

January, 2022

February Meetings

The next **Membership Meeting** will be held on February 21st, from 8 PM via Zoom videoconference. MAS member Dennis Roscoe will give a presentation on the James Webb Space Telescope. In addition to a general mission update and what is next, Dennis will also be discussing Webb's L2 orbit and the resolution of the telescope.

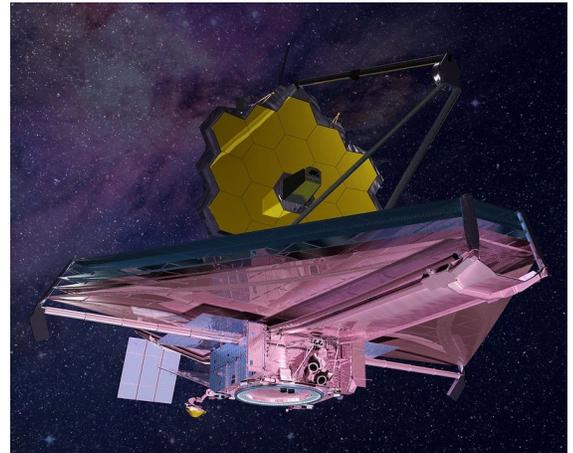
As always, the **Board Meeting** will take place right before the membership meeting, starting at 7 PM, and will be open to every MAS member who is interested in organizational and Observatory related issues.

The **First Wednesday meeting** will be held in person at the Observatory on February 2nd from 7:30. New members are especially encouraged to attend this meeting. It is a chance to gain hands-on experience, receive tips on how to get started and/or get more involved in the Club's activities.

The **Astrophotography Interest Group** will meet on Wednesday, February 9th at 7 PM through Zoom videoconference.

Invitations will be sent out prior to Zoom meetings.

The MAS Google Group is as active as ever. Learn about the astronomical news, follow equipment related discussions, or just check out the latest images taken by fellow Club members.



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Astronomical Events of the Month

Feb 1: Take advantage of the new moon to check out the night sky, weather permitting of course.

Feb 5: Asteroid 20 Massalia at Opposition. Can be found in constellation Cancer.

Feb 8: Mercury at its Morning Peak. On this morning (and surrounding dates) before sunrise, Mercury will reach its peak altitude of 13° above the horizon before sunrise. To see Mercury, you will need a clear view of the southeastern horizon; look for bright Mars and Venus, which will be in the same area of the sky.

Feb 8: Peak of the α -Centaurid Meteor Shower.

Feb 9: Venus at Greatest Brightness. Will be shining at magnitude -4.6.

Feb 16: February's full moon is also known as Snow Moon in many cultures.

Feb 27: Conjunction of the Moon, Venus & Mars. February ends with the moon making two close approaches to Venus and Mars, who are still hanging out in the same part of the sky. First the Moon will pass Venus from about 8°44' apart (the width of your closed fist at arm's length), then a few hours later it'll pass Mars just 3°31' apart. As the moon will be a lovely waning crescent, this will be a great picture opportunity.

Observatory Director Report

In the Quonset, the thermostat is set to 40°F when the building is not occupied, which keeps condensation from forming in it. The restroom heating is kept to 50/55 degrees to keep the pipes in the walls from freezing.

G-scope's broken power supply was replaced. The insulation cracked right next to the camera plug. F-scope's OAG prism was adjusted so it is not causing dark edge on images. Now both scopes work fine.

Lee, Tamas, and Agnes shoveled and salted the driveway and steps to make the observatory accessible after last week's snow. I believe, the person who did the plowing the last two years is not going to this year. The lot was not plowed after the first snow, and I can't get in touch with him. On the plus side, the MAS was not charged anything for the two years this person did provide us with plowing. I connected several firms. One quote is for contracting for the season, 6 months, at \$350 a month. Snow of any depth is removed, and the lot fully salted. The other quote is a pay for plowing per snow fall. We say what snow depth is needed to provide plowing, and they come then. Cost is \$135 per plowing.

Images are starting to come off the up graded imaging scopes and are looking fantastic! Keep them coming....

Respectfully Submitted,
Paul Borchardt, Observatory Director

Treasurer's Report

\$10,909.65	Starting Balance as of 12/27/2021
	<u>Expenditures</u>
\$22.15	PayPal fees
\$160.00	Taxes
\$58.00	USPS stamps
\$7.50	Astronomical League
\$125.84	WE Energies
\$36.00	Water/Sewer
\$409.49	TOTAL Expenditures
	<u>Revenue</u>
\$50.00	Private Donations
\$841.00	Membership dues
\$8.00	Astronomical League
\$899.00	TOTAL Revenue
\$11,399.16	Ending Balance as of 01/16/2022

Respectfully Submitted,
Sue Timlin, Treasurer

Minutes

The last Board Meeting was held via Zoom videoconference on January 17th. The meeting was called to order at 7:02 PM by Tamas Kriska President.

