



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:	John McGill
Secretary:	Cheri Grissom
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.

President's Corner

by Mike Bruno

I hope everyone has been staying cool as the heat of Summer has gotten underway. I also hope that everyone has got out over the quite a few clear nights we have had this past month to observe. With that said, it looks like the 3rd time was the charm this year for our unpredictable visitors from the outer solar system, mainly comet C/2020 F₃ (NEOWISE). After some Anticipation, and some Hype, and some Hope, for comet's Swan & Atlas the long wait for a bright comet has ended. Bring on comet NEOWISE! If you have not seen comet NEOWISE yet, it is time to get out somewhere dark with a pair of binoculars before it is too late. This comet was just discovered the end of March and it was big enough (estimated 5km diameter) to survive its close encounter with the Sun and not disintegrate like the two hopefuls earlier in the year. I was happy to see all the posts and excitement about this comet on our Groups.io chat and some of the wonderful images everyone has posted. This has been a challenging year for all of us and having a bit of excitement for such a wonderful event has been a welcome distraction.

If you happen to be out looking at the comet, do not forget that we have recently launched our FAAC Observer's Award and the FAAC Seasonal Target Area (FSTA) Challenge. This is a great time to begin one of these observing challenges to work on your observing skills and knowledge. Head over to <https://groups.io/g/FordAstronomyClub/files/FAAC%20Observers%20Award> for the list of requirements.

As previously mentioned, this year's Astronomy at the Beach (AATB) will be held virtually on September 25th & 26th. We will keep you informed thorough Groups.io as we go forward with this virtual event. If you would like to participate, please contact me. Also, do not miss out on our virtual club meeting on July 23rd where we will hear about Mapping a Black Hole & I am sure some discussion about comet C/2020 F₃ (NEOWISE).

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

Secretary's Report

by Cheri Grissom

FAAC General Meeting – June 25, 2020

Our videoconference general meeting was called to order by President Mike Bruno at 7:03 p.m. All board members present. A total of approximately 26 people were listed as being in attendance at the peak. We had one guest present, and Mike asked him to introduce himself.

Member Observing Experiences:

Several members reported on observing the Moon, Jupiter, Saturn, and Mars, and also doing some imaging. Those who went to Lutz Park recently (a small number of members only, all staying socially distanced) had a good time and felt it was a very nice location. John McGill told us about imaging an ISS transit of the Sun.

What's Up:

Our asterism of the month for July is the Summer Triangle, consisting of the stars Vega, Deneb, and Altair. This asterism has also been known by the United States Air Force (before GPS) as the Navigator's Triangle, and back in the 1800s as the Conspicuous Triangle. Jupiter is at opposition on July 14, Pluto is at opposition on July 15, and Saturn is at opposition on July 20. Jupiter and Saturn are now viewable all night, Mars joins them later. Gordon also talked about the Double-Double in Lyra and the best ways to view it.

Treasurer's Report:

Arica reports that we currently have approximately \$8100. Some old checks have finally cleared the account.

Projects, Committees, & Events:

Everything that we would be planning and participating in this summer and fall are on hold for now. GLAAC has decided to make Astronomy at the Beach a virtual event and is requesting input from each member club about what kind of presentations they may be able to do. Our club will discuss this at our board meeting next week.

Speaker:

While the technical details were being set up, Jon Blum introduced our guest speaker, Jim Shedlowsky, a long-time member of the Warren

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

Astronomical Society. Jim graduated from the University of Michigan with a degree in engineering and physics and worked as a vehicle development engineer/manager for GM. Jim is a frequent guest speaker at many clubs, and is known for closing his talk with a song.

Jim gave a presentation on the "The LSST: Faster, Wider, Deeper." Originally known as the Large Synoptic Survey Telescope, it is located in Chile and is now called the Vera C. Rubin Observatory. Its main purpose is to conduct an astronomical survey of the southern sky known as the Legacy Survey of Space and Time (LSST). This project is planned to take place over ten years. Among the science goals are understanding the nature of dark matter and dark energy. It will also be cataloging the solar system, exploring the changing sky, and studying Milky Way structure and formation. This project will have a major impact on the study of astronomy and is expected to detect approximately 20 billion galaxies. Jim closed his presentation with a song dedicated to the LSST project. He then took questions from our members.

