

THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT
RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 26, No. 12 **December 2022**

Officers: President, **Sean Neckel**; Vice President, **Aaron Calhoun**; Secretary / ALCOR **Mark Grizzaffi**; Treasurer, **Steve Hollander**; Board of Directors: **Dwight Harness, Felix Luciano, and George Ruff**; Program/Observing Coordinator: **Sean Neckel**; Facebook Coordinator: **Aaron Calhoun**; Webmaster: **Tom Moore**; Newsletter Editor: **Dawn Chappell**; NASA Contact: **Felix Luciano**

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Club Calendar:

FRAC Meeting: Thursday, December 8, 2022, 7:30pm at the UGA Gardens in Griffin. FRAC will be having our annual holiday party. We will have a potluck dinner (signup link is below), a gift exchange (suggestions also below), and Astronomy and Holiday Pictionary!

Potluck Signup:

Please sign up to bring a dish to share at the following link:
<https://www.signupgenius.com/go/10C0F4BAEAC2FA1FDC70-frac>

Gift Exchange:

For the gift exchange, please refer to the following guidelines:

- Bring a wrapped or gift-bagged gift to exchange.
- Astronomy related gifts are encouraged but not required.
- Gifts should be in the \$10-\$20 price range.
- We will draw names for a random gift selection order.

Public Observing Events:

No public observing events are scheduled for December. Happy Holidays!

FRAC Observing Events:

LONG WEEKEND DO OVER!!

We have scheduled another long weekend for club observing. Hopefully the weather will cooperate this time.

Wednesday through Saturday nights, December 22-25 from sunset until whenever at Joe Kurz Wildlife Management Area. Once you've had enough holiday cheer, come out to the field, and bring your scopes!

Please keep checking your email for updates regarding club events

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President's Message:

Hello FRAC Members,

Happy Holidays, and I hope to see you all at the FRAC holiday party!

Thanks,
Sean

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Club Projects:

Starry Skies South

Starry Skies South has a new logo. It will be up on the website soon.

<https://www.starryskiessouth.org/>

FRAC T-Shirts

T-shirts are still available. They are \$20 at all future FRAC gatherings. They look great and make a fantastic holiday gift.

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Astronomy Trivia:

1. Who was the first person to calculate the Earth's circumference?
2. Which inductee in the Rock and Roll Hall of Fame has a PhD in Astrophysics?
3. Who was the first person to mathematically describe the orbits of the planets around the sun?
4. Who discovered the first method to measure distances to other galaxies?
5. Who suggested the name 'Pluto' when it was discovered in 1930?

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Previous Meetings/Activities:

November Events:

FRAC Meeting - November 8, 2022 - 7:30pm at the UGA Gardens and on Zoom.

- 6 members joined the meeting in person at the UGA Gardens: Sean Neckel, Mark Simmons, Bill Evans, Dave and Rosanne Stone, and George Ruff. 10 Members joined on Zoom, Carlos Flores, Alfred McClure, Chelsea Neckel, Mark Grizzaffi, Alan Pryor, Scott Hasson, John Cruickshank, Nelson Stephenson, Richard Thomas, and Ben Barker.
- One guest, a chipmunk we decided was named Alvin, also dropped in on the meeting. Literally. He dropped from the rafters onto a table in the middle of the room.
- The second FRAC trivia night concluded as follows:
 - First Place: George Ruff, Telrad finder
 - Second Place: Mark Grizzaffi, Optics Cleaning Kit
 - Third Place: Bill Evans, 1 yr. Membership in FRAC for 2023
 - Fourth Place: Alan Pryor, Red LED flashlight
 - Fifth Place: John Cruickshank, Red LED flashlight
 - Sixth Place: Rosanne Stone, Red LED Flashlight
- Club field trips were discussed, and will be investigated by:
 - Richard Thomas, UNG Observatory, Dahlonega
 - Mark Grizzaffi, Fernbank Observatory, Atlanta
 - Carlos Flores, Brasstown Bald

FRAC Observings:

Thanksgiving weekend, our scheduled time at Joe Kurz was generally a cloudy, cold, and rainy mess.

Public Observing Events:

Saturday, November 19, 6:30pm, Joe Kurz WMA Observing event for the Classical Conversations Homeschool Group from Sharpsburg, GA. Canceled because of clouds. Will be rescheduled for January.

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Solar System Observing – December 2022

Mercury is about 2° from the sun, and not visible.

Venus is separated from the sun by about 2°, and not observable.

Earth is about to be very festive.

Mars reaches opposition on 12/8/2022. Visible from about 6:30pm until dawn.

Jupiter is visible from 5:45 pm until 1 am.

Saturn is visible around 6pm and sets just before midnight.

Uranus is visible with a telescope at around 6:30pm until 3:45am.

Neptune is visible in a telescope starting around 6:30pm until 11:30pm.

Moon: Full: 12/7 LQ:12/16 New: 12/23 FQ: 12/29

<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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M74 Courtesy of Alan Pryor.

This photo was taken over two nights, 11/1/2021 and 11/7/2021. The total exposure time was 11.5 hours plus 160 calibration frames.

Messier 74 is a face-on, spiral galaxy in the constellation of Pisces. It has a published magnitude somewhere between 9.1 and 10 depending on the publication source. You can see the galaxy has a lot of HII regions, ionized hydrogen atoms. These are the red/purple areas. In these areas the energy level of the atoms is high, and the distance between each atom is several feet.

Therefore, hydrogen molecules do not readily form in these areas. The distance is estimated to be 32 million light years. Regardless, the apparent diameter of the galaxy (15.5 arc minutes) gives a low surface brightness of the spiral arms which makes them pretty hard to see even with a large scope. The central core should be observable through smaller scopes.

Here is a link to the full size photo: [M74](#)

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Trivia Answers:

1. Eratosthenes, a Greek mathematician, and astronomer calculated the Earth's circumference around 240 BC, within about 2%.
2. Brian May, lead guitarist for Queen, has a PhD in Astrophysics from the Imperial College London.
3. Johannes Kepler first published his laws of planetary motion in 1609.
4. Henrietta Swan Leavitt, using Cepheid variables, found the relationship between magnitude and distance in 1912.
5. Venetia Burney, an 11-year-old girl from England suggested the name.

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