

The Focal Point

The Atlanta Astronomy Club
Established 1947
May 2017

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Editor: Tom Faber

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May AAC General Meeting

At The Fernbank Science Center

Please join us for the next general meeting of the Atlanta Astronomy Club, to be held on Saturday, May 20th at 3PM at the Fernbank Science Center. A short beginner's astronomy program will be presented at 2PM. Our featured speaker will be Steven Brazeale. Steven will present a talk about Science Fiction.

The Talk

Steven writes: "My presentation asks the question: What is Science Fiction? And what are some of the ways it has shaped all our lives."

Our Speaker

Steven Brazeale is a lifelong reader. He cut his teeth on Heinlein, Asimov, Le Guin, and Clark. But that's not all. He also invents imaginary people in his head. He also writes. His first novel, Rosetta, (written under his pen name Stephen Patterson) is a dystopian, science fiction tale. Steve is a trained Mathematician and a hardworking industrialist by day. He makes his home in Atlanta and enjoys the many activities of its vibrant science community.

For additional meeting information go to www.meetup.com/Atlanta-astronomy-club-meetup/

Please join us for this very interesting and informative talk. All Astronomy club meetings are free and open to the public. For more information on the Club go to www.atlantaastronomy.org

No Summer AAC Meetings

Due to a decision made by the AAC Board of Directors earlier this year, the Atlanta Astronomy Club will not hold meetings during the summer months of June, July, and August. This decision was made due to low attendance at the summer meetings and the difficulty in finding speakers for the summer months. So the next meeting of the Atlanta Astronomy Club will be in September at a time and location to be announced. The Charlie Elliott Astronomy chapter of the Atlanta Astronomy Club will hold meetings during the summer and have observing after their meetings, weather permitting. AAC members are encouraged to attend these meetings. The CEA summer meetings will be on Saturday June 24, July 22, and August 19.

Also, since the new moon is now starting to occur around the 3rd weekend of the month, to avoid conflicting with other events held on new moon weekends, starting in September the monthly meetings of the AAC will move to the second Saturday of the month. **The September meeting will be held on Saturday, September 9th.** Be sure to check the AAC web page for possible observing or public outreach events during the summer months.

The AAC is not planning any official events for the August 21 solar eclipse since many of the club officers and members will be traveling out of town to observe the eclipse from the path of totality.

Because of not having meetings during the summer, the *Focal Point* will not be published during the summer months either. The next issue of the *Focal Point* will be the September issue, which will be published in late August or early September. Have a great summer, enjoy the eclipse, and clear skies!

Deerlick Astronomy Village Memorial Weekend Picnic

The annual picnic at Deerlick Astronomy Village will be held on Sunday, May 28th, 2017 at 5 PM. Please join us for a great potluck meal and enjoy free camping under the stars afterwards. Atlanta Astronomy Club members should be sure to check out the AAC clubhouse & observatory on the field. This event is open to anyone interested in stargazing under the dark skies at DAV. No membership is required.

The picnic will be held in the Grier's Field pavilion in Deerlick Astronomy Village, located at the end of Aaron Grier Road near Sharon, GA. If you would like to bring a tent or RV, camping is free on Sunday night. There will be a \$5 camping fee per person per night for those who would like to arrive early and camp on Friday or Saturday night. A full bath house is located on site. For more details, driving directions, and potluck sign-up, go to <http://bit.ly/DAVpicnicRSVP>. Contact Marie at DAVpicnic@yahoo.com if you have any questions.

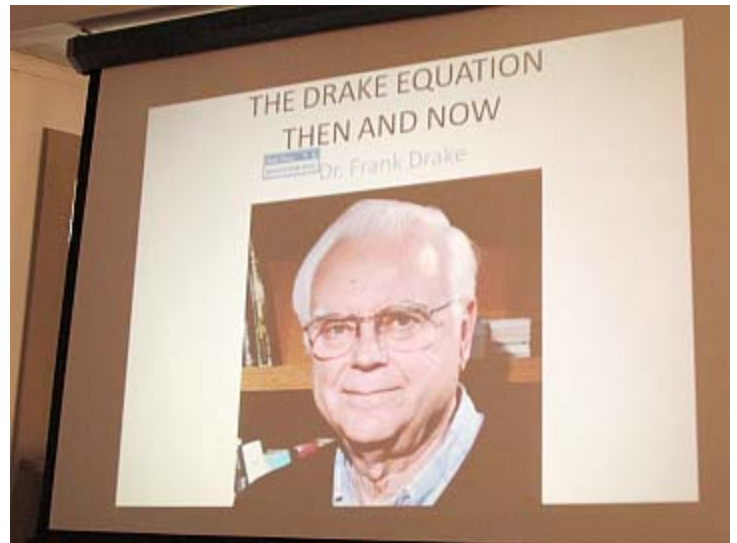
April AAC Meeting Report

Photos by Tom Faber unless noted

The April AAC general meeting was held on Saturday, April 15th at the AFS Building in Smyrna. AAC President Mark Banks presented a talk titled "The Drake Equation, Then & Now."

