

The Focal Point

The Atlanta Astronomy Club
Established 1947
December 2010

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Editor: Tom Faber

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December Meeting/Potluck Dinner

Join us for our annual potluck dinner and meeting on **Saturday**, December 11 in the Math and Science Building on the Emory University Campus. The evening will begin at 6:30PM in the atrium with snacks and drinks, followed by the dinner at 7:00PM. After the dinner we will move into the Planetarium for the evening's program. The program will feature Jim Summers as "Galileo". For the dinner the club will provide the meat dishes and we ask that attendees bring a side dish, dessert, or other item that will provide 6-8 servings. Please let Sharon Carruthers know what dish you plan to bring. If you have any announcements you want to make during the meeting, please contact our President Mark Banks, so that he can schedule the time for you during the meeting. Contact information for Sharon and Mark is on page 7.

Speaker Bio:

Jim Summers has been involved with public astronomy and planetarium operation for several decades. From 1971 to 1987, he was an astronomer at Fernbank Science Center, and was the director for two planetariums as part of the Atlanta Public Schools system (1987 - 2002). "Currently I am now retired and am a co-founder of the Renaissarium Project. "Galileo" is, and hopefully will become a more active part in the advancement of this attempt to create a Renaissance-themed museum and cultural (educational) program in the metro Atlanta region."

Upcoming AAC Meetings:

In 2011: January 21st, February 18th, March 18th, April 15th, May 20th, and June 17th - Lecture topics TBA.

Parking News Update at Emory University

The parking deck behind the admissions building is now open. There is a Barnes and Noble and other shops on the top floor of the parking deck, so there will be some things to do while waiting for the meeting to start. This new facility and parking area is located next to the Math and Science Building and directly behind the Admissions building.

Remembering Keith Burns

The Atlanta Astronomy Club and all of us who knew him suffered a terrible loss in November with the passing of long time club member and friend Keith Burns, on November 9. Keith was a member of the AAC for about 15 years and served the club in nearly every office. Keith had been a board member, was Focal Point editor for 4 years, served as VP for observing, served as Program Chair, and most recently was our President for the 2009-2010 term. Keith was also a staff member for the Peach State Star Gaze and a long time volunteer for GASP - Georgia Astronomy in State Parks. For the last couple of years Keith was the GASP coordinator, contacting the parks to set up the programs. He also produced the pre-meeting announcement PowerPoints that provided information and humor before our monthly meetings. Keith loved to volunteer for sidewalk astronomy events at schools and other public locations. On the next couple of pages are photos of Keith involved in a host of club and other activities. You will be dearly missed Cosmic Kow. Photos by Tom Faber unless noted.





Photos above and in the left column by Richard Jakiel.





November General Meeting Minutes and Announcement of the Keith Burns Astronomer Award

By Julie Moore, AAC Recording Secretary. Photos by Tom Faber

The regular monthly meeting of the Atlanta Astronomy Club was held on Friday, November 19, at 8:00 PM with approximately 53 members and visitors attending. After announcing that a Memorial Service for Keith Burns will be held on December 4th, 2010, Dr. Anngelle Tanner spoke on Extrasolar Planets. It was an exciting and interesting talk. Thank you very much, Dr. Tanner!



December 11th is the AAC Christmas Dinner, with Sharon Carruthers coordinating the food. Dr. Chris Dupree of Agnes Scott will be our speaker for the January 21, 2011 meeting.

Upcoming observing events include: Dec. 4th, DSO, Dec. 9th, Sidewalk Astronomy at Evansdale Elementary School, Dec. 9th, Boy Scouts at DAV, Dec. 21st, All Night Eclipse party at Tellus Museum

The next PSSG is scheduled for Sept 25th-Oct 1st, 2011.

Next year's Zombie Party will be April 1-3, 2011 at DAV. It's a good weekend for a Messier Marathon.