After the talk, we had an addendum to the business portion of the meeting, with Jeff Gorman giving the Equipment Report. He is currently waiting for two people to report back to him.

Our meeting continued on a more casual basis, with spontaneous discussions and a few members sharing some beautiful images over our screens.

Meeting was adjourned at 9:12 p.m.

July Board Meeting Summary

(Please note that these summaries published each month are a condensed and abbreviated form of the full slate of topics and discussions that take place at our board meetings. Full board meeting minutes are taken each month and kept for club records.)

Our July board meeting was held via videoconference. All board members were present, except Arica Flores, as well as eight additional members.

Gordon Hansen may not be able to attend the general meeting later this month, so Tim Campbell volunteered to do the "What's Up" segment. Our main speaker will be Edward Cackett, talking about "Mapping a Black Hole."

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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).

Summer Triangle Corner: Deneb

by David Prosper



The Summer Triangle is high in the sky after sunset this month for observers in the Northern Hemisphere, its component stars seemingly brighter than before, as they have risen out of the thick, murky air low on the horizon and into the crisper skies overhead. Deneb, while still bright when lower in the sky, now positively sparkles overhead as night begins. What makes Deneb special, in addition to being one of the three points of the Summer Triangle? Its brilliance has stirred the imaginations of people for thousands of years!



Caption: Long exposure shot of Deneb (brightest star, near center) in its richly populated Milky Way neighborhood. Photo credit: Flickr user jpstanley. Source: <https://www.flickr.com/photos/jpstanley/1562619922> License: <https://creativecommons.org/licenses/by-nc-sa/2.0/>

Deneb is the brightest star in Cygnus the Swan and is positioned next to a striking region of the Milky Way, almost as a guidepost. The ancient Chinese tale of the Cowherd (Niulang) and the Weaver Girl (Zhinü) - represented by the stars Altair and Vega - also features Deneb. In this tale the two lovers are cast apart to either side of the Milky Way, but once a year a magical bridge made of helpful magpies - marked by Deneb - allows the lovers to meet. Deneb has inspired many tales since and is a

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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

MeetUp

meetup.com/Ford-Amateur-Astronomy-Club

Scheduled Club Events

Month	Date	Sunset	Location
July	25th	8:59pm EDT	Island Lake
August	8th Club Picnic Meteors & S'mores	8:43pm EDT	Island Lake
August	22nd	8:20pm EDT	Island Lake
September	25th & 26th Astronomy at the Beach	7:24pm EDT 7:22pm EDT	Island Lake
October	24th	6:36pm EDT	Maybury State Park

Upcoming Club Meeting Topics & Speakers

Meeting	Speaker	Topic
July 23rd	Edward Cackett	Mapping a Black Hole
August 27th	TBA	
September 24th	Arica Flores	Leap Year
October 22nd	Jenny Pon	Space Ghosts

