The Focal Point

The Atlanta Astronomy Club
Established 1947
February 2025

Vol. 37 No. 6

Editor: Tom Faber

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Charlie Elliott February Mtg/Observing

Meeting and Observing February 22nd, 2025 4:00 p.m.

Join us at 4:00 p.m. on Saturday, February 22nd, 2025, at the Charlie Elliott Wildlife Center Campbell Aquatics Building for our next meeting when Dr. James Sowell from Georgia Tech gives a talk on impact of astronomy on time-keeping! The study of the movement of celestial bodies has had a profound impact on timekeeping. The predictable movements of the sun, moon, and stars have historically been the primary way humans measured time, allowing for the development of calendars and timekeeping systems. Modern advancements in astronomy ultimately led to highly precise atomic clocks that are the foundation of our current timekeeping standards.

After graduate school at the University of Michigan and a three-year post-doc at GA State, Dr. Sowell started working at Georgia Tech in 1989 as a Research Scientist. In 1992, he became a lecturer for the astronomy courses in the School of Physics, and in 1999, he transitioned full-time to Physics as an Academic Professional. After two promotions and a successful career, he is now an Emeritus.

Dr. Sowell's career highlights include establishing the Campus Observatory, developing and deploying the Aloha Telescope K-12 Outreach Program with the Air Force Research Laboratory, providing numerous astronomical outreach programs, including the monthly Public Nights for the general public of Atlanta, teaching and creating introductory and advanced astronomy and astrophysics courses and labs, and publishing 28 referred journal articles.

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The February AAC Meeting

The next AAC meeting will be on Saturday, February 15 starting at 6:00PM at our meeting location at Lost Cottage at Lost Corner Preserve in Sandy Springs (see map on the next page, second column).

Our speaker will be Kesha Patel, Senior Honors Student at Emory University.

Kesha is a senior at Emory University, majoring in Physics and Astronomy with a minor in Mathematics.

Kesha's primary research interests are in galaxy evolution. She is working on her Senior Honors Thesis, modeling lenticular galaxies under Dr. Merida G. Batiste.

Additionally, Kesha has:

* Worked on a spectroscopic analysis of AGN (Active Galactic Nuclei) at Georgia State University under the mentorship of Dr. D. Michael Crenshaw, and

* Performed research examining large-scale health related datasets using Python at Emory University with Dr. Nirmalya Thakur.

Kesha is co-president of the Emory Astronomy Club, Vice President of the Emory Science Olympiad, and Learning Assistant Captain for physics at Emory University. Plus she throws a mean Ultimate Frisbee!

Sunset will be at 6:26 p.m. and the main gate closes to new entry at 7:00 p.m. If you are not a member and plan to arrive after 7:00 p.m., please make arrangements with a member for entry.

Observing on the Jon Wood Astronomy Field

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.

After pulling up the dirt driveway from Elliot Trail and onto the astronomy field, please orient your vehicle to face the field exit gate so as not to cause problems with headlights when leaving. After pulling up the dirt driveway from Elliot Trail and onto the astronomy field, please orient your vehicle to face the field exit gate so as not to cause problems with headlights when leaving.

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, visit:

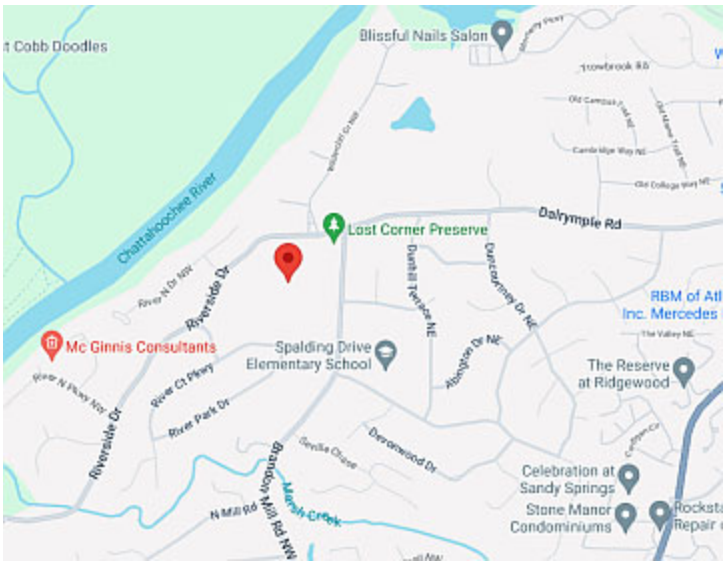
https://georgiawildlife.com/charlie-elliott-wildlife-center

