Volume 32, Number 10 October 2022

STAR STUFF

Ford Amateur Astronomy Club Newsletter

Star Stuff

This newsletter is published eleven times per year by:

Ford Amateur Astronomy Club
P.O. Box 7527
Dearborn, MI 48121-7527

Officers

President:	Mike Bruno
Vice President:	Ed Halash
Secretary:	Jesse Godsey
Treasurer:	Arica Flores

Departments

Webmaster:	Liam Finn
Membership:	Doug Bauer
Newsletter:	Tim Campbell
Equipment:	Jeff Gorman
Speakers:	Sandra Macika

Club Information

The Ford Amateur Astronomy Club meets on the fourth Thursday of each month, except for the combined November/ December meeting which meets on the first Thursday of December – at Henry Ford College Administration Services and Conference Center in Dearborn.

Secretary's Report

by Jesse Godsey

FAAC General Meeting – September 22, 2022

The meeting was called to order by our club President, Mike Bruno. Seventeen club members were in attendance as well as our guest speaker, Diane Hall.

The meeting began with a discussion regarding the Great Lakes Star Gaze (Star Party in Gladwin, MI) and who might be attending. Concerns were expressed regarding the weather forecast.

Member Observing

Several members discussed the Astronomy at the Beach event the prior weekend as well as the attendance and speakers. Jesse commented that it was nice to see other astronomers and their equipment.

What's Up

Gordon H. presented upcoming events in October — Happy Halloween!! Club observing is on the 1st of the month; board meeting on October 6; Full moon on the 9th; and New moon on the 25th. The General FAAC Club meeting is on the 27th. The Orionid meteor show is the 20th and 21st. Northern and Southern Taurus is on the 31st. C/2017 K2 (PanSTARRS) is predicted to be magnitude 8-13 depending on the source but it will be very low in the sky. Observing is expected to be a challenge.

This month's planets include Saturn, Neptune, Jupiter, and Mars in the eking and Mercury, Mars again, and Uranus visible in the early morning. The Ring Nebula (M57) near Lyra face nice visibility this time of the year. Also check out the Open Cluster M39 as well as the Crescent Nebula near Cygnus.

Continued on Page 2

Club Information

Refer to our website for a map and directions:

www.fordastronomyclub.com

Observing

The FAAC primary observing location is Spring Mill Pond located within the Island Lake State Recreation Area near Brighton, Michigan. The Club maintains an after-hours permit. Club members can contact any club officer for procedures to enter or exit the park when the main gate is locked.

The club also has use of a private observing site near Gregory Michigan. See the FAAC Groups.io Group for more information.

Inquiries can be directed to info@fordastronomyclub.com

Membership

Membership is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (FERA).

Fees

Annual - New Members: $30
Annual - Renewals: $25
($30 if not renewed by Jan 31)

Benefits

Membership includes the Star Stuff newsletter, discounts on magazines, discounts at selected

In memory of Greg Knekleian

Long time club member Greg Knekleian was struck by a vehicle while riding his e-bike on October 25th. Greg was rushed to the hospital for emergency surgery, but did not survive.

Greg was a passionate club member. He was one of the club's caretakers of the Hector J. Robinson Observatory at Lincoln Park Schools and enjoyed doing public outreach and sidewalk astronomy.

Arrangements are not yet known. Additional information will be shared via the club Groups.IO email as it becomes available.

We are saddened by this tragic loss and offer our condolences to his family and friends. He will be missed.

Secretary's Report (Continued from page 1)

Club Business

The secretary's report was given. The club sold a little less than half of the glow bracelets and necklaces at Astronomy at the Beach. Mike discussed Astronomy at the Beach and thanked everyone for attending as well as the help and presentations that many club members provided.

Social Media

Liam continues to maintain the website and has automated some of the update processes.

Projects & Special Events

Club viewing is scheduled for the 1st of October.

Speaker

The featured speaker was Diane Hall of the Warren Astronomical Society. Diane presented *Above it All - Observing from Apache-Sitgreaves Observatory*. This observatory is near Overguard Arizona — northeast of Phoenix. It offers Bortle Class 2 skies and low humidity of around 5-25%. Diane expressed the wonderful weather and viewing conditions as well as the ability to hunt down more challenging subjects.

Continued on Page 6

area equipment retailers, and after-hours access to the Island Lake observing site and private observing sites.