July Talk Details

Mapping a Black Hole

Ed Cackett

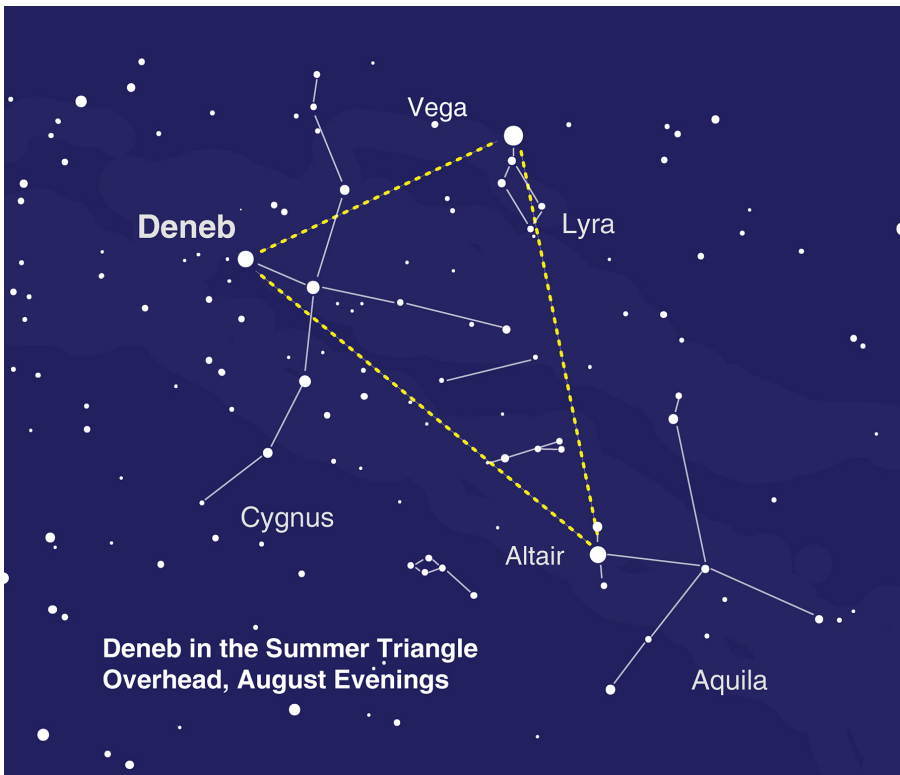
Associate Professor, Wayne State University

Strong observational evidence confirms the existence of black holes — objects whose gravity is so strong even light cannot escape. But, how do we observe them? The vast majority of black holes have angular sizes that are far too small to be imaged directly, so indirect methods must be used. One way is to rely on the fact that as a black hole sucks up surrounding gas, that gas get extremely hot and emits large numbers of X-rays. X-ray observations of black holes therefore give us a glimpse of gas just before it passes the Event Horizon — the point of no return. I will

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Deneb (Cont'd from page 4)

staple setting of many science fiction stories, including several notable episodes of Star Trek.



Spot Vega and the other stars of the Summer Triangle by looking straight up after sunset in August!

Astronomers have learned quite a bit about this star in recent years, though much is still not fully understood – in part because of its intense brightness. The distance to Deneb from our Sun was measured by the ESA's Hipparcos mission and estimated to be about 2,600 light years. Later analysis of the same data suggested Deneb may be much closer: about 1,500 light years away. However, the follow-up mission to Hipparcos, Gaia, is unable to make distance measurements to this star! Deneb, along with a handful of other especially brilliant stars, is too bright to be accurately measured by the satellite's ultra-sensitive instruments.

Deneb is unusually vivid, especially given its distance. Generally, most of the brightest stars seen from Earth

are within a few dozen to a few hundred light years away, but Deneb stands out by being thousands of light years distant! In fact, Deneb ranks among the top twenty brightest night time stars (at #19) and is easily the most distant star in that list. Its luminosity is fantastic but uncertain, since its exact distance is also unclear. What is known about Deneb is that it's a blue-white supergiant star that is furiously fusing its massive stocks of thermonuclear fuel and producing enough energy to make this star somewhere between 50,000 and 190,000 times brighter than our Sun if they were viewed at the same distance! The party won't last much longer; in a few million years, Deneb will exhaust its fuel and end its stellar life in a massive supernova, but the exact details of how this will occur, as with other vital details about this star, remain unclear.

Discover more about brilliant stars and their mysteries at nasa.gov.

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	Item	Held by
Telescopes		Display Items	
TK1 Coronado Personal Solar Telescope (Doublestack) w/Meade Autostar Goto Mount	Jessica Edwards	Astronomy Event Sign (3' x 6')	Gordon Hansen
TK5 4.5" Reflector on Fitz GEM mount	Bob MacFarland	Astronomy Event Signs 18x24" (x8)	Liam Finn
TK6 8" Orion XT8i Dobsonian	Sean Pickard	PVC Display Board - Folding	Sandra Macika
TK7 TPO 8" f/4 Newtownian Astrograph (OTA Only - no mount)	Gary Gibson	Banner - Small (24" x 32")	George Korody
TK8 20" f/5 Obsession Dob, Ladder & EP Kit	Liam Finn	Banner - Medium (24" x 72")	Sandra Macika
Presentation Tools		Banner - Large (32" x 16')	George Korody
Projector (older)	Jim Frisbie	Tri-Fold Presentation Boards	George Korody
Projector (newer)	Gordon Hansen	Other	
Projection Screen 8'	John McGill	Canopy (10' x 10')	Liam Finn
Projection Screen 6'	Liam Finn	Pop Cooler	Sean Pickard
Bullhorn	George Korody	TA Sky Quality Meter	Liam Finn
Speaker System w/Wireless Mic	Liam Finn	Demonstration Tools	
DVD Player	Dennis Salliotte	Weigh on Planets Scale	George Korody
		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 Spectrascopes	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)	George Korody

