

# THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT  
RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 26, No. 4 April 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, April 14 in person at the UGA Garden and online on Zoom. Dr. Margaret Lazzarini, a PhD astronomer from CalTech will present her work on Massive Binary star systems.

Look for the invite in your email during the second week in April.

## Public Observing Events:

Friday, April 8, 2022, 8pm-11pm.

Indian Springs State Park

We will observe from the top of the dam near the lake pavilion.

## FRAC Observing:

To make up for having no club dates in March, we have 2 weekends in April!

Friday and Saturday, April 1-2

Friday and Saturday, April 29-30

Both are from sunset until whenever at Joe Kurz Wildlife Management Area.

Please keep checking your email for updates regarding club events.

## Solar System Scale Model Project:

We will be constructing a temporary solar system scale model for the Springfest at the Garden on Sunday May 1st, 2022, at the UGA Gardens in Griffin. This will be part of our public solar observing event that day. If you would like to help set up, please email [stneckel@gmail.com](mailto:stneckel@gmail.com) or [gstruffsr@gmail.com](mailto:gstruffsr@gmail.com). We will be setting up the day before the event, and any help would be appreciated!

## FRAC Shirts:

If you are interested in buying a FRAC T-shirt, please fill out the [FRAC T-Shirt Form](#) online. More info on pricing and timing to come. Here is the concept for the shirts:



**Dues Reminder:** Club dues collection has started. If you have already paid, thank you!

Make your \$15 checks out to FRAC or Flint River Astronomy Club. Please send your dues to:  
Steven Hollander  
202 Wysteria Ct.  
Peachtree City, GA 30269

Or contact Sean at [stneckel@gmail.com](mailto:stneckel@gmail.com) to send by PayPal.

## President's Message:

Hello FRAC Members,  
Every month I put together a brief summary of the visible objects in the solar system. A couple of interesting things are happening this month.

## Black Moon:

April marks a fairly unusual event, a 'Black Moon'. No, it's not an eclipse, or a villain from a sci-fi movie. A black moon occurs when there are 2 new moons in a calendar month - sort of the opposite of a blue moon. There are new moons on April 1st and 30th - this is fairly rare since the time between new moons is 29.5 days.

There are other [definitions for a black moon](#) (none are official, even the one described above), but for April 2021, this one is what we're going with.

## Morning Planets:

Reading below, you'll see there are [3 planets rising in the morning](#), all within about 10 minutes of each other. Unless you're very lucky and have a perfect eastern horizon, you'll probably have to wait an hour or so to see them all in the sky together. I've seen them at around 6:30am from my backyard on clear mornings. Just this morning (April 1st), I actually saw them as late as 7:15am. If you have the sky for it, and are up early, I highly recommend you have a look. It's not often that 3 planets are that close together.

On a separate note, I am looking for someone to take over the role of **Observing Coordinator** for the club. I have held this position for the past 4 years, and I think that it is time for someone else to make their mark on the club by taking over our observing programs. Much of the work for the next few months is done, so it will be a relatively easy transition. Please contact me if you are interested in the position.

Thanks,  
Sean

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## Astronomy Trivia:

1. What is the only planet discovered mathematically before it was visually observed?
2. What color is sunset on Mars?
3. What is the term for the condition when three celestial bodies are arranged in a straight line?
4. Which planet has the largest ocean?
5. What is the name of Pluto's largest moon?

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## Previous Meetings/Activities:

FRAC Meeting - March 10, 2021 - 7:30pm at the UGA Garden and on Zoom.

- 7 club members joined in person, and 7 on Zoom: In person at the UGA Gardens were Sean

Neckel, Tom Moore, Alfred McClure, Mark Grizzaffi, Mark and Terri Sutton, and Richard Thomas. Chelsea Neckel, Dr. Richard Schmude, Dwight Harness, Alan Pryor, Dawn Chappell, Bill Evans, and Paul Morel participated on Zoom.

- Mark Grizzaffi received the Astronomical League Outreach Award.
- Mark Grizzaffi has been working to get us club shirts. A Google form was sent out to all club members. See more above.
- Dr. Richard Schmude gave a presentation on the upcoming total lunar eclipse on May 15th, 2022. The eclipse will begin around 10:28pm EDT, with the deepest umbra occurring at 12:10am EDT. His presentation can be found at the link below. It includes information about how you can contribute to citizen science, by measuring the apparent magnitude drop during the eclipse. [Lunar Eclipse Talk](#)
- We discussed having a get-together for the lunar eclipse on May 15th - more info to come!