Astronomy or Sky & Telescope magazine discounts are available by contacting the FAAC club treasurer treasurer@fordastronomyclub.com for the discount form. The form should be sent to the respective publisher with your subscription request and payment. Do not send money directly to FAAC.

The FAAC has a pool of equipment including telescopes, cameras, and other gear used for outreach. Much of the gear can be borrowed for personal use in the interest of furthering your knowledge and experience in astronomy.

Please see the equipment list for further information.

Club Wear

Club logo-wear (embroidered with club logo) can be ordered directly through LLBeanBusiness.com

See the groups.io files section for ordering information and instructions on how to request the correct logo.

Communication

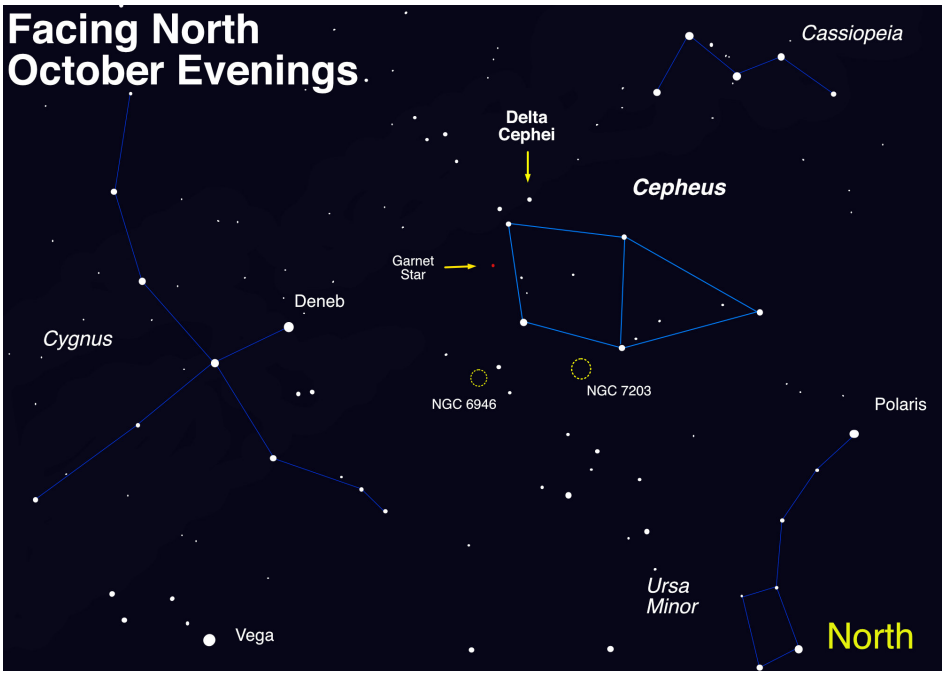
The FAAC uses Groups.io for our email distribution list (both formal and informal discussion.)

Observing nights & locations (scheduled and unscheduled as weather permits), equipment

Cepheus: A House Fit for a King

by David Prosper

Sometimes constellations look like their namesake, and sometimes these starry patterns look like something else entirely. That's the case for many stargazers upon identifying the constellation of **Cepheus** for the first time. These stars represent Cepheus, the King of Ethiopia, sitting on his throne. However, many present-day observers see the outline of a simple house, complete with peaked roof, instead – quite a difference! Astronomers have another association with this northern constellation; inside its borders lies the namesake of one of the most important types of stars in modern astronomy: Delta Cephei, the original **Cepheid Variable**.



The stars of Cepheus are visible all year round for many in the Northern Hemisphere, but fall months offer some of the best views of this circumpolar constellation to warmly-dressed observers. Just look northwards! Image created with assistance from Stellarium: stellarium.org.

Cepheus is a circumpolar constellation for most observers located in mid-northern latitudes and above, meaning it does not set, or dip below the horizon. This means Cepheus is visible all night long and can be observed to swing around the northern celestial pole, anchored by Polaris, the current North Star. Other circumpolar constellations include Cassiopeia, Ursa Major, Ursa Minor, Draco, and Camelopardalis. Its all-night position for many stargazers brings with it some interesting objects to observe. Among them: the "Garnet Star" Mu Cephei, a supergiant star with an especially deep red hue; several binary stars; several nebulae, including the

questions, events, outreaches, etc. are normally discussed via this list.

Join by visiting https://groups.io/g/FordAstronomyClub to request membership.

