

The Focal Point

The Atlanta Astronomy Club
Established 1947
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Editor: Kat Sarbell

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August General Membership Meeting

by Nancy Cronin

The meeting will take place Friday August 20th at White Hall on the Emory University Campus. Please join us for refreshments and socializing from 7:30 to 7:55 PM. The meeting will start promptly at 8:00 PM.

Our guest speaker this month is Dr. Charles Meegan, Astrophysicist with the Gamma-Ray Astrophysics Group at NASA's Marshall Space Flight Center. His subject is Gamma-Ray Astronomy. The Gamma-Ray Astrophysics Team is active in several projects which



are designed to investigate the high energy regime of our Universe. The primary objectives of their research are to study gamma-ray phenomena such as pulsars, black holes, and other exotic astrophysical objects.

Dr. Meegan is the Principal Investigator developing a new burst monitor. He and his team are designing this new monitor to help unravel the mystery of the forces that create gamma-ray bursts -- the most powerful explosions in the universe. This instrument will be flown on NASA's Gamma-Ray Large Area Space Telescope, or GLAST, planned for an upcoming launch. GLAST is a next generation high-energy gamma-ray observatory designed for making observations of celestial gamma-ray sources. It will provide the broadest energy coverage ever available on a single spacecraft for gamma-ray studies. This may give astrophysicists the crucial information for determining the nature of gamma-ray bursts, which are one of the greatest mysteries of astrophysics.

Previously, Dr. Meegan was involved in the Burst And Transient Source Experiment (BATSE). BATSE was a high energy astrophysics experiment in orbit around Earth on NASA's Compton Gamma-Ray Observatory. The primary objective of BATSE was to study the phenomenon of gamma-ray bursts. The Compton Gamma Ray Observatory had a successful 9-year mission that ended in 2000. During its operation, BATSE recorded 8000 triggered events, including gamma-ray bursts, data from pulsars, terrestrial gamma-ray flashes, black holes, and other exotic astrophysical objects.

Gamma-ray bursts are short-lived bursts of gamma-ray photons. A gamma-ray is a highly penetrating type of nuclear radiation, similar to x-rays, except that it comes from within the nucleus of an atom, and, in general, has a shorter wavelength. "Lasting anywhere from a few milliseconds to several minutes, gamma-ray bursts (GRB) shine hundreds of times brighter than a typical supernova and about a million trillion times as bright as the Sun, making them briefly the brightest source of cosmic gamma-ray photons in the observable universe. GRBs are detected roughly once per day from wholly random directions of the sky." Credit: NASA
http://imagine.gsfc.nasa.gov/docs/science/known_11/bursts.html

Dr. Charles "Chip" Meegan, has more than 20 years experience designing, building and operating instruments to study gamma-ray bursts. He likes working puzzles, and enjoys putting together the clues to solve mysteries.

Photo credit: NASA/Marshall Space Flight Center

For directions to White Hall at Emory University, see page 7.

A Message from the President

Even though it's the middle of summer, there's lots going on in the AAC. Our most recent monthly meeting had a turnout approaching 80 people. They came to hear Dr. Douglas Gies of Georgia State University talk about SS433, a very unusual neutron star/black hole with a giant companion star. We have just successfully completed our summer Boy Scout merit badge duties at the Calder Observatory at Woodruff. Thanks to all who volunteered to help out with this vital activity (it's the 'dues' we pay to use Woodruff). Our observing chair, Jim Holley put on an outstanding training session this past July 24 at the Barber Observatory in Villa Rica. We had 20 or so new members show up for the education and information session as well as some observing of the moon and some of the brighter celestial wonders. Although our July dark sky event was washed out, I'm already looking forward to the August event which will be held on Brasstown Bald. At 4,200 above sea level, this site allows one to get above most of the summer haze and really see the summer sky. Finally, a number of us have met a couple of times over the past month at the Bradley Observatory at Agnes Scott College to discuss the development of a strategic plan for the Atlanta Astronomy Club. This work is ongoing and if you haven't already participated, I encourage your input to this process: I welcome your e-mails or calls.

The bottom line is that we have a vibrant club and I urge everyone to take advantage of all it has to offer.