Mark talked about astronomer Frank Drake and postulated his famous equation in 1960 and what it says about the possibility of life on other worlds and the possibility of intelligent beings elsewhere in our galaxy.

After the program, club officers then announced upcoming AAC events and activities. Then some of us went to a nearby restaurant for late dinner and more conversations.



The Next Charlie Elliott Meeting

Meeting Details

“Who needs remote control?”

Lloyd Smith of Deep Sky West will be joining us for our May meeting on May 27, 2017 at 6:30 p.m. to talk about the benefits and advantages, as well as the trials and tribulations, of remote observatories. There are quite a few of us that take advantage of remote capabilities from a few feet away just so we can sit closer to our heaters on Jon Wood Astronomy Field in the Winter Months. There are also those who leverage full-blown remote observatories and imaging rigs at prime dark sky locations.

Lloyd Smith designed the Deep Sky West facilities which reside under dark skies near Rowe, New Mexico. Lloyd is also closely involved in managing the imaging system operations of Deep Sky West. Lloyd's interest in astronomy started in the early 1970's following the United States' missions to the moon and he was also fortunate to have a supportive teacher who facilitated visits to the Greenbank Observatory in West Virginia. His teacher also supported his interest in visual astronomy. Lloyd acquired a C8 after college and, after a few career accomplishments, Lloyd found himself involved in astrophotography with an AstroPhysics Mach 1 mount, a Takahashi FSQ-106 telescope, and a QSI683wsg-8 which he still uses today. If you would like to see Lloyd Smith's images, you can find them here.

Even if remote observatories and astrophotography aren't up your alley, you'll more than likely find something in this presentation that can be applied to your particular area of focus in amateur astronomy. Be prepared to leave the meeting having learned something new!

My sincerest apologies to The Clash...

Check here for updates: <http://ceastronomy.org/blog/home>

All of the Above!

Charlie Elliott Astronomy Observing Supervisor Extraordinaire David Whalen will give a short talk about what you can expect to see in the sky this month with binoculars and small telescopes, as well as the monthly observing challenge. If you've been to one of our meetings, you know that David is an exciting and engaging speaker and always delivers a lot of great information with plenty of laughs.

Observing After the Meeting

All are invited to Jon Wood Astronomy Field immediately after the meeting (weather-permitting). The event is free and everyone is welcome.

Minutes & Handouts: The minutes, handouts, and presentations from past meetings of Charlie Elliott Astronomy are available for download on our Past Events web page, <http://ceastronomy.org/blog/events>. Monthly sky maps are available from skymaps.com.

Technical Workshops

Steve Sidentop will be on hand at 6:00 p.m. to give a workshop on how to remove light pollution gradients from your astrophotography images using PixInsight. This workshop will be approximately 15 to 20 minutes long. If you would like to participate in the walk-through, this workshop assumes that you have the ability to follow instructions, does not assume a deep understanding of PixInsight, but does assume that you have preprocessed your images. If you have an idea for a 15-30 minute discussion or presentation that you would like to see or would like to give, contact the Charlie Elliott Program Coordinator, Steve Sidentop.

Future meetings are on: June 24, July 22, August 19, September 23, October 21, November 18, December 16. Meetings start approximately 2 hours before sunset.

From the President's Desk

By Mark Banks, AAC President

Our March meeting was a great success. We partnered with Northrop Grumman and The Atlanta Science Festival for our program about the James Webb Space Telescope. We hope to have similar future collaborations to help us educate the public and encourage the next generation of science nerds.

Meeting space: We are seeking a new place to have our monthly meeting. We would like to find a place that would enable us to meet in the evening around 7PM and then set up scopes for stargazing after the meeting. Anyone who may have any ideas or suggestions about a good place to meet should contact any club officer and let us know.