Articles & Submissions

Your submissions to Star Stuff are welcome! Send your story and/or images to the editor at: starstuff@fordastronomyclub.com

Observatory

The FAAC maintains and operates the Hector J Robinson Observatory (HJRO) at Lincoln Park Schools.

The observatory houses a 14" Celestron C14 Schmidt Cassegrain Telescope as well as other instruments and can be used by club members.

The observatory is adjacent to the athletic field situated between the Lincoln Park Middle School and High School buildings near

1701 Champaign Rd.
Lincoln Park, MI 48146

The school system has designated four "key-holders" within the club who have the ability to open the observatory.

Call (313) 444-5850 to learn when the observatory is opening (or request an opening).

notable reflection nebula NGC 7023; and the "Fireworks Galaxy" NGC 6946, known for a surprising amount of supernovae.

Perhaps the most famous, and certainly the most notable object in Cepheus, is the star Delta Cephei. Its variable nature was first discovered by John Goodricke, whose observations of the star began in October 1784. Slightly more than a century later, Henrietta Leavitt studied the variable stars found in the Magellanic Clouds in 1908 and discovered that the type of variable stars represented by Delta Cephei possessed very consistent relationships between their luminosity (total amount of light emitted), and their pulsation period (generally, the length of time in which the star goes through a cycle of where it dims and then brightens). Once the period for

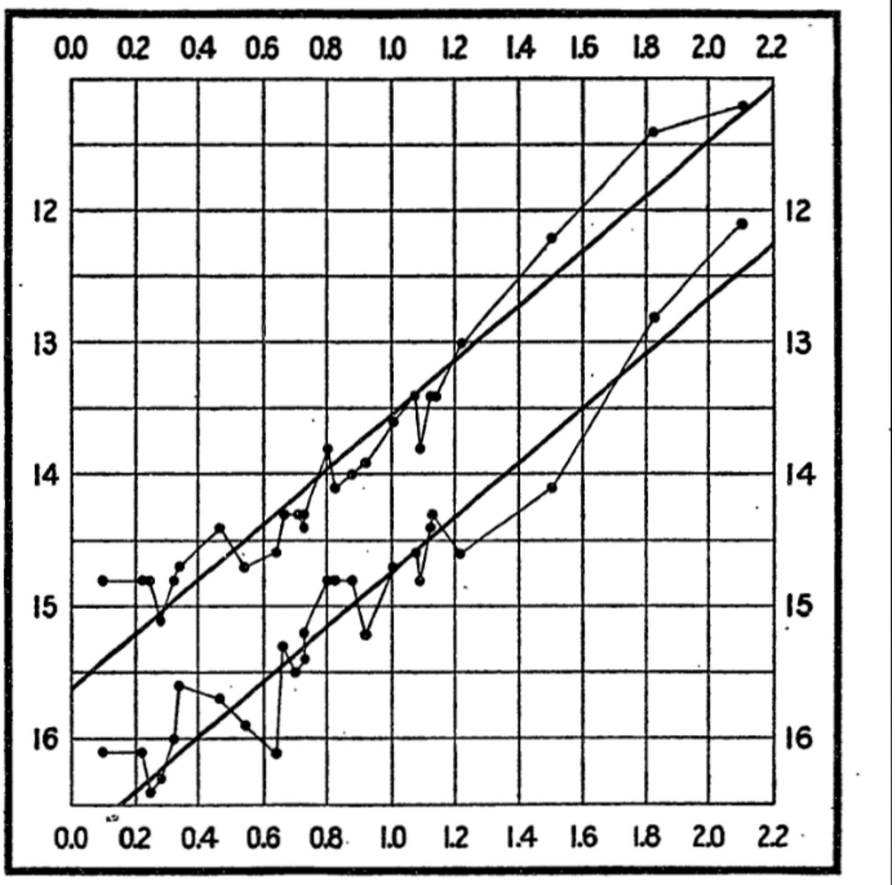


FIG. 2.

This historical diagram from Henrietta Leavitt's revolutionary publication shows the luminosity of a selection of Cepheid Variables on the vertical axis, and the log of their periods on the horizontal axis. The line drawn through these points shows how tight that relationship is between all the stars in the series. From Henrietta Leavitt and Edward Pickering's 1912 paper, "Periods of 25 Variable Stars in the Small Magellanic Cloud," a copy of which can be found at: https://ui.adsabs.harvard.edu/abs/1912HarCi.173....1L/abstract

Continued on Page 6

Planetarium

FAAC members are volunteer operators for the Hammond Planetarium at Henry Ford College.