## New Members:

- I would like to say welcome to our 5 new members, Candra Janée Cherry, Clement and Debbie Smetana, King Davis, and Terry Holland. I hope to see you all at a meeting or observing event in the near future!

## Website Updates:

- Chelsea has been busy keeping the website and calendar up to date and may have some major updates in the future. One of the biggest upgrades so far is that we can now use an online membership form for new members. If you know of anyone who would like to join, please send them the [online membership form](#).
- Dues payments are still by check or PayPal, but we are working on that!

## FRAC Observings:

- There was not a club observing event during the month of March.

## Public Observing Events:

- The public observing event at Sprewell Bluff was postponed due to weather 3 times, but we finally had the event on March 19th. Sean Neckel, Bill Honea, and George Ruff showed approximately 50 guests deep space objects, constellations, and stars. We also got 2 new members at the event, King Davis, and Terry Holland.

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## Solar System Observing - April 2021

**Mercury** is close to the sun and not observable.

**Venus** is clearly visible in the morning sky at 5:09am until sunrise at around 7am.

**Earth** also means 'dirt'.

**Mars** is visible in the morning sky, rising just 7 minutes before Venus, and staying visible until sunrise.

**Jupiter** is behind the sun and not observable.

**Saturn** is visible in the morning sky, rising just 1 minute after Venus, and fading from view as dawn breaks.

**Uranus** is close to the sun and not observable.

**Neptune** is close to the sun and not observable.

**Moon:** New: 4/1 FQ: 4/9 Full: 4/16 LQ: 4/23 New: 4/30

<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](mailto:stneckel@gmail.com)

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NGC 3521 - Courtesy of Alan Pryor.

NGC 3521 is a flocculent (or puffy) spiral galaxy in the constellation of Leo. It is about 26 million lightyears away. It is a 9th magnitude galaxy so you can see its core with an 8-inch scope. For bigger scopes you should be able to see the halo around the central bulge. The galaxy has nice spiral arms and a lot of dust lanes. It is located south of the hind legs of Leo. To find it locate the two

“hip” stars of Leo (Zosma and Chertan) then draw a line from those two stars. Continue down the line (south) from Chertan for a distance of about 2.5 times the distance between Zosma and Chertan. That will get you close to the galaxy. There is a 6th magnitude star that is about ½ of a degree from the galaxy which should help locating the galaxy.

The full size photo can be seen at [NGC 3521](https://www.ngc3521.com/).



M35 & NGC 2158, Open Clusters in Gemini, courtesy of Felix Luciano

### Details:

Telescope: AP 92mm, 612mm FL, f/6.65

Mount: MACH1 GTO

Camera/Filters: ST8300M @ -20C, FW5, Baader 36mm LRGB & Ha 7nm filter

Guider: OAG8300, ST-i guider

### Exposures:

RGB: 12 subs per channel X 300 sec

MaxIm DL: for focusing (B-Mask), imaging, guiding

PixInsight for processing

From Wikipedia, the free encyclopedia:

Messier 35 or M35, also known as NGC 2168, is a relatively close open cluster of stars in the west of Gemini, at about the declination of the sun when the latter is at June solstice.[a] It was discovered by Philippe Loys de Chéseaux around 1745 and independently discovered by John Bevis before 1750.[2] It is scattered over part of the sky almost the size of the full moon and is 2,970 light-years (912 parsecs) away.[1] The compact open cluster NGC 2158 lies directly southwest of it.

See the full-size image here:

[M35 and NGC2158](https://www.ngc3521.com/)

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## Trivia Answers:

1. Neptune. Although it had been observed as early as 1612 by Galileo, it was never identified as a planet. Its position was calculated in August of 1845, and visually confirmed in September of that same year.
2. Blue. The dust particles allow blue wavelengths of light to pass through the Martian atmosphere more efficiently than other wavelengths.
3. [Syzygy](#).
4. Jupiter. Computer models show that not only is Jupiter's ocean (made of liquid hydrogen) the largest in the solar system, but that it is about 25,000 miles (40,000 km) deep -- roughly as deep as the Earth is around!
5. Charon. It is nearly half as large, and about 1/8th the mass of Pluto. The gravitational center (barycenter) of the Pluto-Charon system is actually outside Pluto.

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