Keep looking up,

Chuck Painter President AAC

AAC General Membership Meeting Minutes July 2004

Our meeting took place on Friday, July 16th, in White Hall at Emory University. There were about 80 people in attendance, including several visitors and new members. Chuck Painter, president, opened the meeting and requested officers to share news, make announcements, and give updates on upcoming events. For our monthly Member Focus, Sharon Carruthers gave a talk on her experiences volunteering at the Woodruff Boy Scout camp. Nancy Cronin, program chair, then introduced our guest speaker, Dr. Douglas R. Gies, Professor of Physics and Astronomy at Georgia State University. His lecture was a fascinating study of the binary star system SS433 in the constellation Aquila. After the meeting, many members walked to nearby Everybody's Pizza.

Charlie Elliott Chapter Meeting Minutes July 2004

by Clevis Jones, CEC Recording Secretary

New members included Jonathan Tooher and his daughters Julianne Tooher and Melissa Tooher, and Angus Owens (our most senior member). Members and visitors totaling twelve individuals attended the meeting.

Larry Owens, Chapter Director, began the monthly meeting of the Charlie Elliott Chapter (CEC) of the Atlanta Astronomy Club (AAC) at about 5:00 PM, Saturday, July 17, 2004. Larry reviewed the FFA-FCCLA event which took place on July 5th. Alesia Rast, CEWC

Liaison, met with the Central Georgia EMC Engineer at the CEWC observing field to discuss options for power to the observing field. It has been noted that some AAC individuals have alternate badge designs. It was moved and seconded that the CEC make a badge design that will complement the original AAC design and reflect Charlie Elliott as a Chapter of the AAC. Larry showed images of a shed he found for the 16 and 6 inch telescopes. He is now a member of the "Saturn Observation Campaign" - a JPL (Jet Propulsion Lab) outreach program. Alesia Rast wanted the chapter to think about the 2005 year and give her our club meeting dates for that year so she can make her CEWC plans and thus give us our best shot at the prime dates for our meetings.

Debbie Jones, Chapter Observing Supervisor, pointed out numerous objects to observe over the next few weeks. She also presented this month's current event mini program.

Our featured guest speaker was Dr. Richard W. Schumde, Jr. He is a Professor at Gordon College in Barnesville, GA and Executive Director of the Association of Lunar & Planetary Observers (ALPO). Dr. Schumde presented a lecture titled, "The Outer Planets". It focused on Uranus, but included other planets as well.

No observing took place because the sky was obscured.

Charlie Elliott Chapter Upcoming Meetings and Events

August Meeting: Saturday, August 21, 2004 - Charlie Elliott Visitor's Center, Mansfield, GA. Chapter Meeting: 5:00 - 6:00 PM. Astronomy Current Events: 6:00 - 6:30 PM - Larry Owens. Featured Presentation: 6:30 - 7:30 PM - "In Search of the Lovers Triangle - 3 Love Stories" - Philip Sacco. Observing after the lecture, weather permitting.

September Meeting: Saturday, 18 September at 5:00 PM - Current Events: TBD - Main Program: "Polarization Measurements during the December 2003 Martian Dust Storm" by Dr. Richard Schumde (Lecture will include a tutorial on making photometric measurements through polarizing filters).

October Meeting: Saturday, 30 October at 3:00 PM - **NOTE MEETING TIME CHANGE!!!** - Current Events: TBD - Main Program: "The Philosophy of Astronomy" by Larry Owens.

The Charlie Elliott FFC/FCCLA Observing Event

by Larry Owens

As many of you know, the Charlie Elliott chapter was approached by the FFA-FCCLA (formerly the Future Farmers of America and Future Homemakers of America) to present an astronomy program for their campers in July. The educational program director at the facility Shannon Miles indicated that there were nearly one hundred young campers between the ages of 10 and 15, interested in attending the event.

After discussing this with Debbie and Clevis Jones (our observing supervisor and recording secretary), it was decided that Debbie would develop and deliver a presentation on basic astronomy for the campers, and Clevis and I would coordinate an observing event to follow the presentation. Shannon Miles was contacted and a primary and alternate date was set in case of bad weather. A call for

volunteers was broadcast to both chapter members and the AAC, and nearly a dozen eager astronomers answered our call.