Minutes, Treasurer and Observatory Director's Reports of the December and January meetings, electronically submitted ahead of the meeting, were approved. Amendment to OD report: There was a paddle at the NW corner of A-dome. Jill will contact the contractors who re-roofed the dome. Tom Schmidt-kunz does not want to participate in the keyholder rotation anymore.

Membership Committee Reports for December and January were submitted electronically ahead of the meeting. Membership application of Will Pergande & family, Jeff Steiner, Owen Gabrisiak & family, Allen Roeker & family, Mark Blado & family, Stan Piepenburg & family, John Schoeber, Melissa Schoeber, Christine Pilacek, Lora Blasius, Jacob David & family, Andrew Goff & family, John Ludwig & family, Spencer Baron, Larry Armfield 7 family, Scott Bower & family, Robert Bavisotto & family, Erika Bremer & family, Hector Lopez & family, Bert Bleke & family, and Oscar Delassus were approved. **Old Business** – *Display box* for the sputnik replica: Jeff ordered the box. The director of the Horwitz-DeRemer Planetarium, offered to temporarily display the replica at the planetarium. Gene will create a QR code to point to the MAS website. *Snow plowing* – The person who plowed the hill in the past two winters is not available anymore. Paul had asked for quotes from professional snow plowers and got a go ahead from the Board to sign a contract for \$135.00/event when the snow accumulation reaches 2" limit. **New Business** – *MAS event calendar*: Jeff suggested to generate an all-electronic one page for a year calendar that would include all astronomical events, MAS activities, and star parties of the year. *Mach2GTO mount*: Jeff put the MAS on the waiting list for an AP Mach2GTO mount (\$10,950.00). Final decision should be made when the mount is ready to pick up which may take as long as couple years. *Wish list for 2022*: Paul initiated a to do/to have wish list for this year. The Observatory Committee will discuss it. **Announcement** – The next meeting will be on February 21st, 2022, via Zoom videoconference.

Program – MAS member Lucy Steffes gave a presentation entitled: The chemical composition of the Helix nebula.

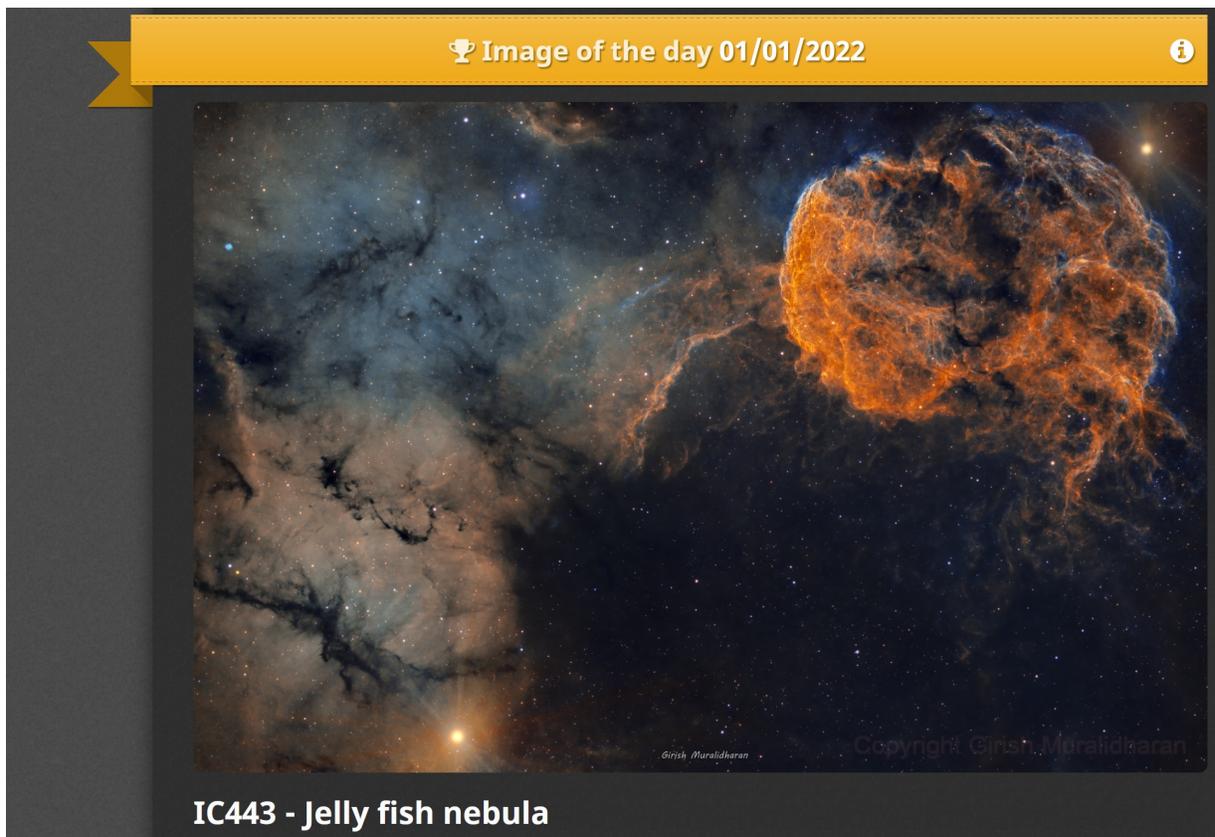
Respectfully Submitted,
Agnes Keszler, Secretary

