

THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT
RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 28, No. 9 September 2024

Officers: President, **Sean Neckel**;
Vice President, **Alfred McClure**;
Secretary / ALCOR **Mark Grizzaffi**;
Treasurer, **Mark Sutton**;
Board of Directors: **Aaron Calhoun, Bill Evans,**
and George Ruff; Program/Observing Coordinator:
Dave and Rosanne Stone;
Facebook Coordinator: **Aaron Calhoun**;
Webmaster: **Carmen Simmons**;
Newsletter Editor: **Dawn Chappell**;
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Club Calendar:

FRAC Meeting:

Thursday, September 12, 2024, 7:30pm at the UGA Gardens in Griffin and on Zoom. Aaron Calhoun will give a presentation on Messier objects visible in September.

Public Observing Events:

In September, we have two public events. On Friday, September 6th at 8:15pm we have an event at Indian Springs state park in Flovilla Ga. With a weather makeup date for Saturday, September 7th.

On Friday, September 27th at 8pm we have a public event at Lake Horton with a weather makeup date on Saturday, September 28th.

FRAC Observing Events:

With the new moon happening so early in the month, we had two club events in August. As a result, there is no scheduled club observing weekend in September. Our next club observation is on October 4th and 5th at Joe Kurz.

The gate is now locked, so please be sure to lock our combination lock on to the other keyed lock on the chain when the last person leaves for the night.

The lock code is 9321.

Please keep checking your email for updates regarding club events.

President's Message:

Hello FRAC Members,

We had just about the largest non-food related turnout for an in-person meeting in August that I can remember. I really like that we are doing some practical demos, they seem to really draw a big crowd. Let's keep the ideas coming in so that we can have even more of these types of turnouts.

Sean

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Club Projects:

Globe at Night

This month's campaign is September 26 through October 3 and will use the constellations [Cygnus](#) and [Pegasus](#).

Details of the process are here:

<https://globeatnight.org/6-steps.php>

This will be the second year we are participating in the Globe at Night project. Keep those observations coming, and help us show the effects of increasing light pollution year to year.

FRAC T-Shirts

FRAC T-shirts are still available!! They are \$20 at all FRAC gatherings.

Astronomy Trivia

1. Which 2 of the solar system's natural satellites are larger than Mercury?
2. What is the densest object in the solar system?
3. What is the least dense object in the solar system?
4. Who was the first person to measure the Earth's circumference?
5. How many large spiral galaxies are in the Local Group?

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August Events:

FRAC meeting - August 8, 2024 at 7:30pm at the UGA Gardens in Griffin and on Zoom.

23 FRAC members joined us in person at the Gardens: Sean and Chelsea Neckel, Alfred McClure, George Ruff, AJ Cullen, Twila and Larry Dove, Aaron Calhoun, Wade Simmons, Bill Evans, David O’Keeffe, Aiden and Kevin Powell, Brandy and Brennan Czock, Mark Austin, Ronda Dyer, John Cruickshank, Alan Pryor, David and Rosanne Stone, and Mark Grizzaffi.

4 FRAC members attended our monthly meeting on Zoom: Steph Drum, Doyne Tallman, Elaine Stachowiak, and David Pendergrast.

- The 10" DOB has found a home. Sean and Chelsea's daughter's school will take on the project of refurbishing the scope.
- George Ruff gave an update on the Solar System model and showed slides of what the various plaques will look like.
- Wade Simmons received the AL Outreach Stellar award.
- Members of the club displayed their telescopes to the club showing some of the variety of scopes available.
- Alfred will be running the meeting in September. Aaron will give a talk on the Messier objects available for viewing in September.
- Presentation topic for October will be on the Seestar types of telescopes.

FRAC Observings:

On the weekends of August 2nd and 3rd, and August 30th and 31st we had our club observation events at Joe Kurz.

Public Observing Events:

We had two public events in August.

We were at Indian Springs on August 9th and we were met with cloudy skies. David Stone and Aaron Calhoun showed the skies in between the clouds to about fifteen guests.

On August 23rd we finally had clear skies at Lake Horton. Club members who attended were Ronda Dyer, Chelsea Neckel, David Stone, Rosanne Stone, Ray Goodfellow, Bill Evans, Bill Honea, Wade

Simmons, Stephanie Drum, Liam Drum, Chris Cozzi, Gina Cozzi and David Pendergast. I would estimate that we had about seventy-five guests.

Welcome New Members!

AJ Cullen, Cheryl Baumgartner, and Don Clemons joined the club in August. Welcome to FRAC!!

David O’Keeffe and Chris Cozzi rejoined FRAC in August. Welcome back to FRAC!!

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Solar System Observing – September 2024

Mercury is now visible around 5:45am until dawn.

Venus is visible but very low at sunset, around 9° above the horizon at 8pm.

Earth is where I keep all my stuff.

Mars rises around 1:30am and will be visible until sunrise

Jupiter is visible starting around 12:45am until sunrise.

Saturn rises around 9:00pm and will be visible until almost dawn.

Uranus rises at 11:30pm, and is visible with a telescope.

Neptune rises around 10:30pm and is visible with a telescope until dawn.

Moon: New: 9/2 FQ: 9/11 Full: 9/17 LQ 9/24

<https://in-the-sky.org/>

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Classifieds:

If you have something you would like to buy, sell, or trade, email the specifics, including your contact information to stneckel@gmail.com

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NGC 7008, The Fetus Nebula, courtesy of Alan Pryor. Taken 8/10/24

NGC 7008, also known as the Fetus Nebula, is a planetary nebula in Cygnus. You can locate it by drawing a line from Deneb in Cygnus to Alderamin in Cepheus. NGC 7008 will be on that line halfway between those two stars. NGC 7008 has a magnitude of 10.7. A 10- or 12-inch scope will be needed to observe it. The nebula glows with a beautiful blue-green color. One interesting thing is that there is a blue-gold double star pair that seems to touch the edge of the nebula. NGC 7008 has a diameter of 1 light-year, and it is 2800 light-years away.

Planetary nebulae are called that because early astronomers thought they were looking at planets due to their large apparent size, but they did not move like planets. NGC 7008 glows with the blue-green color because oxygen in the gas cloud (the star's old atmosphere) is excited by the UV light from the central star.

Planetary nebulae form from stars that are too small to go nova. Over billions of years most of the hydrogen in the star is converted to helium, carbon, oxygen, nitrogen and other elements via its nuclear reactions. When most of the hydrogen is gone, much hotter nuclear reactions start to fuse helium in the core. This causes the star to expand to a red giant. At that stage much of the star's atmosphere is blown out into space. When the helium reaction

ceases the star collapses into a white dwarf which is hot and which gives off a lot of radiation, including UV. The atmosphere that was blown off is rich in oxygen, and the UV causes it to glow with the blue-green color. Of course, the gasses disperse in 10 or 20 thousand years, so the length of the planetary nebula phase is comparatively short compared to its overall life.

This photo had a total exposure of 3 hours and 50 minutes with a 14-inch scope. A full-sized photo can be seen at [NGC_7008](#).

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Answers:

1. Ganymede (Jupiter) and Titan (Saturn).
2. Earth.
3. Saturn.
4. [Eratosthenes](#) calculated the Earth's circumference to within 1% of its actual value in 240BC.
5. 3 - The Milky Way, Andromeda, and Triangulum.

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