



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: Liam Finn
Vice President: John McGill
Secretary: Jessica Edwards
Treasurer: Mike Bruno

Departments

Webmaster: Liam Finn
Newsletter: Tim Campbell

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 Liam Finn

First Club Outreach of 2018

The event is called Shimmer, Shine, Sparkle and Glow Mall Frenzy and will be held the evening of Saturday, March 24th starting at 10:30PM until 2:30AM. It is a lock-in at Lakeside Mall in Sterling Heights. We anticipate 1,500 people including girls and adults. The event is open to Girl Scouts in 4th-12th grade and their adults. While there are questions on telescopes it being March and a mall which may or may not turn off the outside lights. I will be looking for volunteers to assist with indoor events to meet the badge needs of the Girl Scouts.

Our presentations are as follows:

Gravity — Liam Finn
Spectroscopy — Tim Campbell
Constellation Movement — Liam Finn
Lunar Phases — John McGill
Meteorites — Sandra Macika

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Measuring the Movement of Water on Earth

By Teagan Wall

As far as we know, water is essential for every form of life. It's a simple molecule, and we know a lot about it. Water has two hydrogen atoms and one oxygen atom. It boils at 212° Fahrenheit (100° Celsius) and freezes at 32° Fahrenheit (0° Celsius). The Earth's surface is more than 70 percent covered in water.

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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. Contact the club for information on how to enter or exit the park in the event that the main gate is locked.

The club also has use of a private observing site near Gregory Michigan. See the FAAC Yahoo 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

President's Corner (cont'd from page 1)

Annual Conference & Swap Meet

It is that time again for our club's Annual Conference & Swap Meet. This year the event will be held at the Henry Ford College where we hold our club meeting on Saturday April 7th starting at 9am and running until 3pm.

This event is a great social and learning event. We have technical and general astronomy talks as well as planetarium shows. It is \$5 for entrance and that includes club members. The early arrivers get donuts and coffee for a donation and at lunch there will be pizza and pop for sale.

I highly recommend all attend and invite your friends, family and neighbors.

First Beginner's Night of 2018

Now that Spring has finally arrived it is once again time for our Beginner's Nights to start. Our first beginner's night of 2018 will be on Saturday April 21st. It will be held at Spring Mill Pond in Island Lake Recreational Area starting at 8pm. These are public events so spread the word on these events and direct people to the club website or the club meetup for details.

Measuring Movement (cont'd from page 1)

On our planet, we find water at every stage: liquid, solid (ice), and gas (steam and vapor). Our bodies are mostly water. We use it to drink, bathe, clean, grow crops, make energy, and more. With everything it does, measuring where the water on Earth is, and how it moves, is no easy task.

The world's oceans, lakes, rivers and streams are water. However, there's also water frozen in the ice caps, glaciers, and icebergs. There's water held in the tiny spaces between rocks and soils deep underground. With so much water all over the planet—including some of it hidden where we can't see—NASA scientists have to get creative to study it all. One way that NASA will measure where all that water is and how it moves, is by launching a set of spacecraft this spring called GRACE-FO.

GRACE-FO stands for the "Gravity Recovery and Climate Experiment Follow-on." "Follow-on" means it's the second satellite mission like this—a follow-up to the original GRACE mission. GRACE-FO will use two

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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 at 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 Yahoo Group for ordering information and instructions on how to request the correct logo.

Communication

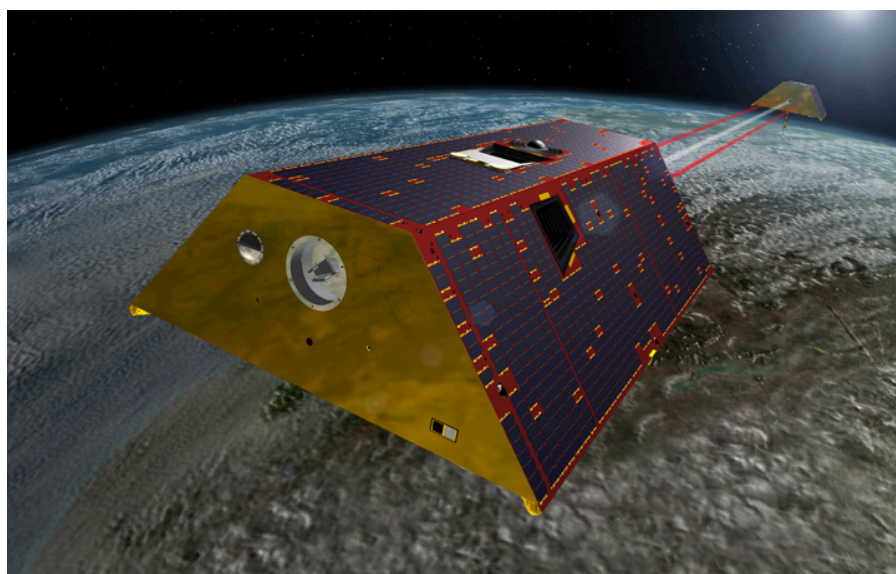
The FAAC uses Yahoo Groups for our email distribution list (both formal and informal discussion.)

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

Measuring Movement (cont'd from page 2)

satellites. One satellite will be about 137 miles (220 km) behind the other as they orbit the Earth. As the satellites move, the gravity of the Earth will pull on them.

Gravity isn't the same everywhere on Earth. Areas with more mass—like big mountains—have a stronger gravitational pull than areas with less mass. When the GRACE-FO satellites fly towards an area with stronger gravitational pull, the first satellite will be pulled a little faster. When the second GRACE-FO satellite reaches the stronger gravity area, it will be pulled faster, and catch up.