Elections: Club elections are coming up in May. If you want to run for office or would like to nominate someone please contact any club officer. All positions are available so don't hesitate. The club is what the members make it and you can get involved with the leadership.

Georgia Regional Astronomers Meeting

All members of the Atlanta Astronomy Club are invited to the next Georgia Regional Astronomy Meeting (GRAM) to be held Friday and Saturday, October 27 and 28, at the University of Georgia in Athens. The event is free and there is no registration fee. That weekend's UGA football game with Florida will be in Jacksonville, Florida, so traffic and parking in Athens will be light.

Also participating will be members of the Assn of Lunar & Planetary Observers, who will present several papers and hold an awards dinner on Saturday evening to which all are invited.

The GRAM event will begin with an informal get-together on Friday evening at the UGA Physics Building and observing through UGA's 24-inch telescope also located there (weather permitting).

Papers on various aspects of astronomical research, education and amateur topics will be presented at the Physics Building from 9 a.m. to 5 p.m. Those with table-top poster presentations are also invited to set them up.

The ALPO awards dinner will be held at the UGA Center for Continuing Education & Hotel from 6:30 to 8:30 p.m., and feature Professor of Astronomy at UGA, Dr. Loris Magnani as the keynote speaker. While there is no registration fee for the meeting, pre-registration for the awards dinner will be required so proper arrangements can be made.

Finally, a block of rooms for reduced rates at the UGA Center is being secured for those who prefer to lodge there overnight Friday and/or Saturday.

The GRAM itself was started in 2002 by Dr. Chris DePree (Bradley Observatory at Agnes Scott College) and Dr. Magnani as a time for astronomers in and near Georgia to get together and meet one another. The GRAM is open to anyone with an interest in astronomy (amateurs, too!). The yearly meetings -- usually held in the fall -- feature both oral and poster presentations on research, education, and amateur topics. Previous GRAM events have been held at Agnes Scott College, Berry College, Emory University, UGA, Valdosta State University, Georgia Perimeter College, North Georgia College & State University (now part of the University of North Georgia), Georgia Tech, Georgia Southern University (Statesboro), Columbus State University, Tellus Museum, Georgia College & State University (Milledgeville), and Georgia State University.

For information about the GRAM event, e-mail Dr. Magnani at loris@physast.uga.edu

For information about the ALPO awards dinner and lodging arrangements, e-mail ken.poshedly@alpo-astronomy.org

Editor's Note: Lifetime AAC member Tom Buchanan, who now lives in Arkansas, passed along this information about the move of the historic 24-inch Sproul Observatory refractor from Swarthmore College in Swarthmore, Pennsylvania, to Northwest Arkansas.

Telescope Coming to NW Arkansas

NORTHWEST ARKANSAS (April 24, 2017) - One of the largest refracting telescopes in the world will offer public views of space as the centerpiece of a science and engineering center in Northwest Arkansas.

The historical instrument is coming to the region through a partnership between Swarthmore College in Swarthmore, Penn., and Supporting STEM and Space Inc., a nonprofit organization based in Northwest Arkansas. STEM is an acronym for science, technology, engineering and math being used in the education, tech, and science sectors.

Swarthmore College donated the telescope, which is 24 inches in diameter, through an agreement reached April 19, 2017.

"We are very excited to be bringing such a large telescope to Northwest Arkansas, where we plan to use it as the centerpiece for a STEM recruitment-related facility with a planetarium and observatory in Northwest Arkansas," said Katherine Auld, chairman of the board of directors of Supporting STEM and Space. She explained the two-year-old nonprofit learned that Swarthmore College (which wants to use the building housing the telescope for another purpose) was requesting proposals for the next phase of the telescope's life. The board submitted a proposal.

"We were shocked, to say the least, when we got an email telling us that we had the telescope pending the college finalizing a few details," Auld said. Final word came April 19. "I was speechless," she said.

Swarthmore College will pay for disassembling and loading the telescope. Supporting STEM and Space must bear the cost of insurance and transportation to Northwest Arkansas. A fund-raising effort is being launched to fund transportation, which is estimated to be about \$20,000. More information may be found at <http://nwa.space> or the group's recently created GoFundMe, www.gofundme.com/sproulrelo.

Board member Clint Branham was in Suffern, N.Y., for the Northeast Astronomical Forum only three hours from Swarthmore College. While there, he made a site inspection to meet with college officials before Supporting STEM and Space submitted its proposal.