The date for the event approached through two solid weeks of rain and thunder storms however and we were not optimistic about the observing session. Even the local weathercasters predicted rain and thunder storms through the July 5th or 7th dates that were set aside for the event. Because of the uncertainty, we wanted to wait till the last minute to announce the final decision and Shannon was very understanding and indicated that she needed only 6-8 hours notice.

Much to our surprise, the July 4th weekend brought clearing skies. Weather reports and the Charlie Elliott Clear Sky Clock actually started showing some blue associated with their forecasts. By Sunday the 4th, most of the forecasts agreed that Monday night would be “mostly clear”. It was as though the skies were clearing just for us! So, the decision was made, and the team alerted.

Monday the 5th arrived with clear skies. The team of volunteers started gathering near the facility office at around 7:00 PM. From there we split into two groups, one to setup telescopes for the observing session and the other to help with Debbie’s presentation. Debbie and three volunteers headed for Walters Hall where the campers were gathering and the rest of us headed for the skeet range where the observing event was to be held. At the skeet range, volunteers were busily assembling, aligning and testing their equipment as more telescope filled cars and trucks continued to arrive. Like artillery pieces along a firing line, the telescopes and vehicles were setup in a North-South line at the East end of the range.

With telescopes and their operators poised, waiting for dark skies and throngs of young observers, several of us decided to head to Walters Hall for Debbie’s presentation. The hall was filled with over 100 excited campers and adult counselors, sitting and watching as Debbie and her young assistant Tiffany Wands prepared for the presentation. Debbie’s presentation was entitled “Where do you Live?” and was designed to give the young campers a broader sense of our place in the universe. Debbie carried the campers on a journey from Georgia to the solar system, then to other galaxies with an interesting and interactive presentation geared to a younger audience.



Debbie Jones gave her presentation to nearly 100 young campers at the FFA/FCCLA facility south of Covington, GA.



Debbie and her young assistant Tiffany Wands demonstrate the relative sizes of the planets.

Energized by the presentation they had just attended, the young campers were bussed to the skeet range to experience first hand, the wonders of the universe they now feel a part of. Each telescope slowly grew a line of observers as the volunteers got to work, armed with observing advice, amazing astronomical facts and by answering many, many questions.

Unfortunately, not long after the campers arrived, clouds began to obscure one by one the amazing astronomical objects under study. Even so, each camper was able to see the planet Jupiter, a Messier object or two, but most importantly the campers were able to see the Charlie Elliott Chapter at its best.

Thanks to all of our volunteers, and especially to Debbie Jones who spent countless hours preparing her excellent presentation and for having the courage to give her presentation next to a container of live snakes! Volunteers included Bill Snyder, Bill Mckibben, Jim Honeycutt, Chris Miller, Larry Owens, Angus Owens, Brain Carter, Philip Sacco, Art Zorka, Jim Moore, Julie Moore, Steve Kennedy, Gene Wands, Guest Program assistants Donna Wands, Tiffany Wands, Debbie Jones, and Clevis Jones.



While the campers enjoyed Debbie’s presentation, chapter members were hard at work setting up telescopes for the observing session on a nearby skeet range.

Fixing the Astroscan “A” Scope

By Keith Burns aka Larry aka Kosmic Kow aka Pete Macumber

For those of you who don't know, I dropped my Astroscan scope while out observing one night last month. Figuring the scope was damaged beyond repair, I purchased a new Astroscan scope. The damaged scope was named the Astroscan “A” and the new scope was the Astroscan “B” scope. With that bit of information in mind, the story continues on.

After having dropped the scope on the ground, I noticed that the secondary mirror had fallen off the mount it was glued to. This action caused the mirror to land on the primary mirror. I thought that both mirrors were broken beyond repair. From early examination of the damage, I could see nicks and scratches in the primary mirror and some scratches in the secondary mirror. The Astroscan “A” scope sat in a box for several weeks while I decided its fate. I originally planned on sending it to Edmund Scientific to be repaired. Following several conversations on the phone with their service department, they instructed me how to remove the glass plate on the front of the scope and check the extent of the damage to both the primary mirror and secondary mirrors. With this bit of information I decided to try to fix the mirrors myself. What's the worst that can happen? The scope is already broken.

