

# THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT  
RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 25, No. 5 May 2021

**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, May 13, 2021, 7:30pm on Zoom.

Amateur astronomer Larry McHenry will be giving a presentation on "**Galileo - The First Optical Astronomer**".

Meetings will continue to be virtual going forward in 2021 until we have use of the UGA Experimental Garden in Griffin again.

**FRAC Observing:** Club observing weekend, Friday and Saturday May 7-8, 2021 at Joe Kurz WMA, sunset until whenever.

No other events are scheduled for May 2021.

Please keep checking your email for updates regarding club events.

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## Trivia:

1. How much more mass than the Sun does a star need to go supernova?

2. On which planet was the first *lighter* than air flight, other than on Earth?
3. How old is the universe?
4. What powers the sun?

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## President's Message:

Hello FRAC Members,

As you may have heard, a milestone in human history was made on April 19, 2021. At 3:34AM EDT, heavier than air powered flight on another world was achieved for the first time (that we know of, anyway). The Ingenuity robotic helicopter lifted 10 feet vertically off the Martian surface, where it had been dropped by the Perseverance rover a couple weeks before. It then landed safely 30 seconds later.

Since then, it has flown twice more, including a downrange and back flight of 50 meters and 80 seconds, landing safely back where it started.

The truly amazing part of this, is that this was done completely autonomously. It has been just 117 years since the Wright brothers first managed powered flight on a beach in North Carolina, steering their spruce wood and fabric flyer by bending the wings using a body harness. Now we are flying helicopters on Mars made of carbon fiber, composites, and lightweight metals, controlled by computers, and flown robotically. To top it all off, the pictures and videos were taken autonomously by another computer-controlled robot.

However, it's not all carbon fiber and composites. There is a small piece of the wing fabric from the first Wright Flyer wrapped around part of the wiring harness inside the little robotic drone. Well done, JPL, well done.

If you have not yet had the opportunity to see the latest pictures and videos from JPL, please visit their website or YouTube channel. If you're like me, you'll be amazed. I think that the helicopter on Mars might be the most aptly named device in space travel history: Ingenuity.

<https://www.youtube.com/c/NASAJPL/videos>  
[https://en.wikipedia.org/wiki/Ingenuity\\_\(helicopter\)](https://en.wikipedia.org/wiki/Ingenuity_(helicopter))  
[https://en.wikipedia.org/wiki/Wright\\_Flyer](https://en.wikipedia.org/wiki/Wright_Flyer)

Sean

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## Club Dues, Last Chance:

Reminder that if you have not yet paid club dues, please do so as soon as possible. \$15 payable by check or cash

sent to Sean Neckel, 788 Rising Star Rd., Brooks, GA 30205. Or you can send by PayPal, please email me for details at [stneckel@gmail.com](mailto:stneckel@gmail.com).

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### Previous Meetings/Activities:

FRAC Meeting - April 8, 2021 - 7:30pm on zoom.us

- 11 club members attended our virtual meeting: Sean and Chelsea Neckel, John Cruickshank, Steve Benton, Bill Evans, Dwight Harness, Mark Grizzaffi, Tom Moore, Katie Nagy, Dawn Chappell, and Felix Luciano. We also had 5 guests, Scott Harris, a planetary geologist from the Fernbank Science center, geologist Robert Jarrett, Catherine, Tammy Yonce, and Steven Jaret, a post-doc planetary geologist from the American Museum of Natural History.
- Our guest speaker, Scott Harris, planetary geologist from the Fernbank Science Center, gave us an amazing presentation on the frequency of asteroid and comet impacts on the Earth and Moon. He relayed his personal experiences investigating impacts from both the recent and geologically ancient past. Many thanks to Scott, and to Steven Jaret, for sharing their work with us.
- Many thanks to our club Secretary and ALCOR Mark Grizzaffi for getting the issue regarding delivery of *The Reflector* to our members solved.

### FRAC Observings:

The April observing weekend of 4/10 and 4/11 was a mix of clouds and rain.

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### Solar System Observing – May 2021

**Mercury** will reach its greatest elongation and highest point on the evening of May 17th, about 19° above the horizon at sunset.

**Venus** is very close to the sun and not observable.

**Earth** is not a big planet by any measure. But I still wouldn't want to have to paint it.

**Mars** will be visible at dusk, fading into evening twilight, and setting after midnight.

**Jupiter** will be visible before sunrise, rising 3 hours before the Sun.

**Saturn** will also be visible before sunrise, rising about 4 hours before the Sun.

**Uranus** is approaching solar conjunction and is very close to the horizon at sunset.

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

**Moon:** LQ 5/3 New: 5/11 FQ: 5/19 Full: 5/26

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

### Classifieds:

Aaron Calhoun has an 8" Dobsonian that he would like to find a new home for, no charge. Contact Aaron at (678) 598-2609

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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M94, also known as NGC 4736, courtesy of Alan Pryor

I made the first pass at M94. I did it with the 14" Planewave and the FLI. It was 8 sets of 5-minute RGB's and 24 L's at 5 minutes for a total of 4 hours of exposure.

M94 is an unusual galaxy. It is about 16 million light years away in the constellation of Canes Venatici. When you look at the photo you will see a dark ring around the main disk of the galaxy. Then there is a hazy ring around the dark ring. At first, I thought it was an artifact, but it is real. The galaxy has bright inner rings then that is surrounded by darkness, and then there is a large faint ring that is outside of the dark ring.



NGC1342, Courtesy of Felix Luciano

NGC1342 is an open cluster in the southern part of the constellation Perseus, about halfway between Algol and Zeta Persei.

Telescope: TAK TOA 130 @ FL 1000mm  
Mount: MACH1 GTO, Berlebach Planet Tripod  
Camera/Filters: ST8300M @ -20C, FW5, Baader 36mm  
LRGB

Exposures:

RGB: 8 subs X 300sec

[Original Image](#)

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### Trivia Answers:

1. 8
2. Venus. The former Soviet Union had a balloon flight.
3. Around 13.7 billion years old.
4. Nuclear fusion.

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