Membership Report

Since the last Report we received 8 new membership applications. We welcome Robert Bavisotto & Family, Erika Bremer & Family, Hector Lopez & Family, Bert Bleke & Family, Oscar Delassus, Scott Paul Simon & Family, Josh Sanders & Family, Scott Dawley & Family. Unfortunately, 65 members have not renewed their membership for 2022. The total number of active members is 190.

Respectfully Submitted,
Jeff Kraehnke, Committee Chair

AstroBin Image of the Day Award



IC443 - Jelly fish nebula

Congratulations to Girish Muralidharan for another beautiful image of the IC443, the Jelly fish nebula, that won an Image of the Day award on AstroBin! <https://www.astrobin.com/hcenyt/B/>

As Girish describes his image:

" IC 443, the Jellyfish Nebula, is a supernova remnant, in the constellation Gemini, that occurred about 7500 years ago. It is one of the best studied cases of supernova remnants, interacting with surrounding molecular clouds. IC 443 is at an estimated distance of 5,000 light-years. The large nebula, to the left and to the top of the image, is the emission nebula Sh2-249... at a distance of approximately 5200 light years. The halos around the stars posed a bit of challenge processing this but a lovely area to work on!"

Image acquisition details:

Takahashi TSA 120 telescope on Astro-Physics Mach1AP GTO CP3 mount with ZWO ASI 2600MM Pro camera through Astrodon 3nm Ha, SII, and OIII filters. Processed with Pleiades Astrophoto Pix-Insight.

Online since 2011, AstroBin is the #1 complete solution for image hosting of astrophotography. It boasts features that are very specific to astrophotography and its philosophy is all about quality. When you upload a photograph, a histogram and a black & white inverted, enhanced version of the image will be generated on the fly, so it's easier to spot faint nebulousity regions or spiral arms. You can search for all images of a certain target that were taken with a certain telescope and a certain CCD or camera. Or a certain filter. AstroBin can help you with your next telescope or camera purchase, by searching for gear combinations owned by other users. On AstroBin you can message other astrophotographers, follow them, and be notified when they post new images or revisions.

In the Astronomical News

Record-breaking Alien Planet Spotted Circling Massive, Superhot Star Duo

A newfound alien world may force scientists to rethink some of their ideas about planet formation. An exoplanet 11 times more massive than Jupiter resides in b Centauri (HD129116), a young binary star system about 325 light-years from Earth, a new study reports. The planet, known as b Centauri b, is among the heaviest ever found. And combined, the two stars in b Centauri are six to 10 times heavier than our sun, making the system by far the most massive in which a planet has been discovered to date. b Centauri is also the hottest known planet-hosting star system, researchers said.

Finding a planet around b Centauri was very exciting, since it completely changes the picture about massive stars as planet hosts," study lead author Markus Janson, an astronomer at Stockholm University in Sweden, said in a statement. The two b Centauri stars are about 15 million years old — young pups compared to our sun, which has been burning for more than 4.5 billion years. The duo's combined mass would seemingly make them unlikely planet hosts. After all, the heaviest known

planet-harboring binary star system contains 2.7 solar masses, and the heaviest single stars confirmed to have worlds orbiting them are about three times more massive than our sun, study team members said. The b Centauri system's heat and power bolsters that bad-parent assumption. The main star, b Centauri A, is a B-type star with an estimated temperature around 32,000 degrees Fahrenheit (18,000 degrees Celsius), researchers said. That's about three times hotter than our G-type sun, and hotter than any other known planet-hosting star. b Centauri B is therefore blasting out lots of high-energy X-ray and ultraviolet radiation, which tends to disperse planet-forming dust and gas.