The chance to tackle this project finally came. Today we had the first official Telescope Workshop meeting at Bradford Map Store in Sandy Springs. Figuring this would be a good project to tackle, I brought along the scope. The Astroscan scope consists of two mirrors and one flat glass front. See picture 1. On the underside of the glass plate is where the secondary mirror mount glued to it. The secondary mirror is glued to this mount.

Holding the glass plate in place is two rings. One is a permanent plastic ring that is part of the inside of the scope tub. The glass

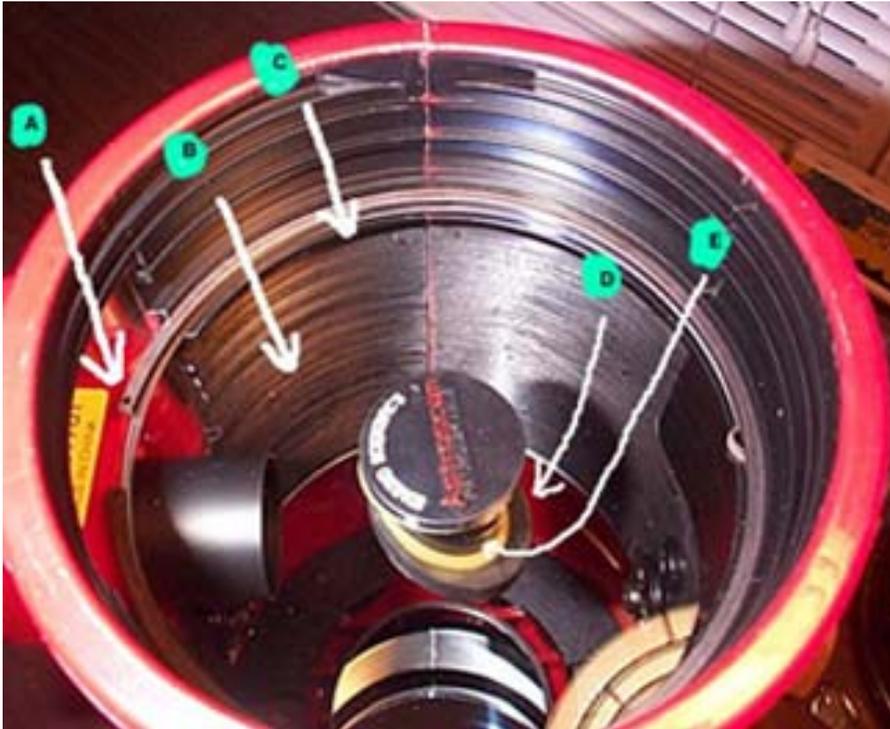
plate rests on this plastic ring. Another ring rests on top of the glass plate. This ring consists of a metal split ring. The ring pushes outward in a groove in the tube. This keeps the metal ring and glass plate in place. See picture 1. The tools used to tackle this project are shown in picture 2. The only thing missing from the picture is the package of glue we used to glue the secondary on.

Nancy Cronin and Daniel Herron assisted me with the removal and installation of the glass plate. First thing we did was put a suction cup onto the glass plate. See picture 3. We would use this to remove the glass once the metal ring was removed. Next we removed the split metal ring. To do this we squeezed the ends of the split metal ring together. On each end of the metal ring is a small hole. Insert a real small screwdriver in each hole to pull the two screwdrivers toward each other. If you have a pair of needle nose pliers with the small metal shafts at the tips, use that instead. Slowly working the ring up and finally out of the tub. Now all we had to do was grab the suction cup and pull the glass out of the tub.

After successfully removing the glass plate, Nancy volunteered to retrieve the secondary mirror from inside the tube. The open is not very big so my hands would not fit into it. We inspected the primary mirror and the secondary mirror. Tracy examined it. There were several scratches in the primary mirror and several small mirror chips. No cracks in the mirror. The secondary mirror had huge chip

Picture 1 (below left) shows the top of the scope. The five labels parts include the following. A is the Metal split ring that holds the glass plate in place. Note that hole near the end of the ring on both sides. B is the glass plate. C is the plastic ring on which the glass plate rests. D is the secondary mirror. Note the glue ring that is holding it in place. This is what broke off when I originally dropped the scope. E is the secondary mirror holder.