Peter Macumber then presented the following motion which passed by acclamation:

"The Atlanta Astronomy Club was founded in 1947 and grew to the point in 1963 when it was incorporated. On October 24, 1963 the ATLANTA ASTRONOMY CLUB, INC. came into being. A key founding purpose of the incorporation was written: *The purposes of the Atlanta Astronomy Club, Inc. shall be educational, literary, scientific, and especially to promote the public knowledge of, and interest in astronomy.*"

"Keith Burns exemplified this over the last 15 or so years. Keith served as an officer of the club as Focal Point Editor, Observing Chair, Program Chair and President. Keith was an organizer of numerous public events, searched Georgia and surrounding areas for observing sites, attended most of these events. Keith was always willing to help, explain and show people the night sky. Keith did talks at AAC club meetings as well as other clubs in the southeast, promoting astronomy, educating. Keith Burns is no longer with us in person but will be remembered by all who met him. In honor of Keith's memory and his contributions to the club and amateur astronomy, I make the following motion:

The AAC shall have an award that will be given to a group or individual(s) who exemplify the values and purposes of the club and amateur as-

tronomy. The award shall consist of a plaque and certificate. There shall also be a master plaque listing past recipients to be placed in the AAC building, the Robert 'Bear' Simmons Club House. The award shall be determined by the board and officers by review of submitted nominations."

"The name of the Award shall be 'Keith J Burns' Astronomer Award". The plaque shall contain the following:

"This plaque is awarded to _____ for outstanding contribution to the Atlanta Astronomy Club and Amateur Astronomy in general."

The first such award shall be given to Keith J Burns.

November CE Chapter Minutes

by Marie Lott, CE Recording Secretary

The November meeting of the Charlie Elliott Chapter of the Atlanta Astronomy Club was held on Saturday, November 6, at the CE Wildlife Visitor Center at 4 PM. Attending were 36 members and 13 guests from the Atlanta Outdoor Club. A dozen Georgia Perimeter College students and teachers joined in afterwards for observing on the field.

Art Zorka presented two Astronomical League Outreach awards (Outreach and Stellar levels) to Steve Bieger for his extensive volunteer work at the Fernbank Planetarium. Art recommended visiting www.astroleague.org/ observing to learn more about Astronomical League's many observing programs.

Phil Sacco was the featured speaker. Dressed in a friar's robe, Phil performed magic card tricks before presenting a highly entertaining talk entitled "Howl-een Hunt". His talk highlighted naked eye observing treasures Job's Coffin, Cetus the Sea Monster, Draco, the False Cross, the Horse & Rider, the Sickle, Cerberus the Hell Hound, asterisms by Father Hell, the Demon Star plus 13 unlucky telescopic objects in the autumn sky. Phil's presentation can be found online at <http://ceastronomy.org/blog/> events in the 2010-11-06 Chapter Meeting section.

Chapter director Theo Ramakers announced that the Charlie Elliott chapter is ranked #11 for outreach events on the Night Sky Network (<http://nightsky.jpl.nasa.gov>). Theo complimented chapter member Jimmy Choy and Tim Geib on some outstanding images made this past month.

Steven Philips, Observing Supervisor, wound up the meeting with "Observing 101", a highlight of current sun, moon and planet rise & set times, observing targets and challenges. Venus and Mars are currently setting right after sunset. Jupiter & Uranus set before dawn as Saturn & Venus are rising. Comet 103P/Hartley can be found this month between Sirius and Procyon. Asteroid Hebe can be found in Cetus the Whale. The Leonid meteor shower peaks November 17th. On December 2nd there will be a nice grouping of Venus, the crescent moon, Spica & Saturn, all within 10° of one another in the southeast before sunrise.

Beginner/Small Telescope/Binocular Target List for November: M31 (Andromeda Galaxy), M33 (Pinwheel Galaxy), NGC 253 (Sculptor Galaxy); Globular Clusters M2, M15, M30; Open Clusters M34, the Perseus Double Cluster (NGC 869/884), M45 (the Pleiades); Nebulas M27 (Dumbbell Nebula), M57 (Ring Nebula).

