



Astrofiles

Volume 21, Issue 1

January 2015

Upcoming Events

Monthly Meeting.

Jan 9th, 7:45pm in Room 215 of Davis Hall on the Auburn campus.

New Moon Stargaze.

Jan 17th, at the club's Dark Sky site.

- Full - Jan 4th
- 3rd Qtr - Jan 13th
- New - Jan 20th
- 1st Qtr - Jan 26th

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Letter from the President

It seems as though everything that could possibly interfere with my focus on club issues decided to do just that over the last few months. I've had to spend some extra time at work, seeing to administrative issues, and we've had some troublesome issues here at the house that have taken much of my time. Now that the holidays are over and I've had a couple of weeks to catch up, it is my hope that things can get back to normal.

This month, the Astrofiles will be shorter than the last few issues, as I will focus more on getting the issue out to our club members than on much else. We have a few things that need the attention of each of our members.

1. We are desperately in need of an editor for the Astrofiles. Robert Fuller initially agreed to take over as the editor from Russell Whigham, but suddenly found himself with an

issue at home that prevents him from having the time resources to continue. There is no way I will have the time resources to put into a monthly newsletter, but I can probably put something together quarterly for now. If anyone wants to volunteer to serve as our newsletter editor, please contact me or Allen Screws as soon as possible.

2. At our last club meeting, our long-time club Treasurer, John Zachry, notified us that he will be retiring as Treasurer as soon as a suitable replacement can be identified. I spoke with our previous president, Rhon Jenkins, about appointing John Wingard as Treasurer. John voiced an interest in serving in this position if needed, and like Rhon, I believe him to be an outstanding choice for club Treasurer. According to our by-laws, which have been in place for quite a while, officer "vacancies occurring between elections shall be filled by a special election at the regular

meeting following the meeting in which the resignation or withdrawal is announced. Duties of the office-meanwhile reside with the President or his interim appointee, or otherwise at the discretion of the executive board."

So, rather than take over the duties of Treasurer myself, I believe it better that I appoint an "interim appointee". It is my plan to make that interim appointment at the January meeting on the 9th, and also notify the club that a special election will be held at the next regular club meeting, which will be in February. If there are any objections to this, please send an email to me or to Allen Screws as quickly as possible.

3. Last year, we began a process to revise and update our club by-laws, which are very dated and no longer meet a minimum legal standard. A committee was appointed to revise the by-laws, and they have finished their work,

(Continued on page 2)

Comet C/2014 Q2 (Lovejoy)

The 5th comet that Australian astronomer Terry Lovejoy discovered is now visible to the naked eye. If you haven't already heard, it recently brightened significantly and is growing brighter by the day. On January 3rd, astronomers report the comet (Q2 for short) to be at magnitude 4.5. Sky and Telescope's report reads as follows:

"Update Dec. 28: The comet has reached magnitude 5.0! It's in

Lepus, easily visible now from northern latitudes in late evening when Orion stands high. Tonight (Sunday) it passes by the globular cluster M79, which is smaller and much fainter at magnitude 8.4. From Sky & Telescope's hometown at latitude 42° north, the comet is a big puffball in 10x50 binoculars even through suburban light pollution. It appears moderately concentrated toward the center, with a hint of being asymmetric but no visible tail. But the tail is there alright, as numerous amateur photos are showing."

The weekly comet updates are

reporting that Q2 is brightening very quickly, and it is currently about 10 degrees down and to the right of Rigel. It crossed the meridian at about 10pm on 1 January. Over the next few nights, Q2 will climb steadily to the right of Orion.

During early January, find some dark sky about 10pm or so, face south, then look for Q2 to the right of Rigel. It might be even more impressive through a good pair of binoculars. If you have a telescope and want to try your hand at comet astrophotography, this is your chance. - RM

CONTINUED ARTICLES

Click [HERE](#)
for the latest
LASCO
imagery

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for the latest
Auburn/Opelika
Clear Sky Chart

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for the AAS
Facebook Group

Click [HERE](#)
for Sun and Moon
Calendars

Click [HERE](#)
for the latest
National Hurricane
Center Forecast

Click [HERE](#)
for the
Dark Sky Finder

Letter

(Continued from page 1)

which requires an approval vote by the club. Such a vote must be preceded by at least 30 days notice, so I am including a copy of the proposed by-laws in this edition (see pages 4 and 5). A vote on the by-laws will (probably) occur at the regular club meeting in February. If this plan changes, a separate notification will be sent out by email.