Picture 2 (below) shows all the tools used to complete this task. The glue is not pictured.



out of the backside but it did not affect the reflective surface. Given the type of the scope it was, this type of damage was not major enough to make it necessary to black out the damaged spots. The secondary mirror had broken loose from the glue on the secondary mirror support. The residue from the glue left a pattern on the back of the secondary mirror. I took a marker and marked the edge of the residue. We would need this mark later to correctly place the mirror when gluing it to the secondary mirror support.

Dan Llewellyn and I headed over to the Ace Hardware to purchase some glue. After examining every package of glue they sold, we purchased glue that is used to glue rearview mirrors to windshields on vehicles. Thanks to Nancy for that idea. Note that the glue had to be able to stick glass and plastic. Plus this type of glue could handle heat. It had a fast drying time to.

Upon returning to the Map store, I gave Nancy the honors of gluing the secondary mirror back onto the secondary mirror support. Of course, two minutes into the gluing process, we had to change the position of the mirror. Thanks to Tracy to pointing out that my mirror was glued on wrong. It was my fault and not Nancy's. We turned the mirror around and let it dry. After 20 minutes, I pulled out a paper towel to clean off the fingerprints on the inside of the glass plate. At first I used a paper towel dampen with distilled water. The wet paper towel did not remove all the fingerprints. So I pulled out some glass cleaner. This is the type of glass cleaner that does not have ammonia in it. Automotive parts stores sell it. The Cleaner removed all the fingerprints on the inside of the glass plate.

We inserted the glass plate into position in the tube. I aligned the secondary by sighting it through the focuser. Daniel adjusted the

glass until it was sitting in the proper position. Nancy removed the suction cup from the glass plate. I proceeded to clean off the outside of the glass with the cleaner using several paper towels. Then Daniel and Nancy reinserted the metal split ring into place. It took several minutes of using the two small screwdrivers and the needle nose pliers to finally get the ring into place.

Several of us ventured outdoors with the scope to do some viewing of the sun. See picture 4. I had a solar filter with me. We had to wait what seemed like forever for the sun to come out from behind the cloud over our heads. The scope worked fine. No problems to report. Nice views of the sun. There was one fairly large sunspot visible but not much else. I took a picture with my digital Kodak camera. See Picture 5. Right now this repaired scope is being used by future Lunar Observing program certificate holder. Total cost of repairs was (\$5.03) which included the suction cup and the glue. Thanks to all who helped with the project.



Picture 4 is Nancy and Sharon enjoying views of the sun through the just repaired scope. This was a test to see if the scope works like it is supposed to.

Picture 5 is a picture of the sun taken with a digital camera using the same scope.



Picture 3 shows the placement of the suction cup on the outside of the glass plate. This is needed to remove the glass plate once the metal ring is removed.





This recent view from Mars looks toward the distant horizon as the Spirit rover climbs higher into the Columbia Hills. Image JPL/NASA.

The View From The Observing Chair

by Jim Holley

Well, the elections are over and we've got a new batch of club officers. It's a time of change to be sure, but an exciting one, and I'm looking forward to the next year as your Observing Chairman. I thought I'd dust off the writing skills and tell you a little about myself, and more importantly, what I have planned for the coming year.

I've only been an AAC member for a short time, joining the club officially in October of 2003. I have been interested in astronomy for about three years, and I was attracted to the AAC by the prospect of pursuing the hobby with like-minded people, as well as access to an observing field close to where I live and away from the lights of Douglasville. In the short time that I've been active, I've been welcomed warmly and accepted into the club with open arms. So, when the opportunity to run for Observing Chairman presented itself, I accepted the responsibility as a way to give something back to the organization that has made me feel so welcome.

Now that I'm here, what next? Well, the coming year offers a number of opportunities for improvement, as well as a chance to introduce a few innovations. It's going to be a busy year, but a productive one. We're going to see major changes in training and education, as well as a continued emphasis on public outreach and community involvement. Here's what's in store.