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 2025 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 here: http://atlantaastronomy.org/membership/

Credit: Google Maps



Lost Cottage at Lost Corner Preserve. Credit: Google Maps

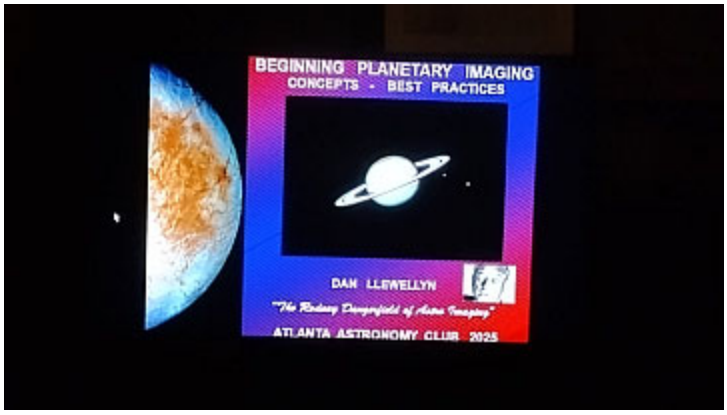
AAC January Meeting Report

Photos by Tom Faber

The Atlanta Astronomy Club's January general meeting was held on Saturday, January 18, at the Lost Cottage at Lost Corner Preserve in Sandy Springs starting at 7:00PM. About 30 club members and guests were present. Program Coordinator Jo Welsh and Observing Chair Daniel Herron presented information about upcoming AAC and outreach events. Then our guest speaker Dan Llewellyn presented a talk titled "Beginning to Intermediate Planetary Imaging." Dan talked about a number of things useful for those interested in getting into planetary imaging, and ways to improve your images if you have already "taken the plunge" into planetary imaging. After his talk Dan answered a number of questions. Unfortunately cloudy skies prevented any use of telescopes after the talk.

Join us on Saturday, February 15 at 6PM for the next AAC General Meeting.

Photos from the event are on the next page.



Deerlick Astronomy Village – New Rates & New Policies for 2025

1) The gate will be left open during the daytime for any event scheduled by the DAV or the AAC. At all other times, including after sunset, you will need the gate passcode. DAV members get a passcode from the DAV; AAC members can get a passcode from the Treasurer. DO NOT SHARE YOUR CODE!

The new policy is that no vehicles will be permitted to drive onto the observing field after sunset.

The reason astronomers drive so far to set up their telescopes is to have a safe dark viewing area. Turning the DAV observing field into a parking lot, with cars coming & going through the night, destroys the very purpose for which it was created. Please, respect your fellow observers.

2) DAV has increased the price for Field Memberships effective November 2024.

Field Membership (Camping Fees not Included)

Individual - $60 per year

Family - $85 per year

Student - $45 per year

Camping Fees (or “Field Usage” fee for any or all part of a 24 hour day)

Individual - $5 per day/night

Family - $10 per day/night

Student - $5 per day/night

RV 30 amp - $15 per day/night

Annual Pass - Field Membership + Camping Fees (Max 2 weeks per month)

Individual - $170 per year

Family - $270 per year

Student - $150 per year

AAC members do not need a field membership if you are attending an AAC event, such as a monthly Dark Sky. You are not required to have field memberships if you are on AAC property.

However, if you use the DAV facilities, such as the bathrooms, they request you pay the “camping” fee to defray the costs of maintenance and repair.

If you want to use the DAV property when the AAC is not holding an event, you must get a DAV field membership.

Link to membership page: https://deerlickgroup.com/membership-account/membership-levels/

NGC 2237 (The Rosette Nebula) in Monoceros by Eugene Rush

This image shows the Rosette Nebula which is an emission nebula with an open cluster in the constellation Monoceros. The image was made using a Dwarf 3 smart telescope. The image consists of 26, 15-second subs taken from Sharpsburg GA on January 16, 2025.