"It is hard to describe how big this telescope is," Branham said. "However big you think it is, it's bigger than that." The 36-foot-long telescope is two feet in diameter and mounted on an enormous base that weighs 50,000 pounds.

While at the Forum, Branham contacted Fred Orthlieb and Ken Launie, two leading experts in telescope restoration who participated in the most recent servicing of the telescope in 2005, for an assessment of the requirements to complete this project.

The long-focus refracting telescope was made by the John A. Brashear Company in 1911 and has an amazing history involving the earliest claims of the detection of an exoplanet.

Similar telescopes are currently being used at the Roper Mountain Science Center in Greenville, S.C., and Lowell Observatory in Flagstaff, Ariz. The Swarthmore telescope is the sixth largest refractor in the United States - tied with the 24-inch Clark telescope at Lowell Observatory.

"I am thrilled that Sara Schnecher, committee member of the American Astronomical Society Working Group for the Preservation of Astronomical Heritage, had the vision to find this telescope a new home where it can continue to inspire the people of Northwest Arkansas in their STEM-focused efforts for years to come," Auld said. "I want to thank

Swarthmore College for putting the time and effort into finding a new home for the telescope, and their amazing generosity in donating it to us."

Supporting STEM and Space plans to restore the telescope to operation, upgrade the control system to work with modern computer systems and use it for public outreach. Once installed in an observatory planned for the I-49 corridor in Northwest Arkansas, the telescope will offer spectacular views of the heavens to the public.

"We are a long way from having our science and technology center with the planetarium and observatory," Auld said. "Our timeline originally put construction years in the future; however, with such a spectacular centerpiece, we plan to accelerate plans and fundraising."

Kent Marts, a member of the board of directors of Supporting STEM and Space and a founding member of Sugar Creek Astronomical Society, recently commented, "It is wonderful that this turn-of-the-century specimen of engineering - which is an engineering work of art - has found a new home here in Northwest Arkansas."

About The Telescope

The great equatorial telescope of the Sproul Observatory at Swarthmore College saw first light in 1911. Made by the John A. Brashear Company of Pittsburgh, the objective lens has a 24-inch aperture and focal length of 36 feet. The tube of heavy sheet steel is bolted to a cast iron centerpiece mount and pier that weighs 50,000 pounds. The refractor currently sits in a 45-foot diameter dome. Acclaimed in its day to be an excellent visual telescope, the refractor was also heavily employed in astronomical photography. By 1974, it had taken 100,000 5-inch by 7-inch glass plates. The astrographic camera used to create those plates is now in the collection of The Smithsonian Institution.

The Swarthmore telescope is of historical significance, having been the instrument by which Peter van de Kamp studied Barnard's Star and claimed in 1963 to have discovered an exoplanet.

For more information about the Sproul Observatory Telescope and Supporting STEM and Space, Inc. visit their web site at: <http://nwa.space>



A recent photo of the 24-inch refractor in the Sproul Observatory at Swarthmore College.

Astronomy Day at the Tellus Museum

Photos by Tom Faber

Several members of the Atlanta Astronomy Club volunteered at the Tellus Science Museum for Astronomy Day on Saturday, April 29. Members at Tellus included Mark Banks, Richard Jakiel, Sharon Ells, Tom Faber, Katherine Sarbell, and several others. Members of the Meteorite Association Of Georgia were also present to discuss meteorites with the visitors. Here are some photos from the event.



Bottom Left - Richard Jakiel explains different types of meteorites to visitors at the Meteorite Association Of Georgia table.

Below - Mark Banks talks with visitors to the AAC table.

Bottom Right - Jupiter over the Tellus Observatory as visitors line up to view the giant planet through the 24-inch telescope.