Intermediate/Advanced Target List for November: Galaxies M110, NGC 6946 & 7331; Globulars NGC 6934 and 7006; Open Clusters NGC 6866, 6882, 6885, 6910; Nebulas NGC 6543 (Cat's Eye) and 7662 (Blue Snowball).

The meeting was adjourned at 5:54 PM followed by an observing session on Jon Wood Field.

The next meeting of the Charlie Elliott chapter will be December 4, 2010 at 3 PM. This will be the annual holiday potluck dinner meeting, so bring your favorite dish to share. Rich Jakiel will be the featured speaker.

AAC Dues for Mailed Focal Points

At a Board of Directors meeting earlier this year it was decided to increase membership dues for those members desiring to receive a printed *Focal Point* by mail by \$7 per year to \$12 per year above the regular membership dues starting in 2011. Dues for members downloading the *Focal Point* from the club's web site will remain the same as before at \$30 per year. Dues for new and renewing memberships who desire to receive a printed *Focal Point* by mail will be \$42 per year starting January 1. This increase was approved to cover the costs of printing and mailing a *Focal Point* which is approximately \$12 per year. If you wish to switch from the mailed *Focal Point* to downloading the PDF version (and save \$12) notify Sharon Carruthers at Treasurer@AtlantaAstronomy.org. Also please notify Sharon with any changes to your contact information.

July Board Meeting Minutes

By Julie Moore, AAC Recording Secretary

The July 25, 2010 meeting of the Board of Directors of the Atlanta Astronomy Club was called to order at 3:08 PM with 8 board members attending and three visitors.

Jim Moore was elected president.

Minutes of the last meeting were read and accepted.

Treasurer's report was presented and accepted with the following discussion:

- *Does extra membership fee cover printing and mailing costs?
- *Request: add membership count to budget report
- *Membership renewal reminder will be sent by Dan Herron

A motion was made to raise the fee for printing and mailing the *Focal Point* to \$12 over the regular membership fee, effective January 1, 2011. It was seconded and passed.

There was discussion concerning passwording the *Focal Point* online.

Old Business:

Art Zorka reported on speakers. He asks that members make lists from websites of other clubs and starparties and e-mail them to him as suggestions.

New Business:

*Art Zorka: suggests the AAC join the Nightsky Network, run by the Astronomy Society of Pacific and NASA, Nightsky.JPL.NASA.gov

Motion was made, seconded and passed to join NSN, with Art Zorka as Committee Chairman.

*Mark Banks: Can we affiliate with the Planetary Society?

*Rich: Dragon*Con committee, post to list and wear your badge

*Sharon: Building at DAV sustained rain damage estimates \$2000 for grading and French drain, mold and termites, replacing grass with gravel. Need a workday.

*Dan: moves we give a multiyear membership discount. Motion tabled.

*Mark: We should get in touch with High School science teachers to donate old Astronomy and Sky and Telescope magazines to schools.

*Rich: Should we use students from Georgia Tech as speakers?

We could consider discounts for returning members.

Next Board Meeting is set for Sunday, Nov. 7th 2010.

Motion to adjourn was made, seconded and passed.

Bradley Observatory Open Houses

2010-2011 Open House Lecture Series

Astronomy Since Galileo (1610 – 2010)

The 400 years since the first astronomical use of the telescope have brought enormous progress to the science of astronomy. Technologies and new areas of science have been brought to bear on outstanding astronomical questions. The development of photography, spectroscopy, quantum mechanics, to name just a few have had profound impacts on our understanding of the universe. This year's lectures will explore the development of astronomy since Galileo. Lectures/Concerts begin at 8 PM. There will be observing with the Beck Telescope afterwards weather permitting.

