

# The Focal Point

The Atlanta Astronomy Club  
Established 1947  
September 2023

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Editor: Tom Faber

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## Charlie Elliott August Observing

Summer is upon us! While the days may be long and the nights may be short, there are still plenty of opportunities for observing and imaging. Weather permitting, join us for Summer Observing at Charlie Elliott on August 19th, 2023 at 8:00 p.m. on Jon Wood Astronomy Field (There will be no indoor meeting this month). Please note, that this event is subject to the weather cooperating. We'll update this web page ( <http://ceastronomy.org/blog/home/> ) and the Charlie Elliott Facebook Page as we get closer to the date and the weather forecast becomes more reliable.



### A few items to note:

Plan to treat this outing like you would a camping trip and be prepared. Dress appropriately for the weather and the environment, bring snacks and drinks if needed, and plan to take your trash with you.

There is a regularly serviced Porta-Potty on the field.

The main gate on Elliott Trail closes to new entry by vehicle at 7 p.m., but will automatically open for exiting traffic at all times. If you are not a member and plan to arrive after 7 p.m., please make arrangements with a club member for access at least a day in advance.

Please refrain from using white light on the field. Red headlamps are cheap and easy to find at your favorite store. They're even cheaper to make with a spare flashlight and red nail-polish on the lens.

For more information about Charlie Elliott Wildlife Center, please visit the Charlie Elliott website.

<https://georgiawildlife.com/charlie-elliott-wildlife-center>

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## AAC Meeting Tuesday, Oct 3rd!

The Atlanta Astronomy Club will hold its next general meeting on Tuesday, October 3, in the Sandy Springs Library at 395 Mount Vernon Hwy NE, Sandy Springs, GA 30328 (see maps on next page). The meeting will be held from 6:30-7:45PM. The meeting agenda is to be determined. Some club business will be presented and member catch-ups will occur. There will also be a speaker - topic TBD. Hope to see you there!

## The 2023 Peach State Star Gaze!

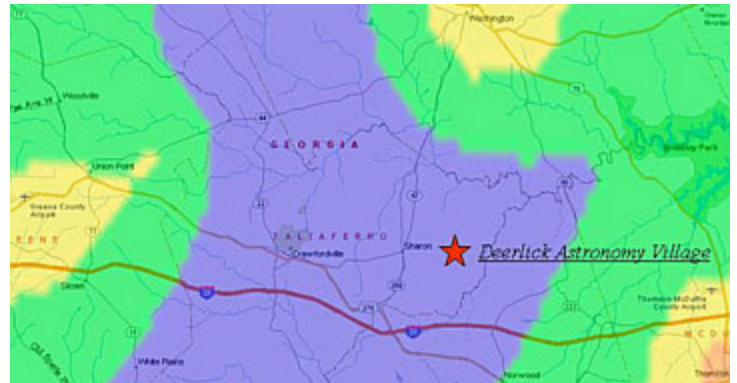
Ready to get back under dark skies? Then you'll want to be at the 2023 Peach State Star Gaze! The Atlanta Astronomy Club's annual Peach State Star Gaze is scheduled for Sunday, October 8th to Sunday, October 15th at the Deerlick Astronomy Village near Sharon, Georgia. New Moon will be on Saturday, October 14 (with a partial solar eclipse!). Program information is being updated as information is received.

**NOTE:** Micki's Kitchen is unable to attend this year. Coffee, Tea, Soft Drinks and Snacks will be available.

All 30 and 50 AMP RV Power connections must be reserved! They are assigned on a first come basis. More information and online registration can be found here: <https://www.atlantaastronomy.org/pssg/>



