality at slasonline.org | | |
| Board Members at Large: | | |
| | Tom Nickelson | 314-346-9565 |
| board20 at slasonline.org | | |
| | Brent Buch | 314-239-0329 |
| board21 at slasonline.org | | |
| | John Newcomer | 314-496-4636 |
| board22 at slasonline.org | | |
| ALCOR | Bill Winningham | 636-357-2763 |
| (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 |
| librarytelescope at slasonline.org | | |
| Loaner Equipment | Greg Gaines | 314-277-3082 |
| loaner at slasonline.org | | |
| Merchandise | Vacant | |
| merchandise at slasonline.org | | |
| Membership | Don Ficken | 636-225-0269 |
| membership at slasonline.org | | |
| Newsletter Editor | Jim Small | 314-909-7211 |
| newsletter at slasonline.org | | |
| Observing Programs | Mark Jones | 636-394-2342 |
| observing at slasonline.org | | |
| Publicity | Rich Heuermann | 314-962-9231 |
| publicity at slasonline.org | | |
| Recognition | Larry Campbell | 636-244-2867 |
| recognition at slasonline.org | | |
| Social Media | Vacant | |
| 'SLASdialogs' Moderator Mark Jones, Rhonda Whelan | | |
| dialogsmoderator at yahoo.com | | |
| Star Party Coordinator | Bill Breden | 314-276-3613 |
| starparty at slasonline.org | | |
| Telescope Making | Bill Davis, Jim Melka | 314-469-3061 |
| telescope at slasonline.org | | |
| 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

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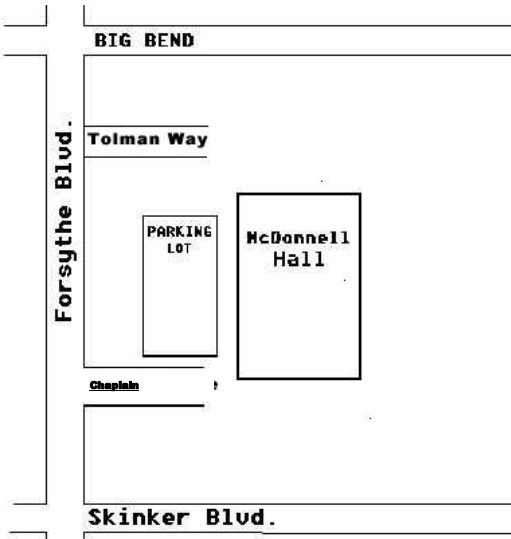


Who We Are and What We Do

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.



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