Galaxy Cluster Abell 370

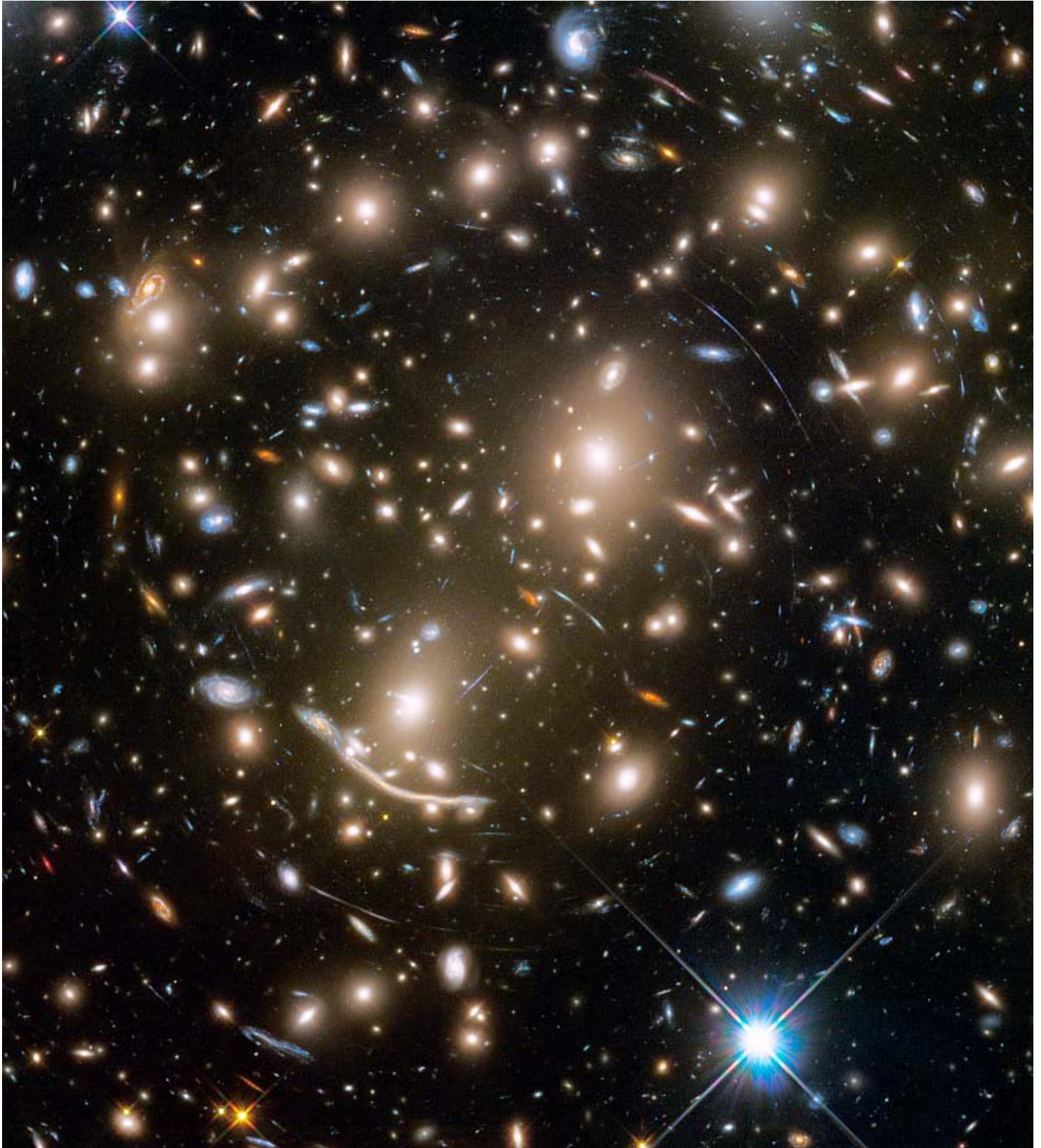
NASA/STScI Image Release - May 4, 2017

Much like the eclectic group of space rebels in the upcoming film *Guardians of the Galaxy Vol. 2*, NASA's Hubble Space Telescope has some amazing superpowers, specifically when it comes to observing innumer-

able galaxies flung across time and space.

A stunning example is a galaxy cluster called Abell 370 that contains an astounding assortment of several hundred galaxies tied together by the mutual pull of gravity. That's a lot of galaxies to be guarding, and just in this one cluster!

Continued on next page



Photographed in a combination of visible and near-infrared light, the immense cluster is a rich mix of galaxy shapes. The brightest and largest galaxies in the cluster are the yellow-white, massive, elliptical galaxies containing many hundreds of billions of stars each. Spiral galaxies — like our Milky Way — have younger populations of stars and are bluish.

Entangled among the galaxies are mysterious-looking arcs of blue light. These are actually distorted images of remote galaxies behind the cluster. These far-flung galaxies are too faint for Hubble to see directly. Instead, the cluster acts as a huge lens in space that magnifies and stretches images of background galaxies like a funhouse mirror. The massive gravitational field of the foreground cluster produces this phenomenon. The collective gravity of all the stars and other matter trapped inside the cluster warps space and affects light traveling through the cluster, toward Earth.