4. In late 2013, I created an event calendar for 2014. It is now time to do the same for 2015. I will be undertaking this task over the next few days and hope to have it ready to send out shortly thereafter. Once you get a copy in your email, please read it and let me know if you see anything I missed.

5. Please be advised that a star gaze is scheduled for March 21st at Kiesel Park in Auburn. Please let me know by email if you can attend and what equipment you plan to bring.

6. The gate code for the observing site has changed. See "Observing Site" on this page.

Well, that about sums it up for now. I am planning to give a presentation on astrophotography software at the January 9th meeting, and Rhon Jenkins is planning to make a presentation in February, but there are no plans for what we will do at our regular club meetings after that. If you are interested in making a presentation at a future meeting, please let me or Allen Screws know as soon as possible.

See you at Friday's meeting.

Rodger Morrison,

Observing site letter

Dear Dr. Morrison,

Just a short note to let you know that the combination for the field gate lock is being changed as of January 1. The change is from XXXX to XXXX. This change is made to keep only members in good standing with access to the facility.

I don't know if you are aware that thieves broke into the hanger at the field after John Sistrunk passed away. They pretty much took anything they could move, including parts from full-scale aircraft kept there. Our gate lock was cut with a bolt cutter, which indicates to me that they knew what they were after. The lock has been replaced.

I hope that your group still enjoys use of the area. I mention the theft problem only to alert you to the possibility that a police car might stop by if they see activity on the field after dark. Mrs. Sistrunk knows about your use of the field.

Cordially, Henry Helmke

(NOTE: I have the new gate code and will email it to any club member in good standing that requests it. - RM)

LIVE DATA LINKS

[Click HERE for latest C2](#)

[Click HERE for latest C3](#)

[Click HERE for latest B/W](#)

[Click HERE for Prediction](#)

[Click HERE for Weekly Comet Updates](#)

[Click HERE for other live data links](#)

Astronomy News (click headline to read)

[Spacecraft approaching Ceres](#)

[Black hole telescope now imaging Sun's X-Rays](#)

[Kepler still finding planets](#)

[Chandra weighs extremely heavy distant galaxy cluster](#)

[Voyager I surfs a tsunami](#)

[The biggest "thing" in the universe](#)

[Almost daily updates on Comet C/2014 Q2 \(Lovejoy\)](#)

[Rogue star on collision course with our solar system](#)

[Top 10 space stories to watch in 2015](#)

[New galaxy found in the Local Group](#)

[Space wrench "emailed" to ISS for 3D printing.](#)

Officers & Others

- Rodger Morrison, AAS President and Observing Director (ceo@trustc3.com)

- Allen Screws, AAS Vice President and Program Chairman (screwewa@mindspring.com)

- John Zachry, AAS Treasurer (jbzachry@knology.net)

- Robert Fuller, AAS Facebook Group Administrator (ssgtalon@aol.com)

- Rhon Jenkins, AAS Official Keeper of the Door Key (rhon_j@bellsouth.net)

Member Astrophotography - Messier 45 (The Pleiades Cluster) - R. Morrison



The region of space shown in this image contains a large quantity of interstellar dust that, when viewed from our direction, reflects the hot blue light from the nearby stars very nicely. The region is about 400 light years away, covers an area about 16 light years in diameter, and contains over 1,000 confirmed stars. Alcyone (the bright one, just below image-center) is actually an eclipsing binary system, or two stars orbiting each other. In this case, they are about as far apart as the Sun is to Jupiter, and have three other companion stars in orbit around them (Alcyone B, C, and D – all dwarfs).

Messier cataloged the group in 1771 as #45, but their cultural significance goes back much further. They were culturally significant to the Maori, Persian, Chinese, Mayan, Aztec, and even Sioux and Cherokee cultures. They were also referred to several times in the Bible, including Amos 5:8, Job 9:9, and Job 38:3 (some also say Revelation 3:1, but I think that verse is referring to something else). The nine brightest stars in the Pleiades are named after the titan Atlas from Greek mythology, along with his sea-nymph wife Pleione, and their seven daughters. In this image, the pair of brightest stars on the left are named after the parents, Pleione (top) and Atlas (bottom). Alcyone is the brightest star in the bunch, just below the center of the image. To her lower right and working counter-clockwise are her sisters Merope, Electra, Caleano, Taygeta, Sterope (actually a pair of same-sized stars), and finally Maia (about 1/3 of the way down a line drawn from Taygeta to Alcyone).