Fall 2010

December 10, 2010 - "Astronomical Technology since the Telescope (1610-2010)", C. De Pree (Agnes Scott College)

Spring 2011

February 11, 2010 - "Sugar and spice and everything nice - is that what space is made of?", Susanna Widicus Weaver (Emory University)

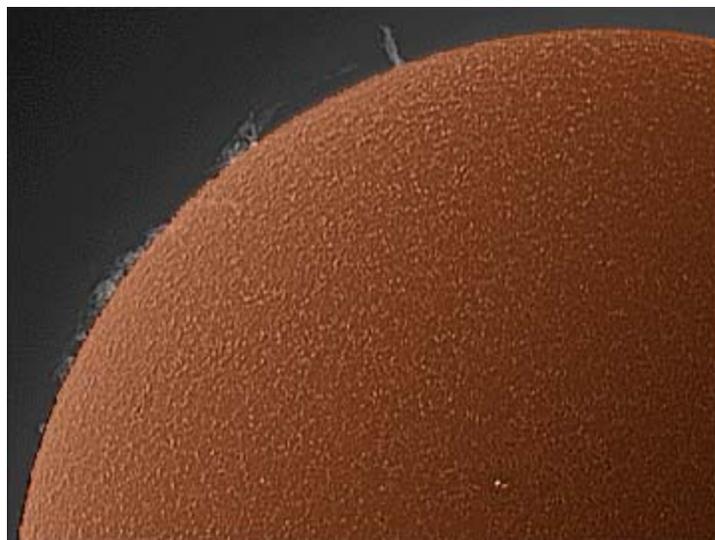
March 25, 2011 - Spring Equinox Concert and Open House

April 15, 2011 - "Jupiter's Galilean Satellites", Melissa McGrath (NASA Marshall Space Flight Center)

May 13, 2011 - "An Evening at the Edge of the Universe", James Webb (Florida International University)

The Sun by Theo Ramakers

The image of the Sun below was made by CE Chapter director Theo Ramakers from near Social Circle, GA on October 24, 2010. It shows several solar prominences along the sun's limb and much detail on the solar disk. For more images by Theo check out his image section on the CE chapter's web site: http://ceastronomy.org/gallery/main.php?g2_itemId=72



Cassini Returns Images of Bright Jets at Enceladus

NASA/JPL News Release - December 01, 2010

NASA's Cassini spacecraft successfully dipped near the surface of Saturn's moon Enceladus on Nov. 30.

NASA's Cassini spacecraft successfully dipped near the surface of Saturn's moon Enceladus on Nov. 30. Though Cassini's closest approach took it to within about 48 kilometers (30 miles) of the moon's northern hemisphere, the spacecraft also captured shadowy images of the tortured south polar terrain and the brilliant jets that spray out from it.

Many of the raw images feature darkened terrain because winter has descended upon the southern hemisphere of Enceladus. But sunlight behind the moon backlights the jets of water vapor and icy particles. In some images, the jets line up in rows, forming curtains of spray.

The new raw images can be seen at <http://saturn.jpl.nasa.gov/photos/raw/>.

The Enceladus flyby was the 12th of Cassini's mission, with the spacecraft swooping down around 61 degrees north latitude. This encounter and its twin three weeks later at the same altitude and latitude, are the closest Cassini will come to the northern hemisphere surface of Enceladus during the extended Solstice mission. (Cassini's closest-ever approach to Enceladus occurred in October 2008, when the spacecraft dipped to an altitude of 25 kilometers, or 16 miles.)

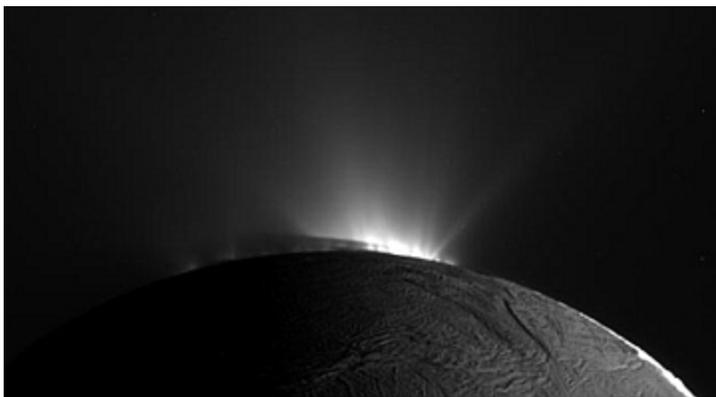
Among the observations Cassini made during this Enceladus flyby, the radio science subsystem collected gravity measurements to understand the moon's interior structure, and the fields and particles instruments sampled the charged particle environment around the moon.