*The observing field at DAV during the 2016 PSSG - Photo by Tom Faber.*



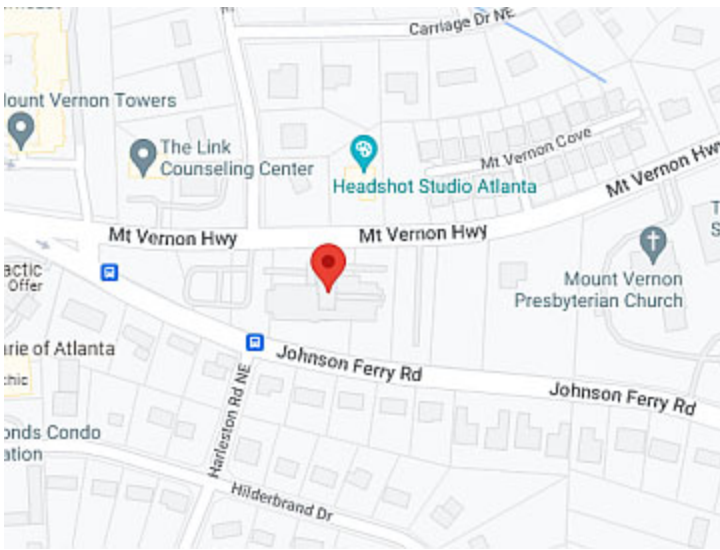
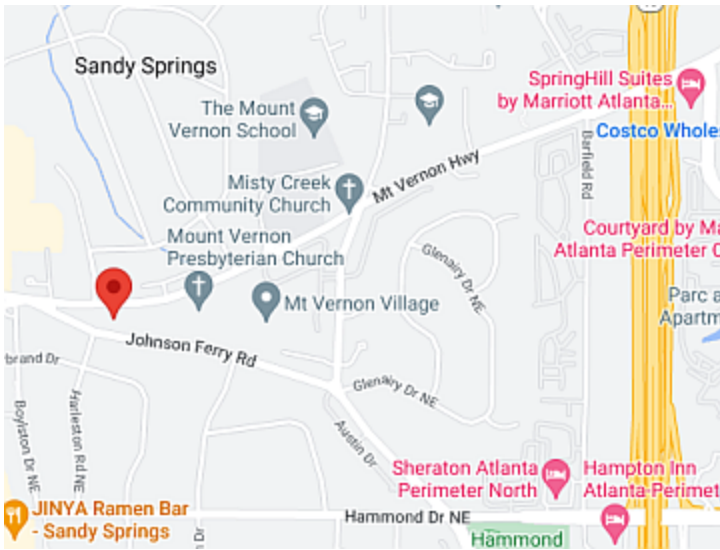
# AAC September Meeting Report

Photos by Tom Faber

The Atlanta Astronomy Club's September general meeting was held on Tuesday, September 5, in the Sandy Springs Library starting at 6:30PM. About 10 club members and guests were present.

AAC Observing Chair Daniel Herron presented two talks. First he re-presented his talk from the August meeting about the upcoming Annual Solar eclipse in October and the Total Solar eclipse in April of next year for the benefit of people who missed the August meeting. He then presented a shortened version of a talk put together by club member Phil Danneman about the planets Jupiter and Saturn, their multitude of moons, and their rings.

Join us at the Sandy Springs Library at 6:30PM on Tuesday October 3 for the next AAC General Meeting.

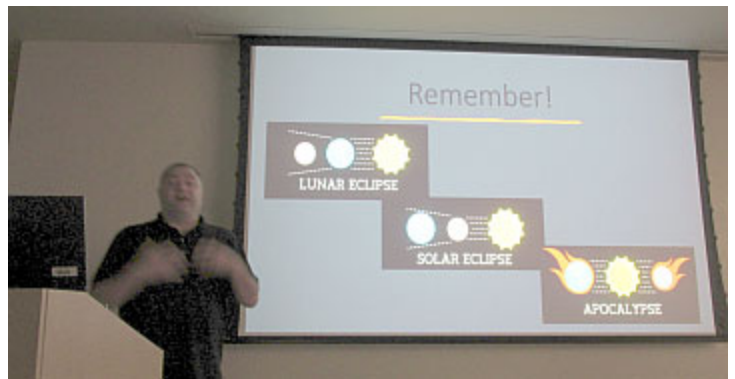


Credit: Google Maps

# AAC August Meeting Report

The Atlanta Astronomy Club's August general meeting was held on Tuesday, August 8, in the Sandy Springs Library starting at 6:30PM.

AAC Observing Chair Daniel Herron presented a talk about the upcoming Annual Solar eclipse in October and the Total Solar eclipse in April.





**Location, Location, Location** — To find the Jon Wood Astronomy Field: Head to Mansfield on Hwy 11, Turn off Hwy 11 onto Marben Farm Road (just south of Mansfield), Turn right onto Elliott Trail, Go a short distance, then turn right onto the dirt driveway that leads up to the Jon Wood Astronomy Field. See map to the right.