Training. One of the promises we make to new members is the opportunity to expand their knowledge of astronomy, as well as gaining access to telescopes and facilities that they would not

normally have. In order to keep that promise, the AAC training program is being reorganized to streamline the process of welcoming new members into the fold, as well as giving them opportunities to learn more about astronomy. The program consists of three phases: Orientation, Observing 101, and Continuing Education. Orientation is exactly that: an introduction to astronomy in general and the club in particular. Nothing too heavy-duty, and not much beginning and intermediate astronomers in the metro Atlanta area. Furthermore, VR and Woodruff offer access to telescopes that many new members, and some of the older members as well, would not normally be able to procure for themselves for one reason or another. As an apartment dweller myself, there's no way I'd ever be able to store a 20" reflecting telescope at home, and thanks to the VR observatory, I don't have to. The same goes for many others in the club, and to meet their needs, we have big plans for our telescope programs.

First, we're in the process of getting several members ready to serve as trainers on the VR and Woodruff telescopes. Once that's done, you will be given the opportunity at club functions to sign up for training according to your schedule. I'm also working on a web-based tool so you can sign up anytime just by going to the AAC website. Once you get signed up, we'll pair you up with a trainer and you're off to the races. The training is going to be standardized and current, and should open access to the club's telescopes to many more members.

Second, I'm starting on the task of getting our "loaner" telescope program off the ground once and for all. There are some equipment purchases to be made to bring the majority of our loaner telescopes

up to serviceable status, but once they're ready we'll have several telescopes available for those who do not have a telescope of their own yet, or are looking to "test drive" a different telescope before purchasing one of their own.

Public Outreach. We've got some solid programs in place for taking astronomy to the public, and I'm committed to continuing that tradition. Through the efforts of members like Joanne Cirincione, Mark Banks, and Phil Bracken we have regular observing events such as Georgia Astronomy in State Parks (GASP) and sidewalk astronomy sessions designed to bring astronomy into the public awareness. Quarterly open houses at VR give us the chance to throw open the observatory gates and invite people from all over the Atlanta area to see what we have to offer. John Lentini has been doing yoeman's duty as the Boy Scout liaison, and gives us the chance to ignite the fires of discovery in the minds of tomorrow's community and business leaders. All of these programs have my full support, and should have yours, as well.

In closing, I'd like to say once again that I'm looking forward to the year's activities with great anticipation, and look forward to seeing many of you at the next Dark Sky outing or Open House.

Directions to White Hall at Emory

Meeting Location Information:

Turn onto Dowman Drive from North Decatur Road at the five way intersection (across from Everybody's Pizza). White Hall is located on the right across from the new Science & Math building. Parking is available along Dowman Drive on both sides of the road. There is also a gated parking lot on the left behind the Admissions Building. After 6PM there is no fee to park there. For more detailed directions on how to get to Emory University, visit www.atlantaastronomy.org.

GASP (Georgia Astronomy in State Parks) Schedule

September 4 – FDR State Park; October 2 – Florence Marina State Park; November 20 – Unicoi State Park. If you have any questions about these events, contact Joanne at Starrynights@AtlantaAstronomy.org. More information is posted on the AAC Website.

The **Atlanta Astronomy Club Inc.**, the South's largest and oldest astronomical society, meets at **8:00 p.m.** on the third Friday of each month at Emory University's White Hall or occasionally at other locations. Membership is open to all. 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 **\$29** 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 is: Atlanta Astronomy Club, PMB 305, 3595 Canton Road A9, Marietta, Georgia 30066.

Atlanta Astronomy Club Hot Line: Timely information on the night sky and astronomy in the Atlanta area. Call **770-621-2661**.

Internet Home 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 Contacts

President: Chuck Painter 404-386-3899
president@atlantaastronomy.org

Program Chair / Board Chair: Nancy Cronin 678-849-3300
programs@atlantaastronomy.org

Observing Chair: Jim Holley 678-838-2906
observing@atlantaastronomy.org

Corresponding Secretary: Kat Sarbell 404-352-0652
focalpoint@atlantaastronomy.org