About two days before the Enceladus flyby, Cassini also passed the sponge-like moon Hyperion, beaming back intriguing images of the craters on its surface. The flyby, at 72,000 kilometers (45,000 miles) in altitude, was one of the closest approaches to Hyperion that Cassini has made.

Scientists are still working to analyze the data and images collected during the flybys.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory manages the project for NASA's Science Mission Directorate in Washington. The Cassini orbiter was designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colo.

More Cassini information is available, at <http://www.nasa.gov/cassini> and <http://saturn.jpl.nasa.gov>.



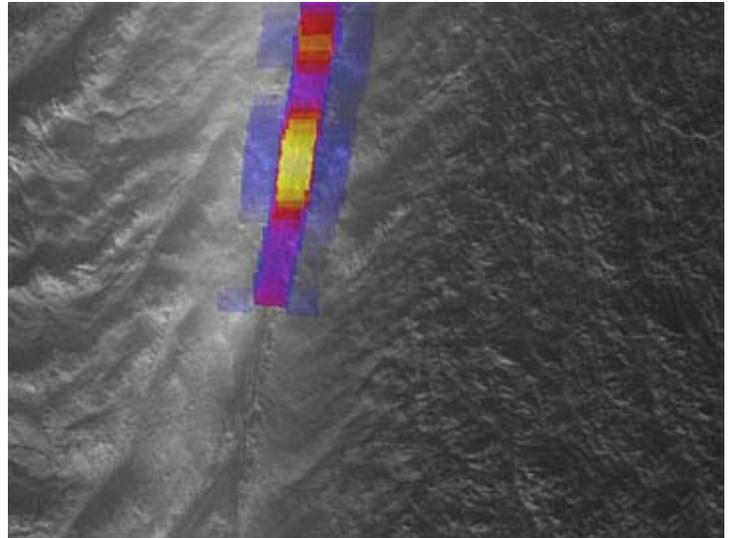
NASA's Cassini spacecraft obtained this raw image of the south polar region of Saturn's moon Enceladus on Nov. 30, 2010. The spacecraft was about 89,000 kilometers (55,000 miles) away from the moon's surface. Image Credit: NASA/JPL/SSI

Warm Cracks on Enceladus

NASA/JPL News Release - November 29, 2010

New images and data from NASA's Cassini spacecraft give scientists a unique Saturn-lit view of active fissures through the south polar region of Saturn's moon Enceladus. They reveal a more complicated web of warm fractures than previously thought. The new images are available at: <http://www.nasa.gov/cassini> and <http://saturn.jpl.nasa.gov>.

Scientists working jointly with Cassini's composite infrared spectrometer and its high-resolution imaging camera have constructed the highest-resolution heat intensity maps yet of the hottest part of a region of long fissures spraying water vapor and icy particles from Enceladus. These fissures have been nicknamed "tiger stripes." Additional high-resolution spectrometer maps of one end of the tiger stripes Alexandria Sulcus and Cairo Sulcus reveal never-before-seen warm fractures that branch off like split ends from the main tiger stripe trenches. They also show an intriguing warm spot isolated from other active surface fissures.



Data from the Cassini spacecraft have enabled scientists to make the highest-resolution heat intensity maps yet for the hottest part of a "tiger stripe" fissure on Enceladus. Image credit: NASA/JPL/GSFC/SWRI/SSI

"The ends of the tiger stripes may be the places where the activity is just getting started, or is winding down, so the complex patterns of heat we see there may give us clues to the life cycle of tiger stripes," said John Spencer, a Cassini team scientist based at Southwest Research Institute in Boulder, Colo.