Planetarium shows are free and open to the public.

Four seasonal planetarium shows are offered per year with the stars and constellations of the current season as well as a multi-media presentation featuring select planets.

Public planetarium shows are normally offered each Wednesday at 7:30pm and every 2nd Saturday at 3:00pm – however there are some exceptions. Please see the planetarium schedule for specific times. It is posted here:

fordastronomyclub.com/hfc-planetarium

Social Media

The FAAC has several social media accounts. Members are encouraged to join and follow them.

Facebook

facebook.com/FordAstronomyClub

Twitter

twitter.com/Ford_Astro

Scheduled Club Events

Month	Date	Sunset	Location
April	20th	8:30pm	Spring Mill Pond
May	27th	8:59pm	Spring Mill Pond
June	24th	9:13pm	Spring Mill Pond
July	22nd	9:02pm	Spring Mill Pond
August	26th	8:17pm	Spring Mill Pond

Upcoming Club Meeting Topics & Speakers

Meeting	Speaker	Topic
October 27th	Trevor Jones	Deep-Space Astrophotography: Proven Methods for Better Images

October Talk Details

Deep-Space Astrophotography: Proven Methods for Better Images

Trevor Jones - AstroBackyard YouTube Channel

Trevor will explain how he has been able to collect better images from the city than he thought were possible. From recommended filters to advanced processing techniques, see why APOD-worthy images are possible from the backyard.

Bio:

Trevor Jones, also known as AstroBackyard, is an experienced amateur astrophotographer and content creator who shares his years of experience and knowledge with others to help improve their skills in astrophotography.

Before AstroBackyard, Trevor spent many years as a graphic designer, marketer and creative director and has since used these skills to create a brand around the hobby of astrophotography. Trevor is known for his beginner level approach to explaining astrophotography and has been involved in the greater community as a photography contest judge, public speaker and dark-sky advocate.

Cepheus (Cont'd from page 4)

a Cepheid Variable (or Cepheid) is known, its luminosity can be calculated by using the scale originally developed by Henrietta Leavitt, now called "Leavitt's Law.". So, if a star is found to be a Cepheid, its actual brightness can be calculated versus its observed brightness. From that difference, the Cepheid's distance can then be estimated with a great deal of precision. This revolutionary discovery unlocked a key to measuring vast distances across the cosmos, and in 1924 observations of Cepheids by Edwin Hubble in what was then called the Andromeda Nebula proved that this "nebula" was actually another galaxy outside of our own Milky Way! You may now know this object as the "Andromeda Galaxy" or M31. Further observations of Cepheids in other galaxies gave rise to another astounding discovery: that our universe is not static, but expanding!

Because of their importance as a "standard candle" in measuring cosmic distances, astronomers continue to study the nature of Cepheids. Their studies revealed that there are two distinct types of Cepheids: Classical and Type II. Delta Cephei is the second closest Cepheid to Earth after Polaris, and was even studied in detail by Edwin Hubble's namesake telescope, NASA's Hubble Space Telescope, in 2008. These studies, along with others performed by the ESA's Hipparcos mission and other observatories, help to further refine the accuracy of distance measurements derived from observations of Cepheids. What will further observations of Delta Cephei and other Cepheids reveal about our universe? Follow NASA's latest observations of stars and galaxies across our universe at nasa.gov.

FAAC Board Meeting Summary – October 06, 2022

Meeting called to order Club President Mike Bruno at 7pm. Fourteen additional club members were in attendance.

Next Meeting

October 27, 2022 at 7pm. The speaker is Trevor Jones known for his YouTube channel *AstroBackyard*. Trevor will talk about Deep Space Astrophotography.

Club Equipment

Jeff Gorman confirmed that the equipment inventory is verified and complete.

Social Media

Update automation is mostly complete and not many updates were needed. The domain name is due for renewal.

Secretary's Report (Cont'd from Page 2)

Membership

Annual membership renewals are starting and notices will be going out soon. Note that membership is by calendar year. Members who joined in mid-year receive a discounted rate. Members who joined in or after September pay the full rate but that membership extends through the following year.

Old Business

- Astronomy at the Beach took place and went well. It appeared to have good attendance. To improve planning, the Great Lakes Association of Astronomy Clubs (GLAAC) wants clubs to commit to tent-space earlier in the year as this will help with budging for the tents.
- The October 1st public viewing event went well and we had several people show up with telescopes as well as some new members.