## Observing on the Jon Wood Astronomy Field

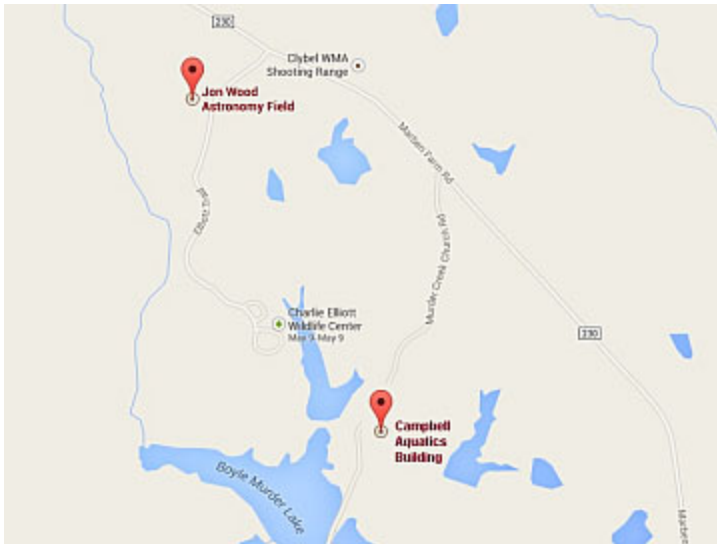
Please refrain from using white lights on the observing field to preserve night vision. Red lights are readily available at department and sporting goods stores in the Atlanta area. As stated above all are invited, however, to bring their own telescopes or binoculars or at least their interest in astronomy. For more information about Charlie Elliott Wildlife Center, visit: <https://georgiawildlife.com/charlie-elliott-wildlife-center>

## Our Monthly Meetings and Public Observing Nights

Our monthly meetings and public observing nights are free and open to the public. Visit the “Our Calendar” tab at the top of the page for our 2023 meeting, observing, and outreach schedule. Start times vary through the year so please check back for details. View our Full Calendar of all meetings & outreach events here:

<http://ceastronomy.org/blog/outreach/charlie-elliott-astronomy-calendar>

It’s easy to become a member of Charlie Elliott Astronomy! Pay dues with PayPal here: <http://atlantaastronomy.org/membership/>



Credit: Google Maps

## Webb Reveals Intricate Details in the Remains of a Dying Star

STScI New Release - August 21, 2023

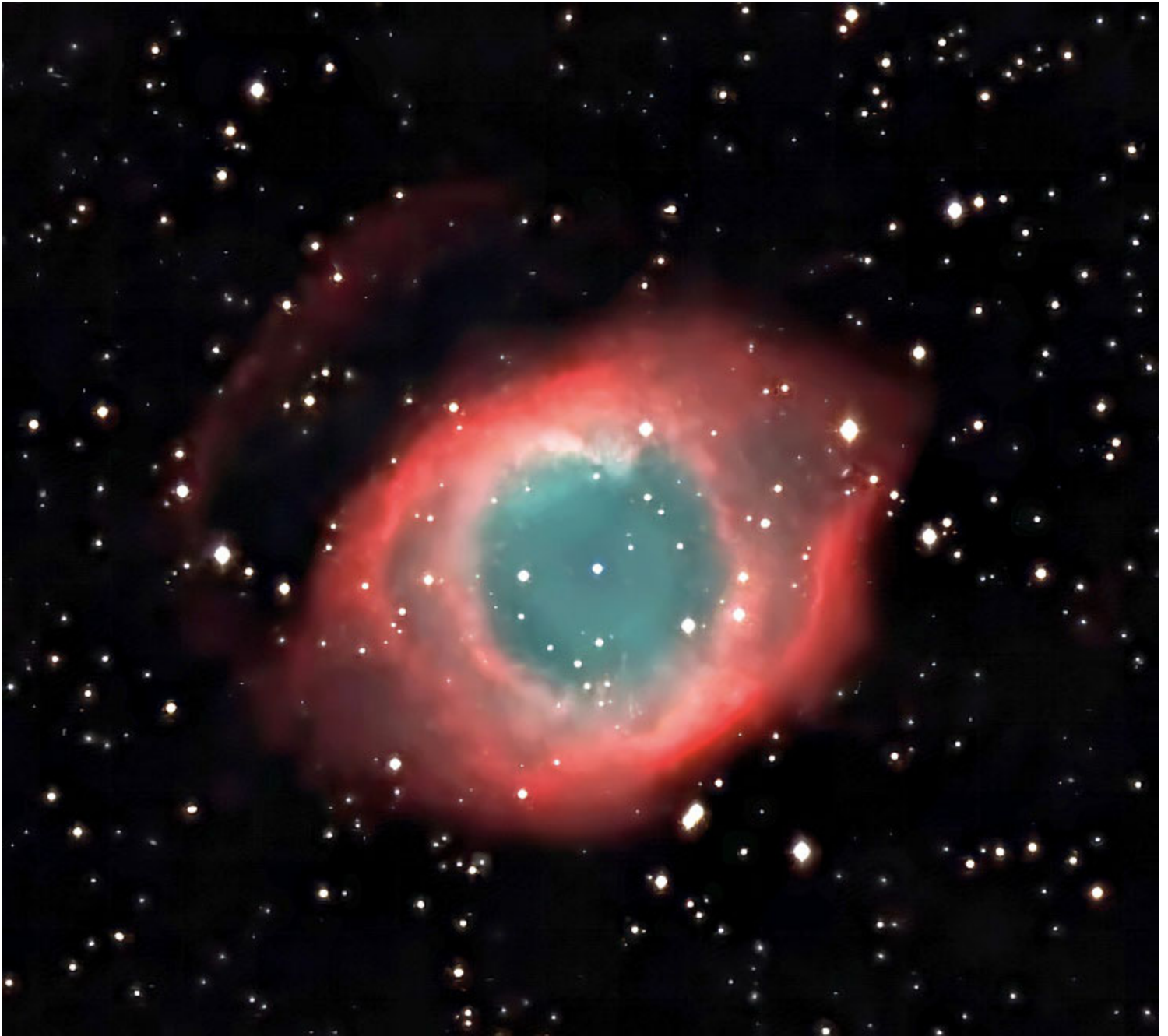
NASA’s James Webb Space Telescope obtained images of the Ring Nebula, one of the best-known examples of a planetary nebula. Much like the Southern Ring Nebula, one of Webb’s first images, the Ring Nebula displays intricate structures of the final stages of a dying star. Roger Wesson from Cardiff University tells us more about this phase of a Sun-like star’s stellar lifecycle and how Webb observations have given him and his colleagues valuable insights into the formation and evolution of these objects, hinting at a key role for binary companions.