The images and maps come from the Aug. 13, 2010, Enceladus flyby, Cassini's last remote sensing flyby of the moon until 2015. The geometry of the many flybys between now and 2015 will not allow Cassini to do thermal scans like these, because the spacecraft will be too close to scan the surface and will not view the south pole. This Enceladus flyby, the 11th of Cassini's tour, also gave Cassini its last look at any part of the active south polar region in sunlight. The highest-resolution spectrometer scan examined the hottest part of the entire tiger stripe system, part of the fracture called Damascus Sulcus. Scientists used the scan to measure fracture temperatures up to 190 Kelvin. This temperature appears slightly higher than previously measured temperatures at Damascus, which were around 170 Kelvin.

Spencer said he isn't sure if this tiger stripe is just more active than it was the last time Cassini's spectrometer scanned it, in 2008, or if the hottest part of the tiger stripe is so narrow that previous scans averaged its temperature out over a larger area. In any case, the new scan had such good resolution, showing details as small as 800 meters, that scientists could see for the first time warm material flanking the central trench of Damascus, cooling off quickly away from the trench. The Damascus thermal scan also shows large variations in heat output within a few kilometers along the length of the fracture. This unprecedented resolution will help scientists understand how the tiger stripes deliver heat to the surface of Enceladus.

More details are available at the imaging team's website <http://ciclops.org> and the composite infrared spectrometer team's website <http://cirs.gsfc.nasa.gov>.

The Astronomical League

As a member of the **Atlanta Astronomy Club** you are automatically also a member of the **Astronomical League**, a nation wide affiliation of astronomy clubs. Membership in the AL provides a number of benefits for you. They include:

* You will receive *The Reflector*, the AL's quarterly newsletter.

* You can use the Book Service, through which you can buy astronomy-related books at a 10% discount.

* You can participate in the Astronomical League's Observing Clubs. The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club, Binocular Messier Club, the Herschel 400 Club, the Deep Sky Binocular Club, and many others.

To learn more about the Astronomical League and its benefits for you, visit <http://www.astroleague.org> You may also contact the AAC's Astronomical League Correspondent Art Zorka for more information about the AL's Observing Clubs. Contact Art at artzorka@yahoo.com or by phone at 404-633-8822.

The Next AAC Board Meeting

The next Board meeting of the Atlanta Astronomy Club is scheduled for Sunday, January 30th at 3PM at Emory University in the Math and Science building room N301. Contact President Mark Banks or Board Chair Marie Lott for more information about the meeting agenda. Their contact information is listed to the right.

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 printed. 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>.

The **Atlanta Astronomy Club, Inc.**, the South's largest and oldest astronomical society, meets at **8:00 P.M.** on the Friday closest to full moon of each month at Emory University's White Hall or occasionally at other locations or times. Membership fees are **\$30 (\$42)** for a family or single person membership. College Students membership fee is **\$15 (\$27)**. These fees are for a one year membership (\$12 per year extra charge to receive a printed *Focal Point* by mail).

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.

AAC Officers and Contacts

President: Mark Banks President@AtlantaAstronomy.org

Program Chair: Richard Jakiel Programs@AtlantaAstronomy.org

Observing Chair: Daniel Herron Observing@AtlantaAstronomy.org

Corresponding Secretary: Tom Faber
Focalpoint@AtlantaAstronomy.org

Treasurer: Sharon Carruthers Treasurer@AtlantaAstronomy.org

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Secretary@AtlantaAstronomy.org

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Board: Jim Moore - 678-598-5820 hollin@bellsouth.net

Board: Misty Herron - mistyherron@gmail.com

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Elliott Observing Supervisor: Steven Phillips 770-601-9816
observing@ceastronomy.org

Elliott Recording Secretary: Marie Lott mtlott@comcast.net

Elliott Coordinator: Alesia Rast Alesia_Rast@mail.dnr.state.ga.us

Elliott Webmaster: Larry Owens 678-234-5399
webmaster@CEastronomy.org

Georgia Astronomy in State Parks:

PSSG Chairman: Peter Macumber pmacumber@nightsky.org

PSSG Co-Chair: Joanne Cirincione
starrynights@AtlantaAstronomy.org

Sidewalk Astronomy: Brad Isley
sidewalkastronomy@AtlantaAstronomy.org

Light Trespass: Open - Contact Mark Banks if you would like to volunteer for this position

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

AAC Webmaster: Daniel Herron observing@AtlantaAstronomy.org

Directions to White Hall at Emory

Our meetings are generally held in White Hall. To get to White Hall, turn onto Dowman Drive from North Decatur Rd at the five way intersection (across from Everybody's Pizza). White Hall is located across from the new Science & Math building. The best places to park are the Peavine and the Fishburne Parking Decks. The Fishburne deck is located on Fishburne Drive which is accessible from N. Decatur Rd. Turn onto Dowman and then right on Fishburne. You can also access Fishburne Drive from Clifton Road just north of N. Decatur. The Peavine parking deck is accessible from N. Decatur Rd. Turn onto Oxford Rd, go to the back entrance of Emory and turn onto Eagle Row. Take that to the Peavine deck. You can also access the Peavine deck from Clifton Rd. Turn onto Asbury Circle. It's the intersection next to the railroad tracks on Clifton. For maps to the decks see <http://map.emory.edu>. For more detailed directions to Emory University, visit www.atlantaastronomy.org or go to the Emory web site.

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

AAC Events are listed in **BOLD**

- Dec 4th, Saturday: **Charlie Elliott Chapter Meeting**. Venus at Greatest Brilliancy.
Dec 5th, Sunday: New Moon.
Dec 7th, Tuesday: Earliest Sunset in Atlanta: ~5:27PM.
Dec 11th, Saturday: **AAC Dinner and Mtg at the Math & Science Bldg, Emory Univ, 6:30PM.**
Dec 13th, Monday: Moon First Quarter.
Dec 14th, Tuesday: Geminids Meteors.
Dec 17th, Friday: **January Focal Point Deadline.**
Dec 19th, Sunday: Mercury at Inferior Conjunction.
Dec 21st, Tuesday: Full Moon, Lunar Eclipse - Mid-eclipse 3:17AM, Solstice at 6:38PM.
Dec 25th, Saturday: **Merry Christmas!**
Dec 26th, Sunday: Pluto Conjunction with Sun.
Dec 27th, Monday: Moon Last Quarter.
Dec 31st, Friday: Moon 7° south of Venus.
Jan 3rd, Monday: Quadrantid Meteors. Earth at Perihelion.
Jan 4th, Tuesday: New Moon. Latest Sunrise in Atlanta: ~7:42 AM.
Jan 8th, Saturday: **Charlie Elliott Chapter Meeting**. Venus at Greatest Elongation West.
Jan 9th, Sunday: Mercury at Greatest Elongation West.
Jan 12th, Wednesday: Moon First Quarter.
Jan 21st, Friday: **AAC Meeting at White Hall, Emory Univ, 8PM.**
Jan 19th, Wednesday: Full Moon.
Jan 26th, Wednesday: Moon Last Quarter.
Jan 29th, Saturday: Moon between Venus and Antares.
Jan 30th, Sunday: **AAC BoD Meeting. - See p.7 for details.**
Feb 2nd, Wednesday: New Moon.
Feb 5th, Saturday: **Charlie Elliott Chapter Meeting.**

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 . This list is owned by Lemmy Abbey.

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@atlaantastronomy.org. Please send images separate from articles, not embedded in them. Articles are preferred as plain text files but Word documents or PDFs are okay. You can submit articles anytime up to the deadline. **The deadline for January is Friday, Dec 17th at 6:00 PM. Submissions will not be accepted after the deadline.**



FIRST CLASS



www.beclage.com



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

Newsletter of The Atlanta Astronomy Club, Inc.



The Focal Point

FROM: Tom Faber
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Alpharetta, GA 30022

Atlanta Astronomy Club

P.O. Box 76155

Atlanta, GA 30358-1155

www.atlaantastronomy.org

On Twitter at <http://twitter.com/atlaastro>