



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

We have another successful Astronomy at the Beach - Virtual Edition in the books. I would like to thank everyone for their participation and hard work in pulling together during these difficult times. If you missed the FAAC members presentations just go to the YouTube channel Astronomy for Everyone and you can find them all out there.

October is our last regular meeting of the year and when we meet next it will be the combined November / December meeting on December 3rd. In the past we had a potluck but we will be looking for ideas from everyone since we will be unable to have that this year. Some of the ideas at the last board meeting is we could have a show & tell of a favorite piece of equipment, play some virtual games or have an open discussion. Let us know what interests you at our upcoming meeting.

As a reminder our dues renewal for the year is coming up and before you know it we will be holding a Virtual General Election in January. So if interested in running for a Board position please let us know.

I look forward to seeing everyone at 7pm, Thursday, October 22nd at our next Virtual General meeting!

Secretary's Report

by Cheri Grissom

FAAC General Meeting – September 24, 2020

Our videoconference general meeting was called to order by President Mike Bruno at approximately 7:09 p.m. All board members present. A total of approximately 17 people were listed as being in attendance.

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

Member Observing Experiences:

Tim C. related his experiences trying to get a new filter wheel, a process that took months. It seems many astronomers can relate to those kinds of waits for purchases this year. Gary G. had the pleasure of observing five planets in one night, Mars, Jupiter, Saturn, Uranus, and Neptune. Several other members reported planetary viewing.

What's Up:

Gordon Hansen went over our upcoming meeting dates and reminded us that Astronomy at the Beach is this coming weekend. Mars will be at its closest approach to Earth on October 6, and will be at opposition October 13. The Orionids meteor shower (associated with Halley's Comet) will peak October 21. Our asterism of the month is the "W" of Cassiopeia. In addition to being easy to spot year-round as one of the circumpolar constellations, its stars serve as pointers to easily find objects such as the Andromeda Galaxy (M31) and the Double Cluster.

Secretary's Report:

Cheri advises that a review of attendance at our meetings shows that, while numbers are down from the average attendance at our in-person general meetings prior to the pandemic, we have been holding fairly steady since we started having the virtual meetings. Average attendance at board meetings is almost identical to what it was when they were held in-person. Cheri also wanted to thank Doug Bauer for continuing to serve as our Membership Chairperson and always keeping the board up to date with the current membership roster.

Treasurer's Report:

Arica advises we currently have \$9,168 in our checking account. She has sent out a lot of refund checks for the canceled Swap Meet, although some of them haven't cleared yet.

Social Media/Website:

Liam F. reports he is posting the dates for Astronomy at the Beach in as many places as he can. Other members advise they are also putting the word out with schools, scout troops, etc. We had a detailed discussion about AATB and the programs our members are putting on for the event.

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

Speaker:

Arica Flores, member of FAAC as well as the Farmington Community Stargazers, gave an interesting and informative talk on "Leap Year, One Tiny Leap: The Story of Timekeeping." Why do we have leap years, or even leap seconds? Arica gave us a history of timekeeping, going all the way back to cave paintings found in France and Germany from around 32,000 BCE. The oldest actual calendar that has been found is at Warren Field in Scotland and dates to 8,000 BCE. From the time of hunter/gatherers up to the era of agriculture, life itself depended on understanding the seasons and when to expect them. Most of the earliest calendars were based on the lunar phases, but there were also solar calendars and lunisolar calendars. Arica showed us examples of calendars as they evolved through many ancient civilizations, including Egyptian, Chinese, Mayan, Babylonian/Sumerian, Greek, early Roman, Julian, and finally, the Gregorian, our current calendar. Earth's orbit is currently 365.24 days, and our lunar cycles don't coincide with the solar year, which resulted in the seasons being more and more off, so over the course of time, many corrections were necessary. Arica also talked about types of clocks over history. Long ago, many people used the sun as a daily timekeeper, and that progressed to water clocks in the 16th century, then hourglasses, oil or candle lamps, mechanical clocks, and atomic clocks. A very interesting piece of information is that, if all of Earth's history was a 12-month calendar, modern humans would have arrived on our planet at 11:52 p.m. on December 31. Questions and discussion followed.

Meeting was adjourned at 8:58 p.m.

October 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.)

(Videoconference meeting.) All board members present. Nine additional members attended.

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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).

The International Space Station: 20 Continuously Crewed Years of Operation

by David Prosper



Did you know that humans have been living in the International Space Station, uninterrupted, for twenty years? Ever since the first crew members docked with the International Space Station (ISS) in November 2000, more than 240 people have visited this outpost, representing 19 countries working together. They have been busy building, upgrading, and maintaining the space station - while simultaneously engaging in cutting-edge scientific research.