“Planetary nebulae were once thought to be simple, round objects with a single dying star at the center. They were named for their fuzzy, planet-like appearance through small telescopes. Only a few thousand years ago, that star was still a red giant that was shedding most of its mass. As a last farewell, the hot core now ionizes, or heats up, this expelled gas, and the nebula responds with colorful emission of light. Modern observations,



*New images from NASA’s James Webb Space Telescope of the well-known Ring Nebula provide unprecedented spatial resolution and spectral sensitivity. In the NIRCams (Near-Infrared Camera) image on the left, the intricate details of the filament structure of the inner ring are particularly visible in this dataset. On the right, the MIRI (Mid-InfraRed Instrument) image reveals particular details in the concentric features in the outer regions of the nebulae’s ring. Download the full-resolution NIRCams image and the full-resolution MIRI image from the Image gallery. Credit: ESA/ Webb, NASA, CSA, M. Barlow (University College London), N. Cox (ACRI-ST), R. Wesson (Cardiff University).*

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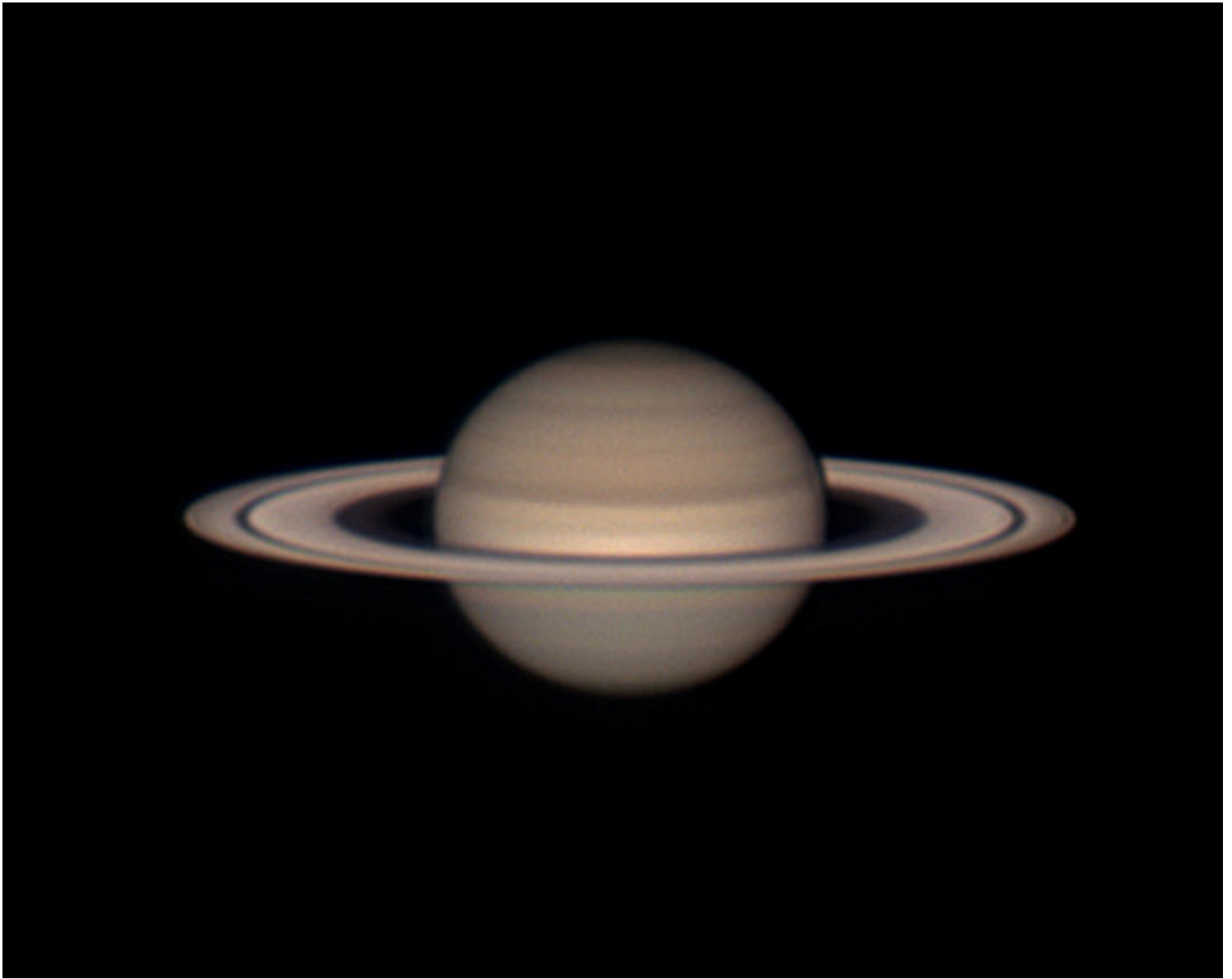


## The Helix Nebula by Richard Jakiel

The beautiful Helix planetary nebula in Aquarius, NGC 7293. The “Helix Nebula” is very large, as the bright inner ring spans 12' x 22', or 2/3 the size of the Full Moon.

Richard made this image using an 11-inch RASA telescope during the 2016 Peach State Star Gaze.

For more about the Helix nebula see here: [https://en.wikipedia.org/wiki/Helix\\_Nebula](https://en.wikipedia.org/wiki/Helix_Nebula)