Sensor: Canon 550d (T2i) w/Magic Lantern 1.0.9

Telescope: 750mm F5 Newtonian w/ 2" GSO Coma Corrector

Mount: Celestron CG-5 German Equatorial (Modified and Hypertuned, no autoguiding)

Original resolution: 5184 x 3456 in Canon CR2 (RAW)

100 Light exposures (60sec @ ISO800) NOTE: Used Entropy Weighted Average (K=5)

100 Dark exposures (60sec @ ISO 800)

41 Flat exposures (using clear sky light @ zenith @ sunset through cotton)

35 offset/bias exposures (1/4000th sec @ ISO 800)

Alignment, Normalization, Stacking: DeepSkyStacker 3.2.2 (corrected in Photoshop Elements)

NOTE: Yes, I know that it might be tacky to present my own image in the newsletter, but I am on a tight deadline and need content quickly. There are several other (more) capable astrophotographers in the club but I am pushed for time to get this issue out. I hope to have much more of their work in future issues. - Rodger Morrison



Having Trouble?

Visit the online edition at www.auburnastro.org to use the active hyperlinks located throughout this issue of the *Astrofiles*

“Superstition is to religion what astrology is to astronomy; the mad daughter of a wise mother. These daughters have too long dominated the earth.”

-- Voltaire --

(PROPOSED BY-LAWS)

CONSTITUTION AND BY-LAWS OF THE AUBURN ASTRONOMICAL SOCIETY

PREAMBLE

We the undersigned, desiring to secure the pleasure and benefits of an association of persons interested in amateur astronomy; to encourage and coordinate activities of amateur astronomers and amateur astronomical societies; to foster observational and computational work, and craftsmanship in various fields of astronomy; to correlate amateur activities with professional research, do hereby organize and constitute ourselves the AUBURN ASTRONOMICAL SOCIETY, a non-profit organization.

ARTICLE I

Name:

The name of this association shall be the AUBURN ASTRONOMICAL SOCIETY.

ARTICLE II

Membership:

Any person with a sincere interest in astronomy may be admitted to membership by paying the published annual dues. A member may be dropped from membership, after a show of due cause, by a 2/3 vote of members present at a regularly scheduled business meeting. Before such a vote can occur, notification will be sent to all club members at least 30 days in advance of such action.

ARTICLE III

Officers:

The officers of the Auburn Astronomical Society shall consist of President, Vice-President, Secretary-Treasurer, and Communications Director. All eligible candidates shall be selected from the regular paid up membership.

Section I

The officers of this group shall be elected for a term of at least one year. Officers shall continue in their elected positions for an indefinite period unless; the officer resigns from office; at least two other officers determine that an officer is unable to execute the duties of the office; or the officer has been in office for at least one year and an election is requested by any member in good standing.

Section II

Method of voting shall be by secret ballot at a regular business meeting, provided all members have been given at least 30 days advance notice that an election will be held.

Section III

Vacancies occurring between elections shall be filled by a special election at the regular meeting following the meeting in which the resignation or withdrawal is announced. Duties of the office-meanwhile reside with the President or his interim appointee, or otherwise at the discretion of the executive board.

Section IV

Officers may be removed by a 2/3 vote of the membership.

ARTICLE IV

Duties of Officers:

Section I; President:

The President shall; preside at all business meetings; be chairman of the executive board; call extra business meetings if required; temporarily fill vacancies; and appoint committees not otherwise provided for. The President shall be ex-officio member of all committees, and shall perform all other duties normally required by the office of President.

Section II; Vice-President:

The Vice-President shall; preside in the absence or inability of the president to preside, or, at the pleasure of the President. The Vice-President may also be assigned some additional duties, such as coordinating committee activities; heading educational activities; instrument committee chair, etc.

(PROPOSED BY-LAWS, CONTINUED)

Section III; Secretary-Treasurer:

The Secretary-Treasurer shall; keep the minutes of the executive board meetings; maintain an up-to date roster of members; and correspond with other astronomical societies and individuals regarding club and regional business. He shall keep an accurate account of all financial transactions of the organization:

- To receive and receipt dues money from members.
- To account for and bank receipts properly.
- To pay all bills justly accrued by the organization.
- To send Society dues annually to the Astronomical League Treasurer, on receipt of statement.
- To keep books in order for annual audit.
- To keep minutes.

Section IV; Communications Director:

The Communications Director shall manage all public printed and electronic communication activities of the organization. These include but are not limited to email lists, newsletters, websites, Facebook and other social media pages and groups, brochures, flyers, etc.

Section V; Committee and Boards:

The officers of the organization shall constitute the Executive Board. Additional standing and *ad-hoc* committees may also be established by the Executive Board as may be deemed necessary for proper organizational functioning.

ARTICLE V

Membership Dues:

Annual dues shall be required for regular members of the organization each calendar year.