"B-type stars are generally considered as quite destructive and dangerous environments," Janson said. "It was believed that it should be exceedingly difficult to form large planets around them." Janson and his colleagues discovered b Centauri B using the Spectro-Polarimetric High-contrast Exoplanet Research (SPHERE) instrument, which is installed on the European Southern Observatory's (ESO) Very Large Telescope in Chile. SPHERE took a direct image of b Centauri B, a feat the instrument has pulled

off with several other exoplanets. Analysis of the SPHERE observations allowed the researchers to characterize the planet, which has other extraordinary characteristics beyond its enormous size and the mass and heat of its parent stars.

That's one of the widest planetary orbits known (560 AU). This immense distance may explain the planet's survival, keeping it at a relatively safe remove from the radiation blasting from the core of the b Centauri system.

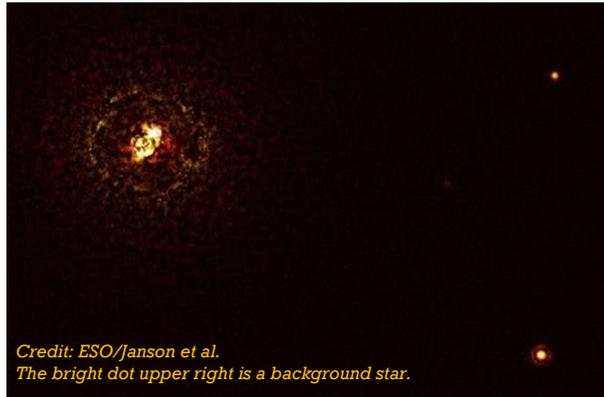
b Centauri B's origin story is unclear at the moment. It may have formed relatively close to the binary star via "core accretion" — the most common planet-forming process, in which dust grains in a protoplanetary disk glom together to form

rocky building blocks, whose mutual gravitational attraction eventually brings them together into planets. The young world could then have been booted to its present location by gravitational interactions, study team members said. It's also possible that b Centauri B was born close to its current position, where core accretion is less viable, given

the lower density of material out there. A far-flung formation, if it did indeed occur, may therefore have involved a different method known as "gravitational instability."

"This top-down model requires that the mass of the protoplanetary disk be so large that it causes part of the disk to collapse in on itself under the pull of its own gravity. When this happens, a small secondary body is created and starts to orbit the star," Kaitlin Kratter, of the University of Arizona's Steward Observatory, wrote. "The gravitational-instability mechanism also tends to create objects that are very large — so large, in fact, that they fail to become planets," added Kratter, who is not a member of the study team. "Compared with the stars it orbits, this planet is small, making gravitational instability less likely than core accretion. Perhaps it is just a planet similar to Jupiter, flung out to the far reaches of its stellar system through an interaction with the stars it orbits. A broad census of planets associated with large stars will help to clarify the exact mechanism of its formation.

Mike Wall space.com



Credit: ESO/Janson et al.
The bright dot upper right is a background star.

Adopt a Telescope Program - Signup Sheet

Adopter	Scope	Location
1 Sue Timlin/John Hammetter	18" F/4.5 Obsession	Wiesen Observatory
2 Steve Volp	12.5" F/7.4 Buckstaff	B Dome
3 Robert Burgess	12.5" F/9 Halbach	A Dome (Armfield)
4 Russ Blankenburg	9-1/4" F/10 Celestron	Albrecht Observatory
5 Jeff Kraehnke	14" F/7.4 G-scope	Z Dome
6 Lee Keith/Tom Kraus	12" F/10 LX200 EMC	Tangney Observatory
7 Colin Boynton	10" F/6.3 LX200	Ray Zit Observatory
8 Tamas Kriska	Stellarvue SVQ 100 F/5.8	Jim Toeller Observatory
9 Paul Borchardt	Solar scope	SkyShed POD

At Your Service

Officers / Staff

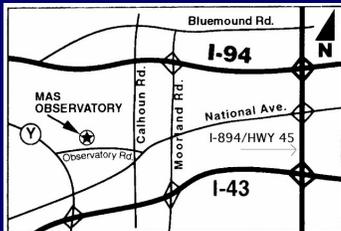
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Lee Keith	414-425-2331
Jim Schroeter	414-333-3679
Gabe Shaughnessy	262-893-4169
Steve Volp	414-751-8334
Mike Wagner	262-547-3321

February Keyholders

02/05	Jim Bakic	414-303-7765
02/12	Mike Bauer	262-894-1253
02/19	Russ Blankenburg	262-938-0752
02/26	Paul Borchardt	262-993-8870



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