## Saturn by Clay Turner

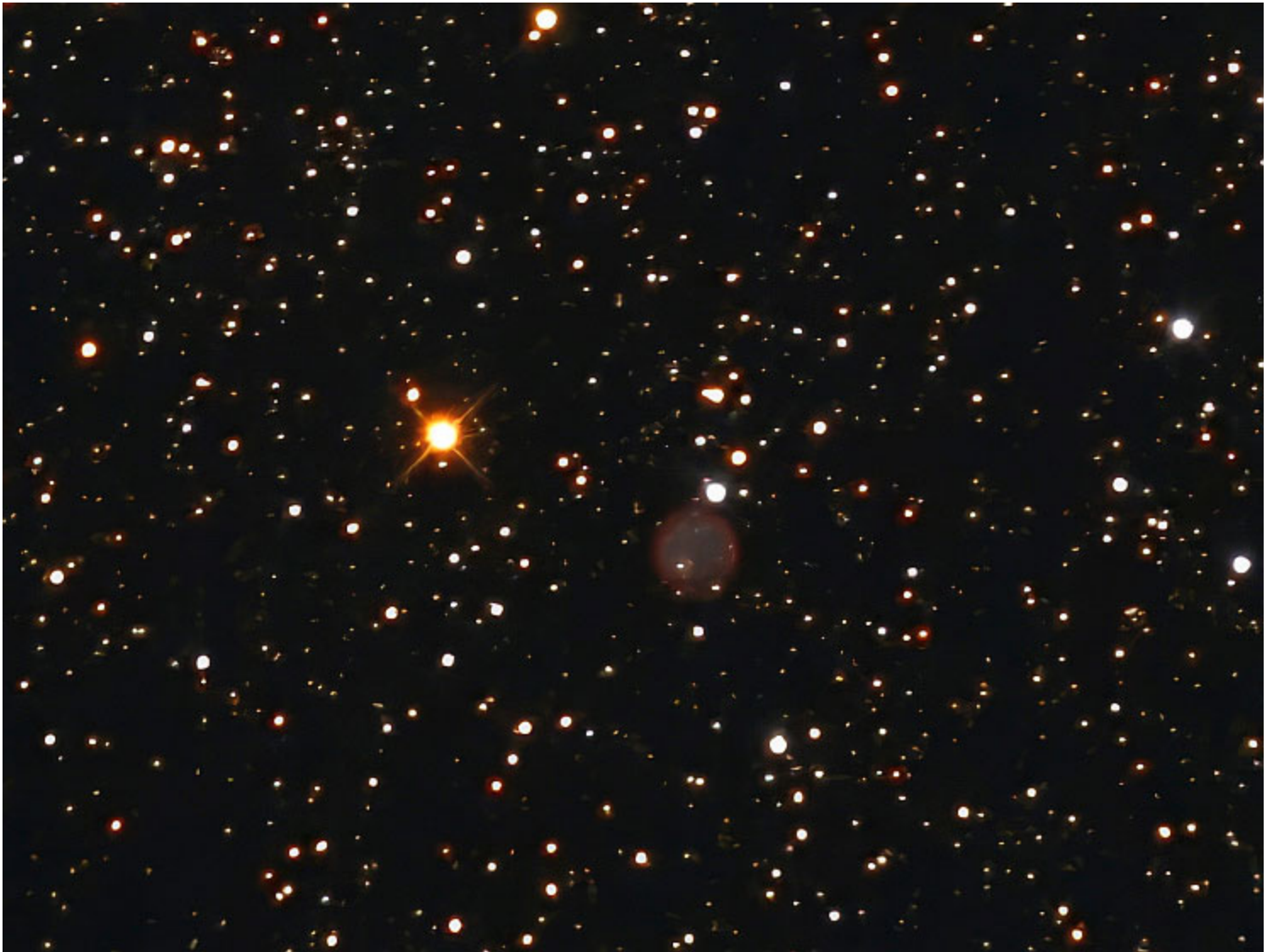
Clay made this image of Saturn at 05:45UT on 19 Aug 2023. This put Saturn just before transit at an altitude of 45 degrees.

The telescope used was an Orangetube C14 on a CGX mount. On the back of the scope (in order):

3rd Planet Optics Crayford focuser for SCTs, Televue Powermate 2X, ZWO Atmospheric dispersion corrector, ZWO ASI 290 MC camera.

The measured focal length is 7150 mm yielding F/20. The pixel resolution is 0.08", 12784 frames were captured via Fire Capture. Exposure was 14mSec per frame. Stack was made using best 20%. RegiStax was used for fractal sharpening.





## NGC7048 by Richard Jakiel

Here's a nice object that's not on the typical imaging or observing list. This is NGC 7048, a spherical planetary nebula in Cygnus. It has an magnitude of +12 and an apparent diameter of about 1 arc-minute.

Richard made this image using a 6-inch Ritchey–Chrétien from suburban Atlanta.

For more about NGC 7048 see: [https://en.wikipedia.org/wiki/NGC\\_7048](https://en.wikipedia.org/wiki/NGC_7048)

though, show that most planetary nebulae display breathtaking complexity. It begs the question: how does a spherical star create such intricate and delicate non-spherical structures?

“The Ring Nebula is an ideal target to unravel some of the mysteries of planetary nebulae. It is nearby, approximately 2,200 light-years away, and bright – visible with binoculars on a clear summer evening from the northern hemisphere and much of the southern. Our team, named the ESSENCE (Evolved StarS and their Nebulae in the JWST Era) team, is an international group of experts on planetary nebulae and related objects. We realized that Webb observations would provide us with invaluable insights, since the Ring Nebula fits nicely in the field of view of Webb’s NIRCam (Near-Infrared Camera) and MIRI (Mid-Infrared Instrument) instruments, allowing us to study it in unprecedented spatial detail. Our proposal to observe it was accepted (General Observers program 1558), and Webb captured images of the Ring Nebula just a few weeks after science operations started on July 12, 2022.