Hubble Investigates Galaxy with 9 Rings

NASA/STScI News Release Feb 4. 2025

The gargantuan galaxy LEDA 1313424 is rippling with nine star-filled rings after an "arrow" — a far smaller blue dwarf galaxy — shot through its heart. Astronomers using Hubble identified eight visible rings, more than previously detected by any telescope in any galaxy, and confirmed a ninth using data from the W. M. Keck Observatory in Hawaii. Previous observations of other galaxies show a maximum of two or three rings.

"This was a serendipitous discovery," said Imad Pasha, the lead researcher and a doctoral student at Yale University in New Haven, Connecticut. "I was looking at a ground-based imaging survey and when I saw a galaxy with several clear rings, I was immediately drawn to it. I had to stop to investigate it." The team later nicknamed the galaxy the "Bullseye."

Hubble and Keck Observatory's follow-up observations also helped the researchers prove which galaxy plunged through the center of the Bullseye — a blue dwarf galaxy to its center-left. This relatively tiny interloper traveled like a dart through the core of the Bullseye about 50 million years ago, leaving rings in its wake like ripples in a pond. A thin trail of gas now links the pair, though they are currently separated by 130,000 light-years.

"We're catching the Bullseye at a very special moment in time," said Pieter G. van Dokkum, a co-author of the new study and a professor at Yale. "There's a very narrow window after the impact when a galaxy like this would have so many rings."

Galaxies collide or barely miss one another quite frequently on cosmic timescales, but it is extremely rare for one galaxy to dive through the center of another. The blue dwarf galaxy's straight trajectory through the Bullseye later caused material to move both inward and outward in waves, setting off new regions of star formation.

How big is the Bullseye? Our Milky Way galaxy is about 100,000 light-years in diameter, and the Bullseye is almost two-and-a-half times larger, at 250,000 light-years across.

The researchers used Hubble's crisp vision to carefully to pinpoint the location of most of its rings, since many are piled up at the center. "This would have been impossible without Hubble," Pasha said.

They used Keck Observatory to confirm one more ring. The team suspects a 10th ring also existed, but has faded and is no longer detectable. They estimate it might lie three times farther out than the widest ring in Hubble's image.

A One-to-One Match with Predictions

Pasha also found a stunning connection between the Bullseye and a long-established theory: The galaxy's rings appear to have moved outward almost exactly as predicted by models.

"That theory was developed for the day that someone saw so many rings," van Dokkum said. "It is immensely gratifying to confirm this long-standing prediction with the Bullseye galaxy."

If viewed from above, it would be more obvious that the galaxy's rings aren't evenly spaced like those on a dart board. Hubble's image shows the galaxy from a slight angle. "If we were to look down at the galaxy directly, the rings would look circular, with rings bunched up at the center and

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The Horsehead Nebula and NGC 2023 by Richard Jakiel

This is the large red emission nebula IC 434, plus the dark dusty Horsehead and a couple bright bluish reflection nebulae (IC 435 on the left and NGC 2023 near center).

Imaged with an 11-inch RASA and a Canon 60 DA.

For more information about the Horsehead Nebula see: https://en.wikipedia.org/wiki/Horsehead_Nebula

For more information about NGC 2023 see: https://en.wikipedia.org/wiki/NGC_2023

Mars Occultation by Tom Faber

This photo shows Mars about to be occulted by the full moon on the evening of January 13. It was taken with a Canon EOS T5i DSLR with a 300 mm lens. The exposure was 1/250 second at f/5.6 and ISO-100. This image is a crop from the full frame.

The Moon with Earthshine and Venus by Tom Faber

This photo of the close conjunction of the moon and Venus on February 1 was taken using a Canon EOS T5i DSLR with a 18-135 mm lens at 135 mm focal length. The exposure was 4 seconds at f/5.6 and ISO-800.

Left, a wider view with the International Space Station passing out of the field at the top. Same camera and lens but a 10 second exposure with the lens at 29 mm focal length.

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LEDA 1313424, aptly nicknamed the Bullseye, is two and a half times the size of our Milky Way and has nine rings — six more than any other known galaxy. Credits: NASA, ESA, Imad Pasha (Yale), Pieter van Dokkum (Yale)

gradually becoming more spaced out the farther out they are," Pasha explained.

To visualize how these rings may have formed, think about dropping a pebble into a pond. The first ring ripples out, becoming the widest over time, while others continue to form after it.