New Business

- Jesse mentioned the topic of Sidewalk Astronomy and the possibility of having functions like this in communities, townships, etc.

Continued on Page 8

Equipment

The FAAC maintain an equipment pool of telescopes, binoculars, cameras, and other equipment used for special events. Much of this equipment is available to members.

Each piece of equipment is either stored by a club volunteer who offers to be the caretaker of the item, or by the person who last borrowed the item.

Most equipment can be borrowed for one-month durations. At the end of the month, the borrower can extend the loan if no other members have requested it.

Some items are reserved for special events use and are not normally available to be borrowed.

If you are interested in borrowing an item, please contact either the current holder of the equipment, or contact the club equipment manager, Jeff Gorman, at equipment@fordastronomyclub.com

Item	Held by
Telescopes	
TK1 Coronado Personal Solar Telescope (Doublestack) w/Meade Autostar Goto Mount	Jessica Edwards
TK5 4.5" Reflector on Fitz GEM mount	Jerry Jamula
TK6 8" Orion XT8i Dobsonian	Dan Smith
TK7 TPO 8" f/4 Newtownian Astrograph (OTA Only - no mount)	Bhru Patel
TK8 20" f/5 Obsession Dob, Ladder & EP Kit	Liam Finn
Presentation Tools	
Projector (older)	Jim Frisbie
Projector (newer)	Gordon Hansen
Projection Screen 8'	John McGill
Projection Screen 6'	Liam Finn
Bullhorn	George Korody
Speaker System w/Wireless Mic	Liam Finn

Item	Held by
Display Items	
Astronomy Event Sign (3' x 6')	Gordon Hansen
Astronomy Event Signs 18x24" (x8)	Liam Finn
PVC Display Board - Folding	Sandra Macika
Banner - Small (24" x 32")	George Korody
Banner - Medium (24" x 72")	Sandra Macika
Banner - Large (32" x 16')	George Korody
Tri-Fold Presentation Boards	George Korody
Other	
Canopy (10' x 10')	Liam Finn
Pop Cooler	Sean Pickard
TA Sky Quality Meter	Liam Finn
Demonstration Tools	
Weigh on Planets Scale	Liam Finn
Lunar Phase Kit	Bob MacFarland
100' Scale Model Solar System Kit	Bob MacFarland
NSN Meteorite (Outreach) kit	Sandra Macika

Item	Held by
Imaging Cameras	
C2 Meade Deep Sky Imager Pro III w/Autostar Suite	Gordon Hansen
C6 Canon 60Da Astrophotography DSLR and accessories	Tim Dey
Other Imaging Equipment	
CA1 Rigel Systems Spectrascope	Gordon Hansen
C7 Canon EOS EF 70-200mm f/1.4L IS USM lens & tripod mounting ring (for Canon EOS cameras)	Gordon Hansen
Rokinon 8mm f/3.5 Fish-Eye Lens (Canon EOS Mount)	John McGill
Special Event Items - Not available for Loan Out	
BK2 Zhumell 25x100 Binoculars, hard case, & Zhumell TRH-16 tripod w/soft fabric bag	Sandra Macika
TAK1 Night Vision Image Intensifier for telescopes (2" barrel size)	Tim Dey

Secretary's Report (Continued from page 6)

- Sandra M. brought up the topic of getting speakers lined up for the 2023 year. She also mentioned the topic of using the club membership list for communication purposes. The club carefully protects access to this list to maintain privacy of club members personal information.
- There were two outreach requests from different schools. Centennial Middle school in South Lyon is looking for an all-day event (7:30am - 2:30pm) and Flex Tech High School in Brighton is in need a presenter on astronomy — specifically the life-cycles of stars & nuclear fusion. Tim Campbell will reach out to them regarding this opportunity.
- Doug Bauer brought up the topic of requesting space at Henry Ford College for in-person meetings on campus.
- Arica mentioned the swap meet in the spring and also that the Henry Ford College Planetarium is now open. She also mentioned the topic of having the banquet next year.

General Discussion

- GLAAC applied for 501(c)3 status and this topic came up at the meeting. While GLAAC has applied for non-profit charity status, the request has not yet been approved. We are told the IRS has an extremely lengthy backlog of requests and are years behind.
- Officer positions were discussed. It is time to solicit candidates for the officer positions next year.