“When we first saw the images, we were stunned by the amount of detail in them. The bright ring that gives the nebula its name is composed of about 20,000 individual clumps of dense molecular hydrogen gas, each of them about as massive as the Earth. Within the ring, there is a narrow band of emission from polycyclic aromatic hydrocarbons, or PAHs – complex carbon-bearing molecules that we would not expect to form in the Ring Nebula. Outside the bright ring, we see curious “spikes” pointing directly away from the central star, which are prominent in the infrared but were only very faintly visible in Hubble Space Telescope images. We think these could be due to molecules that can form in the shadows of the densest parts of the ring, where they are shielded from the direct, intense radiation from the hot central star.

“Our MIRI images provided us with the sharpest and clearest view yet of the faint molecular halo outside the bright ring. A surprising revelation was the presence of up to ten regularly-spaced, concentric features within this faint halo. These arcs must have formed about every 280 years as the central star was shedding its outer layers. When a single star evolves into a planetary nebula, there is no process that we know of that has that kind of time period. Instead, these rings suggest that there must be a companion star in the system, orbiting about as far away from the central star as Pluto does from our Sun. As the dying star was throwing off its atmosphere, the companion star shaped the outflow and sculpted it. No previous telescope had the sensitivity and the spatial resolution to uncover this subtle effect.

“So how did a spherical star form such a structured and complicated nebulae as the Ring Nebula? A little help from a binary companion may well be part of the answer.”

The **Atlanta Astronomy Club, Inc.**, one of the South’s largest and oldest astronomical society, meets at **3:00 P.M.** on the 3rd Saturday of each month at the Fernbank Science Center in Decatur, or occasionally at other locations or times. Membership fees are **\$30** for a family or single person membership. College Students membership fee is **\$15**. These fees are for a one year membership.

Magazine subscriptions to *Sky & Telescope* or *Astronomy* can be purchased through the club for a reduced rate. The fees are **\$33** for Sky & Telescope and **\$34** for Astronomy. Renewal forms will be sent to you by the magazines. Send the renewal form along with your check to the Atlanta Astronomy Club treasurer.

**The Club address:** Atlanta Astronomy Club, Inc., P.O. Box 76155, Atlanta, GA 30358-1155. AAC Web Page: <http://www.AtlantaAstronomy.org>. Send suggestions, comments, or ideas about the website to [webmaster@AtlantaAstronomy.org](mailto:webmaster@AtlantaAstronomy.org). Also send information on upcoming observing events, meetings, and other events to the webmaster.

## Atlanta Astronomy Club Online

While this newsletter is the official information source for the Atlanta Astronomy Club, it is only up to date the day it is posted. So if you want more up to date information, go to our club’s website. The website contains pictures, directions, membership applications, events, updates, and other information. <http://www.atlantaastronomy.org> You can also follow the AAC on Facebook by joining the AAC group, and on Twitter at <http://twitter.com/atlaastro>.

### AAC Officers and Contacts

**President:** David Lumpkin [President@AtlantaAstronomy.org](mailto:President@AtlantaAstronomy.org)

**Program Chair:** Open [Programs@AtlantaAstronomy.org](mailto:Programs@AtlantaAstronomy.org)

**Observing Chair:** Daniel Herron [Observing@AtlantaAstronomy.org](mailto:Observing@AtlantaAstronomy.org)

**Corresponding Secretary:** Tom Faber

[Focalpoint@AtlantaAstronomy.org](mailto:Focalpoint@AtlantaAstronomy.org)

**Treasurer:** Sharon Carruthers [Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**Recording Secretary:** Lilli Lindbeck,

[Secretary@AtlantaAstronomy.org](mailto:Secretary@AtlantaAstronomy.org)

**Board Chair:** Sharon Carruthers [Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**Board:** Brigitte Fessele, [bhfessele1@gmail.com](mailto:bhfessele1@gmail.com)

**Board:** Open

**Board:** Steve Phillips [sandsphillips@att.net](mailto:sandsphillips@att.net)

**ALCor:** Ken Olson, [keneolson@yahoo.com](mailto:keneolson@yahoo.com)

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**Elliott Observing Supervisor:** Dennis Ruseski