The researchers suspect that the first two rings in the Bullseye formed quickly and spread out in wider circles. The formation of additional rings may have been slightly staggered, since the blue dwarf galaxy's flythrough affected the first rings more significantly.

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. 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/atlastro.

AAC Officers and Contacts

President: David Lumpkin President@AtlantaAstronomy.org

Program Coordinator: Jo Welsh Programs@AtlantaAstronomy.org

Observing Chair: Daniel Herron Observing@AtlantaAstronomy.org

Corresponding Secretary: Tom Faber Focalpoint@AtlantaAstronomy.org

Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

Recording Secretary: Open

Board Chair: Sharon Carruthers Treasurer@AtlantaAstronomy.org

Board: Mark Banks

Board: Chuck Biskobing (Charlie Elliott)

Board: Open

ALCor: Open

Elliott Chapter Director: Steve Siedentop director@ceastronomy.org

Elliott Observing Supervisor: Dennis Ruseski observing@ceastronomy.org

Elliott Recording Secretary: Greg Gaugler secretary@ceastronomy.org

Elliott Program Coordinator: Steve Siedentop program@ceastronomy.org

Elliott Outreach Coordinator: Marie Lott outreach@ceastronomy.org

Elliott Astrophotography Coordinator: Mike Mardis

Elliott Chapter AL Liaison: David Whalen

Elliott Facilities Coordinator: Matt Harvey facilities@CEastronomy.org

Georgia Astronomy in State Parks: Sharon Carruthers Treasurer@AtlantaAstronomy.org

PSSG Chairman: Peter Macumber pmacumber@nightsky.org

PSSG Co-Chair: Steve Siedentop

Sidewalk Astronomy: Open sidewalkastronomy@AtlantaAstronomy.org

Light Tresspass: Ken Edwards, Contact info TBA

Woodruff Observ. Coordinator: Sharon Carruthers Treasurer@AtlantaAstronomy.org

AAC Webmaster: Daniel Herron

Observing@AtlantaAstronomy.org

The Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

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

Atlanta Astronomy Club
P.O. Box 76155
Atlanta, GA 30358-1155
www.atlantaastronomy.org
On Twitter at http://twitter.com/atlastro

www.beetagg.com

FIRST CLASS

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

AAC Events are listed in BOLD

Feb 12th, Wednesday: Full Moon.
Feb 14th, Friday: Venus at greatest brilliancy ~ magnitude -4.6.
Feb 15th, Saturday: **AAC Meeting at Lost Corners 6:00PM.**
Feb 20th, Thursday: Moon Last Quarter.
Feb 22th, Saturday: **CE Chapter Meeting, 4:00PM.**
Feb 27th, Thursday: New Moon.
Feb 28th, Friday: Thin crescent moon between Saturn and Mercury in twilight.
Mar 1st, Saturday: Moon near Venus evening.
Mar 6th, Thursday: Moon First Quarter.
Mar 8th, Saturday: Mercury at Greatest Eastern Elongation. Moon near Mars.
Mar 9th, Sunday: Daylight Saving Times begins at 2:00AM.
Mar 12th, Wednesday: Saturn conjunction with Sun.
Mar 14th, Friday: Full Moon, Total Eclipse: Partial begins 1:09AM, Start Totality 2:26AM, Mid 2:59AM, End Totality 3:31AM, Partial Ends 4:48AM.
Mar 15th, Saturday: **AAC Meeting at Lost Corners 6:00PM.**
Mar 19th, Wednesday: Neptune conjunction with Sun.
Mar 20th, Thursday: Spring Equinox 5:01AM.
Mar 22nd, Saturday: Moon Last Quarter. Venus at Inferior Conjunction.
Mar 23rd, Sunday: Saturn's rings edge-on: Not visible since Saturn is only 9.5 degrees from the sun.
Mar 29th, Saturday: New Moon. **CE Chapter Meeting, 4:30PM.**
Apr 4th, Friday: Moon First Quarter.
Apr 12th, Saturday: Full Moon.
Apr 20th, Sunday: Moon Last Quarter.
Apr 21st, Monday: Lyrids Meteor Shower.
Apr 27th, Sunday: New Moon.

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. 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 March is Sunday, February 23. Submissions received after the deadline will go in the following issue**.