Treasurer: Kelly Melikian Treasurer@AtlantaAstronomy.Org

Recording Secretary: Brad Isley 770-497-1599
secretary@atlantaastronomy.org

Board: Mike Boni 770-956-7486
mikeboni@atlantaastronomy.org

Board: Chris Hetlage 770-242-6584 chrishet@comcast.net

Board: Donovan Conrad donovan@donconrad.com

Board: Tom Faber 770-923-6832 tfaber@america.net

Board: Brigitte Fessele 404-371-4713
brigitte_hf@earthlink.net

Elliott Chapter Director: Larry Owens
planetographer@comcast.com

Elliott Observing Chair: Debbie Jones djemail@aaahawk.com

Elliott Recording Secretary: Clevis Jones
cjones@aaahawk.com

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

Webmaster Charlie Elliott: Larry Owens
planetographer@comcast.net

The Telescope Workshop: Dan Llewellyn 678-579-9661
zoser@mindspring.com

Georgia Astronomy in State Parks: Joanne Cirincione 404-824-4751
starrynights@AtlantaAstronomy.org

Light Trespass: Tom Buchanan 770-521-2136
buchanant@bellsouth.net

Mentor Program: Keith Burns 770-427-1475
Keith_B@bellsouth.net

PSSG Chairman: Peter Macumber pmacumber@nightsky.org **Co-Chairman:** Joanne Cirincione starrynights@AtlantaAstronomy.org

Sidewalk Astronomy / Board: Mark Banks 404-257-2766
jmarkbanks@earthlink.net

Woodruff Observ. Coordinator: John Lentini 770-984-0175
johnlentini@yahoo.com

Webmaster Atlanta Astronomy: Peter Macumber 770-941-4640
pmacumber@nightsky.org

Atlanta Astronomy Club Website

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 (when available) and other information. <http://www.atlantaastronomy.org>

Calendar

- August 9th, Monday: AAC Board Meeting**, Druid Chase Office Building, 7:30 PM.
- August 14th, Saturday: Deep Sky Observing**, Brassstown Bald. Contact Jim Holley for details.
- August 20th, Friday: General Membership Meeting**, White Hall at Emory University, 8PM. Speaker Dr. Charles Meegan.
- August 21st, Saturday: Training at Villa Rica**. Contact Jim Holley for details.
- August 21st, Saturday: Charlie Elliott Chapter Meeting**, Visitor Center, 5PM. Speaker Philip Sacco.
- August 26th, Thursday: Focal Point submission deadline**, 4PM.
- September 4th, Saturday: GASP at FDR State Park**.

PSSG'04 Design the T-Shirt Contest

By Peter Macumber

Your design must be submitted to the PSSG Committee on or before **August 20th**. The PSSG Committee will present selected designs to the membership meeting in September. The PSSG Committee reserves the right to accept or reject any design. The decision of the PSSG Committee is final. Keep in mind the following items when designing. Limit colors to four. Include the PSSG Peach and "Atlanta Astronomy Club" in the design. Design must be suitable for screen printing on T-Shirt. Preference is for a light colored shirt. Design on shirt will be approximately 11x17 inches. For more info please visit <http://atlantaastronomy.org/PSSG2004>.

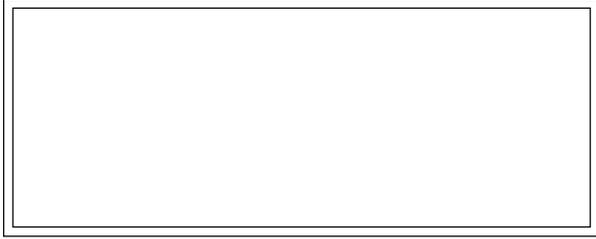
Atlanta Astronomy Club Listserve

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 Lenny Abbey.

Newsletter Deadline and Info

Please send articles, pictures, and drawings in electronic format on anything astronomy related to Kat Sarbell at focalpoint@atlantaastronomy.org. **You can submit articles anytime up and including the deadline date. The deadline for September is Thursday, August 26th at 4:00 PM ... Submissions will no longer be accepted after the deadline.**

FIRST CLASS



The Focal Point

Newsletter of The Atlanta Astronomy Club,

Inc.

FROM:

Kat Sarbell

2025 Peachtree Road, Apt.#408

Atlanta, GA 30309

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

Atlanta Astronomy Club

PMB 305

3595 Canton Road A9

Marietta, GA 30066