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**Elliott Recording Secretary:** Daniel de la Reza

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**Elliott Outreach Coordinator:** Marie Lott

[outreach@ceastronomy.org](mailto:outreach@ceastronomy.org)

**Elliott Astrophotography Coordinator:** Mike Mardis

**Elliott Chapter AL Liaison:** David Whalen

**Elliott Facilities Coordinator:** Matt Harvey

[facilities@CEastronomy.org](mailto:facilities@CEastronomy.org)

**Georgia Astronomy in State Parks:** Sharon Carruthers

[Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**PSSG Chairman:** Peter Macumber [pmacumber@nightsky.org](mailto:pmacumber@nightsky.org)

**PSSG Co-Chair:** Open

**Sidewalk Astronomy:** Open

[sidewalkastronomy@AtlantaAstronomy.org](mailto:sidewalkastronomy@AtlantaAstronomy.org)

**Light Tresspass:** Ken Edwards, Contact info TBA

**Woodruff Observ. Coordinator:** Sharon Carruthers

[Treasurer@AtlantaAstronomy.org](mailto:Treasurer@AtlantaAstronomy.org)

**AAC Webmaster:** Daniel Herron

# Calendar by Tom Faber (Times EDT/EST unless noted)

## AAC Events are listed in BOLD

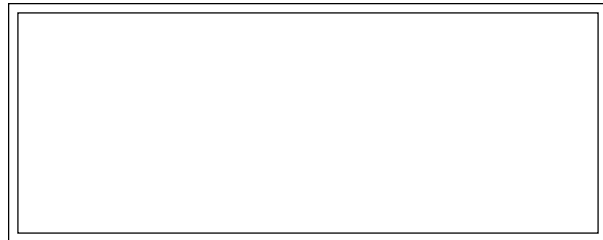
- Sept 6th, Wednesday: Moon Last Quarter.
  - Sept 11th, Monday: Moon near Venus morning.
  - Sept 14th, Thursday: New Moon.
  - Sept 22nd, Friday: Moon First Quarter.
  - Sept 26th, Tuesday: Moon near Saturn.
  - Sept 29th, Friday: Full Moon.
  - Oct 1st, Sunday: Moon near Jupiter evening.
  - Oct 6th, Friday: Moon Last Quarter.
  - Oct 8th, Sunday: The Peach State Star Gaze opens at 12PM.
  - Oct 10th, Tuesday: Moon near Venus morning.
  - Oct 14th, Saturday: New Moon. Partial Solar Eclipse: Begins at 11:46AM, Mid (~49% disk covered) at 1:15PM, Ends 2:47PM.
  - Oct 15th, Sunday: The Peach State Star Gaze closes at 12PM.
  - Oct 20th, Friday: Orionids Meteor Shower peaks tonight. Mercury Superior Conjunction.
  - Oct 21st, Saturday: Moon First Quarter.
  - Oct 23rd, Monday: Venus at greatest western elongation.
  - Oct 28th, Saturday: Full Moon. Moon near Jupiter.
  - Nov 5th, Sunday: Moon Last Quarter.
  - Nov 13th, Monday: New Moon.
  - Nov 17th, Friday: Leonids Meteor Shower peaks tonight.
  - Nov 20th, Monday: Moon First Quarter.
  - Nov 27th, Monday: Full Moon.
- For more event listings and updates see the calendar at [www.atlantaastronomy.org](http://www.atlantaastronomy.org)**

## Atlanta Astronomy Club Listserv

Because of the shutdown of Yahoo Groups, the Atlanta Astronomy Club Mailing List has been moved to IO Groups. You can visit the group, start reading messages and posting them here: <https://groups.io/g/AtlantaAstronomyClub>.

## Focal Point Deadline and Submission Information

Please send articles, pictures, and drawings in electronic format on anything astronomy, space, or sky related to Tom Faber at [focalpoint@atlantaastronomy.org](mailto:focalpoint@atlantaastronomy.org). Please send images separate from articles, not embedded in them. Articles are preferred as plain text files with images separate but Word documents or PDFs are okay. **The deadline for October is Friday, September 29. Submissions received after the deadline will go in the following issue.**



FIRST CLASS



[www.betagg.com](http://www.betagg.com)



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[www.atlantaastronomy.org](http://www.atlantaastronomy.org)  
 On Twitter at <http://twitter.com/atlastro>

We're here to help! Here's how to reach us:

Newsletter of The Atlanta Astronomy Club, Inc.