Nearly a hundred distant galaxies have multiple images caused by the lensing effect. The most stunning example is “the Dragon,” an extended feature that is probably several duplicated images of a single background spiral galaxy stretched along an arc.

Astronomers chose Abell 370 as a target for Hubble because its gravitational lensing effects can be used for probing remote galaxies that inhabited the early universe.

Abell 370 is located approximately 4 billion light-years away in the constellation Cetus, the Sea Monster. It is the last of six galaxy clusters imaged in the recently concluded Frontier Fields project. This ambitious, community-developed collaboration among NASA’s Great Observatories and other telescopes harnessed the power of massive galaxy clusters and probed the earliest stages of galaxy development. The program reveals galaxies that are 10 to 100 times fainter than any previously observed.

Image Credit - NASA, ESA, and J. Lotz and the HFF Team (STScI)

For more information about the Hubble Frontier Fields project visit:
<https://frontierfields.org/about/>



The **Atlanta Astronomy Club, Inc.**, one of the South’s largest and oldest astronomical society, meets at **3:00 P.M.** on the 2nd 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/atlaastro>.

AAC Officers and Contacts

President: Mark Banks President@AtlantaAstronomy.org

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Elliott Recording Secretary: Brian Tucker
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Elliott Chapter ALCor: Jack Fitzmier

Elliott Coordinator: Lacy Mitchell, Lacy.Mitchell@dnr.ga.gov

Elliott Webmaster: Larry Owens webmaster@CEastronomy.org

Elliott Outreach Coordinator: Dan Thoman
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Georgia Astronomy in State Parks: Sharon Carruthers
Treasurer@AtlantaAstronomy.org

PSSG Chairman: Peter Macumber pmacumber@nightsky.org

PSSG Co-Chair: Open

Sidewalk Astronomy: Brad Isley
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

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

AAC Events are listed in BOLD

- May 6th, Saturday: Eta Aquarids Meteor Shower.
- May 7th, Sunday: Moon near Jupiter.
- May 10th, Wednesday: Full Moon.
- May 17th, Wednesday: Mercury at Greatest Western Elongation.
- May 18th, Thursday: Moon Last Quarter.
- May 20th, Saturday: **AAC meeting at Fernbank Science Center 3PM.**
- May 22nd, Monday: Moon near Venus.
- May 25th, Thursday: New Moon.
- May 27th, Saturday: **CEA Chapter Meeting at 6:30PM.**

- June 1st, Thursday: Moon First Quarter.
- June 3rd, Saturday: Venus at Greatest Elongation.
- June 9th, Friday: Full Moon.
- June 10th, Saturday: Moon near Saturn.
- June 14th, Wednesday: Earliest Sunrise at Atlanta ~6:25AM.
- June 15th, Thursday: Saturn at Opposition.
- June 17th, Saturday: Moon Last Quarter.
- June 21st, Wednesday: Summer Solstice at 12:24AM. Mercury at Superior Conjunction.
- June 23rd, Friday: New Moon.
- June 24th, Saturday: **CEA Chapter Meeting at 6:30PM.**
- June 27th, Tuesday: Moon near Regulus. Latest Sunset at Atlanta ~8:52PM.
- June 30th, Friday: Moon First Quarter.
- July 3rd, Monday: Earth at Aphelion.
- July 9th, Sunday: Full Moon.
- July 22nd, Saturday: **CEA Chapter Meeting.**

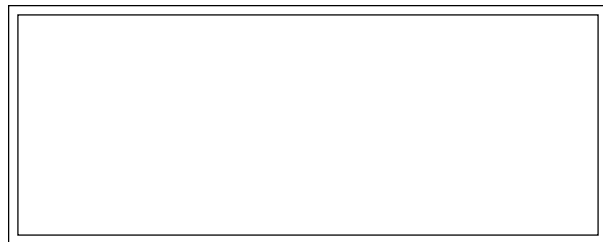
For more event listings see the calendar at www.atlantaastronomy.org

Atlanta Astronomy Club Listserv

Subscribe to the Atlanta Astronomy Club Mailing List: The name of the list is: AstroAtlanta. The address for messages is: AstroAtlanta@yahoogroups.com . To add a subscription, send a message to: AstroAtlanta-subscribe@yahoogroups.com .

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 September is Saturday, August 26. Submissions received after the deadline will go in the following issue.**



FIRST CLASS



www.betagg.com



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

Newsletter of The Atlanta Astronomy Club, Inc.



The Focal Point

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