Annual dues for student members shall be 50% of the amount paid required for regular club members. Student members are defined as members of any age, who are actively enrolled with any accredited elementary, secondary, or post-secondary educational institution. Members less than 21 years of age, who are actively pursuing a *bona-fide* home-schooling program of study, are also defined as student members.

Annual dues shall become payable in January, and can only be changed by a 2/3 vote of the members present at a regular monthly business meeting. A member joining the organization at any other time shall pay an appropriate prorated amount, equal to 1/12 of the dues amount per each full calendar month remaining in the year in which the member joins. (example: A member joining in September would pay for three months of membership – October, November, and December – an amount equal to 3/12 of the yearly membership dues).

Member Benefits:

All members in good standing shall enjoy whatever benefits may exist related to said membership. These benefits may include, but are not necessarily limited to the following:

- Borrowing privileges to the club's library of books, videos, and/or software
- Pricing discounts given to club members from merchants, publishers, and other organizations
- Borrowing privileges to the club's equipment collection
- Access to the club's dark sky observing site
- Attendance and participation at all club gathering and events
- Membership in "The Astronomical League" organization

Certain restrictions may exist regarding the particular member benefits. If such restrictions exist, they shall apply to all members equally.

Any disputes concerning member benefits shall be resolved by the Executive Committee on a case-by-case basis.

Other:

For continuity purposes, at least two club officers shall have full access to all club bank accounts. However, only the Secretary-Treasurer should access organization funds, unless a majority of the other Executive Committee members determines that an extraordinary condition exists and approve such action in advance.

For continuity purposes, at least two club officers shall have full administrative access to all of the organization's electronic communication systems. This includes, but is not limited to, the organization's Facebook groups and pages, websites, email accounts, etc.

For continuity purposes, an inventory of club assets will be maintained by the Executive Committee. In addition, a list of which equipment is checked out by club members will also be maintained for the purposes of inventory control.

ASTROFILES

is the monthly
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of the

**AUBURN
ASTRONOMICAL
SOCIETY**

To subscribe, please
send an email to the
editor:

Rodger Morrison
ceo@trustc3.com

**A Higgs Boson walks
into a church, but is
stopped. The priest
says, “We don’t allow
Higgs Bosons in here.”**

**The Higgs Boson re-
plied, “but without me,
how can you have
mass?”**

See more
astrophotography by the
AAS club members by
visiting the club’s website
at www.auburnastro.org
and clicking on
“Astrophotos”

**GENERAL INFORMATION ABOUT
THE AUBURN ASTRONOMICAL SOCIETY**

Established in September 1980, the Auburn Astronomical Society welcomes anyone with an interest in astronomy, including beginners, amateurs, educators, or professionals.

The monthly club meetings of the AAS are held at 7:45pm on Friday evenings near each Full Moon in room 215 of Davis Hall, the Aerospace Engineering Building on the main campus of Auburn University (see club website for specific [dates](#) and [directions](#)), The AAS is not directly affiliated with Auburn University. Regular club meetings are informal and typically include discussing club issues and recent club member activities, hearing reports from recent star parties, sharing [astrophotos](#), new objects observed, new telescope or accessory reviews, book reviews, and/or news of recent astronomical discoveries. The program feature can range from astronomy-related videos, astronomy software demonstrations, and how-to programs presented by our members, to programs given by invited professional astronomers. Again, visitors are welcome.

Monthly stargazes are held each month, on a Saturday evening near the New Moon, at the AAS dark sky viewing site near the intersection of Macon County Roads 22 and 24 (see club website for specific [dates](#) and [directions](#)). Other stargazes are held periodically, upon request by schools or other local organizations. At these stargazes, all AAS members are especially encouraged to attend, as they are typically one of our best outlets for sharing our hobby with the general public.

Club dues are \$20 per year (\$10 for students), payable in January. Club members enjoy a number of benefits, which include access to the club’s library of videos and other material, borrowing permission for club equipment (some restrictions apply), membership in the [Astronomical League](#), permission to access the AAS dark sky viewing location, discounts on purchases from select suppliers, discounts on subscriptions for [Astronomy](#) and [Sky&Telescope](#) magazines, and much more. Spouses and family are encouraged to attend club events, as well as visitors who are interested in astronomy.

As part of our mandate to promote amateur astronomy, and as a service to the community, the Auburn Astronomical Society makes itself available to school and scout groups, to supplement their classroom studies with some real hands-on observing. For more information, please contact the AAS President, Rodger Morrison, by sending an email to ceo@trustc3.com.