The ISS photobombs the Sun in this amazing image taken during the eclipse of August 21, 2017 from Banner, Wyoming. Photo credit: NASA/Joel Kowsky More info: bit.ly/eclipseiss

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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
October	24th	6:36pm EDT	Maybury State Park

Upcoming Club Meeting Topics & Speakers

Meeting	Speaker	Topic
October 22nd	Jenny Pon	Space Ghosts
January 28th	Ed Cackett	Mapping a Black Hole

October Talk Details

Space Ghosts

Jenny Pon

Farmington Community Stargazers

Jenny will be sharing pictures of space ghosts (nebulae and galaxies) and telling space ghost stories (stellar evolution) this evening. Come celebrate Halloween in an astronomical way!

Bio:

Jenny has over 30 years of work experience in the planetarium field. She worked in planetariums with 50-foot domes in East Lansing, Pittsburgh, and Detroit. She has earned professional recognition as a Fellow of the Great Lakes Planetarium Association. She continues her astronomy outreach with the Farmington Community Stargazers and at the Grand Canyon Star Party and Sierra Club - Michigan Chapter retreat.

ISS (cont'd from page 4)

The first modules that would later make up the ISS were launched into orbit in 1998: the Russian Zarya launched via a Proton-K rocket, and the US-built Unity module launched about a week and a half later by the Space Shuttle Endeavour. Subsequent missions added vital elements and modules to the Space Station before it was ready to be inhabited. And at last, on November 2, 2000, Expedition-1 brought the first three permanent crew members to the station in a Russian Soyuz capsule: NASA astronaut William M. Shepherd and Russian cosmonauts Sergei Krikalev and Yuri Gidzenk. Since then, an entire generation has been born into a world where humans continually live and work in space! The pressurized space inside this modern engineering marvel is roughly equal to the volume of a Boeing 747, and is sometimes briefly shared by up to 13 individuals, though the average number of crew members is 6. The unique microgravity environment of the ISS means that long-term studies can be performed on the space station that can't be performed anywhere on Earth in many fields including space medicine, fluid dynamics, biology, meteorology and environmental monitoring, particle physics, and astrophysics. Of course, one of the biggest and longest experiments on board is research into the effects of microgravity on the human body itself, absolutely vital knowledge for future crewed exploration into deep space.

Stargazers have also enjoyed the presence of the ISS as it graces our skies with bright passes overhead. This space station is the largest object humans have yet put into orbit at 357 feet long, almost the length of an American football field (if end zones are included). The large solar arrays – 240 feet wide – reflect quite a bit of sunlight, at times making the ISS brighter than Venus to observers on the ground! Its morning and evening passes can be a treat for stargazers and can even be observed from brightly-lit cities. People all over the world can spot the ISS, and with an orbit only 90 minutes long, sometimes you can spot the station multiple times a night. You can find the next ISS pass

near you and receive alerts at sites like NASA's Spot the Station website (spotthestation.nasa.gov) and stargazing and satellite tracking apps.



A complete view of the ISS as of October 4, 2018, taken from the Soyuz capsule of the departing crew of Expedition 56 from their Soyuz capsule. This structure was built by materials launched into orbit by 37 United States Space Shuttle missions and 5 Russian Proton and Soyuz rockets, and assembled and maintained by 230 spacewalks, with more to come! Credit: NASA/Roscosmos. More info: bit.ly/issbasics

Hundreds of astronauts from all over the world have crewed the International Space Station over the last two decades, and their work has inspired countless people to look up and ponder humanity's presence and future in space. You can find out more about the International Space Station and how living and working on board this amazing outpost has helped prepare us to return to the Moon – and beyond! – 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

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

The main topics of discussion at this month's board meeting included: Attendance at our virtual meetings, both general and board, and how we might encourage more members to attend. You must be signed up for Groups.io to receive notices of meetings. Our membership chairman, Doug Bauer, will send out renewal notices around November 1. We discussed ideas for retaining current members and bringing in new members. We had a recap of the events at Astronomy at the Beach, and Mike thanked all our members who participated. The Astronomy for Everyone and GLAAC website presentations are archived for anyone who would like to watch them. We discussed ideas for our upcoming Nov./Dec. meeting, which is normally our potluck, which will not be possible this year. Gordon Hansen gave a report on behalf of the nominating committee. We have a slate of nominees who will soon be announced to the members.