Upcoming Speaker Details (Cont'd from page 5)

discuss the different types of black holes and how using X-rays we can try and map out the region surrounding black holes.

Bio:

Ed Cackett grew up in the suburbs of Manchester, England and studied Physics at the University of Durham before pursuing his PhD in Astrophysics at the University of St Andrews in Scotland. After that he spent 4 years as a postdoctoral researcher at the University of Michigan where he was a NASA Chandra Fellow, and 1.5 years as a research fellow at the Institute of Astronomy, University of Cambridge. In 2012 he made the permanent move back to south-east Michigan to become a faculty member at Wayne State University, where he is currently an Associate Professor. He has published over 150 articles in peer reviewed journals. He is an expert in X-ray observations of black holes and neutron stars.

Secretary's Report (Cont'd from page 3)

Doug Bauer reported via text message that we had 25 people who did not renew for 2020, leaving us with 76 paid members and 31 active life members.

Astronomy at the Beach will be held as a virtual event on September 25 and 26. GLAAC is asking member clubs to plan various presentations. We need to come up with ideas. Quite a few were discussed at tonight's meeting, and Mike will put out an email via Groups.io to ask for ideas from the rest of the membership.

Our annual club picnic is still a possibility for the end of August, but we would have to observe proper social distancing. We can wait another month and see how things are going before we decide for sure.

We have learned that the Great Lakes Star Gaze is still going ahead, although there will be no live speakers. Island Lake State Park may want to go ahead with the Meteors and S'mores, but as a virtual event. We will find out what the park would like us to do.

Comet NEOWISE

The astronomy community is excited to finally get a naked-eye comet visible in our skies with **C/2020 F₃ (NEOWISE)**. Club members have been watching the comet for weeks in the early morning hours, but last week the comet shifted to being a better target in the evening, just after sunset. You can see the comet in the Northwest, below the Big Dipper asterism.

Several club members have imaged the comet. The images here are from club members who submitted their photos to StarStuff.

Brian Gossiaux:



*Image by Brian Gossiaux
Former FAAC VP and StarStuff Editor*

Brian writes: "I captured this image of Comet NEOWISE on Wednesday (7/15/20) evening from my backyard in Charlotte, NC. It was a very humid, hazy evening and I thought I'd try looking for the comet. Couldn't see it with the naked eye nor could I find it with my binoculars. I wasn't even sure if I was looking in the right area but

the astronomy app on my cell phone said it was supposed to be there. I set up my Canon Rebel T6 with an EOS 70-300 lens and set it on a tripod pointing to the Northwest. With nothing to see I decided to practice obtaining images with manual focusing on the clouds. I just left the camera setting for full automatic minus the flash and no auto focus with a 10 second countdown timer. I took about a dozen shots and figured I found the right focus setting and packed it in and went inside. The next day I decided to look at the images and to my surprise, I had captured the comet in several of the shots. Just dumb luck. Image is at 80mm fl, f/4, 1 sec exposure at ISO 3200."

Doug Bauer:



*Image by Doug Bauer
Former FAAC President, VP, & Secretary and Sirius Award Winner*

Doug writes: "Here is photo I took on July 13th from a strip mall parking lot about 28 Mile and VanDyke. It was with a hand held iPhone 11 Pro through one side of BT100 Binos."

Patrick Mog:



Image by FAAC Member Patrick Mog

Pat writes that he captured this image from Mettetal Airport in Plymouth, Michigan on July 13th using his TeleVue TV-85 and a Canon 6D.

Great job on the photos! Keep 'em coming.