An artist's rendering of the twin GRACE-FO spacecraft in orbit around Earth.
Credit: NASA

Scientists combine this distance between the two satellites with lots of other information to create a map of Earth's gravity field each month. The changes in that map will tell them how land and water move on our planet. For example, a melting glacier will have less water, and so less mass, as it melts. Less mass means less gravitational pull, so the GRACE-FO satellites will have less distance between them. That data can be used to help scientists figure out if the glacier is melting.

GRACE-FO will also be able to look at how Earth's overall weather changes from year to year. For example, the satellite can monitor certain

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

Join by visiting groups.yahoo.com/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).

Measuring Movement (cont'd from page 3)

regions to help us figure out how severe a drought is. These satellites will help us keep track of one of the most important things to all life on this planet: water.

You can learn more about our planet's most important molecule here: <https://spaceplace.nasa.gov/water>

Secretary's Report

by Jessica Edwards

22 February General Meeting

Member Observations and What's Up

The Great Michigan Nebula continues to dominate the night sky at this time of year. Combined with cold temperatures, very little of the sky has been seen. If the skies clear, now is a good time of year to try and see the zodiacal light in the evening or the morning. Jupiter and the Moon will be 3.5° apart at 1 AM on 7 March and Saturn and Mars will be close together on 29 March at 5:30 AM. This is also the best time of year to try and see all the Messier objects in one night.

Main Talk - Cassini's Final Destination - Eric Fitzpatrick

Launched on 15 October 1997, the Cassini spacecraft collected data from Saturn, its rings, and moons until crashing into Saturn on 15 September 2017. Rather than potentially contaminate life supporting environments on the moons of Saturn, the decision was made to crash the satellite into the planet.

Satellites, The First 60 Years - Bob MacFarland

The history of satellites and rocketry is full of fascinating stories. The first satellite was launched in October of 1957. Following the success of unmanned satellites, many experiments involving animals became the focus before finally sending the first humans into orbit. In an effort to appear to be superior to the United States, the Soviet Union covered up many of the problems and failures experienced by their space program. Even now, we are still learning of some of these early launches.

Planetarium

Several 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 Observing Nights

Month	Date	Sunset	Location
April	21st Int'l Astronomy Day	8:20pm	Island Lake Spring Mill Pond
May	19th	8:51pm	Island Lake Spring Mill Pond
June	16th	9:02pm	Island Lake Spring Mill Pond
July	21st	8:28pm	Island Lake Spring Mill Pond
August	18th FAAC Club Picnic	8:28pm	Island Lake Spring Mill Pond
September	14th & 15th Astronomy at the Beach	7:43pm 7:41pm	Island Lake Kent Lake Beach
October	13th	6:63pm	Mayberry State Park

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, Dennis Salliotte, at equipment@fordastronomyclub.com

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Equipment (cont'd from page 5)

Item	Held by	Item	Held by
Telescopes		Eye Pieces	
4" Dobsonian (Harold's donation)	George Korody	EPK1 Eyepieces, Filters & Accessories	Liam Finn
TK1 Coronado Personal Solar Telescope (Doublestack) w/Meade Autostar Goto Mount	John McGill	Binoculars	
TK3 Celestron 130mm Newtonian w/goto mount	Liam Finn	BK3 15x70 Binoculars w/monopod mount	Bob MacFarland
TK4 Celestron 90mm Refractor w/manual mount	Liam Finn	BK4 20x80 Binoculars w/alt-az goto mount	Sandra Macika
TK5 4.5" Reflector on Fitz GEM mount	Bob MacFarland	BK5 25x70 Binoculars w/tripod adapter	
TK6 8" Orion XT8i Dobsonian	Jed & Jacob Datema <i>*Caretakership is available</i>	Display Items	
TK7 TPO 8" f/4 Newtownian Astrograph (OTA Only - no mount)	Jim Barnes	Astronomy Event Sign (3' x 6')	Gordon Hansen
Presentation Tools		Astronomy Event Signs 18x24" (x8)	Liam Finn
Projector (older)	Jim Frisbie	PVC Display Board - Folding	Sandra Macika
Projector (newer)	Gordon Hansen	Banner - Small (24" x 32")	George Korody
Projection Screen 8'	Bob MacFarland	Banner - Medium (24" x 72")	Sandra Macika
Projection Screen 6'	Hayden Barrett	Banner - Large (32" x 16')	George Korody
Bullhorn	George Korody	Tri-Fold Presentation Boards	Don Klaser
Speaker System w/Wireless Mic	Bob MacFarland	Tri-Fold Poster Board (Club Photos)	George Korody
DVD Player	Jim Frisbie	Other	
Demonstration Tools		Canopy (10' x 10')	Liam Finn
Weigh on Planets Scale	George Korody	Pop Cooler	Hayden Barrett
Lunar Phase Kit	Bob MacFarland	Equipment Etching Tool	Greg Ozimek
100' Scale Model Solar System Kit	Bob MacFarland	TA Sky Quality Meter	Liam Finn
		TA Sky Atlas 2000.0	Tim Dey
		TA Orion Telescope Binoviewer	Liam Finn

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Equipment (cont'd from page 6)

Item	Held by
Imaging Cameras	
C1 Celestron NexImage Solar System Imager model #93712	Gordon Hansen
C2 Meade Deep Sky Imager Pro III w/Autostar Suite	Gordon Hansen
C3 Orion StarShoot Deep Space Video Camera NTSC #52185 w/video capture device #52178	Gordon Hansen
C4 Meade Electronic Eyepiece w/video cable for monitor or TV	Gordon Hansen
C5 Orion StarShoot Deep Space Video Camera II #52195 and Orion StarShoot iPhone Control for Deep Space Video Camera II #52195	Gordon Hansen
C6 Canon 60Da Astrophotography DSLR and accessories	Tim Dey
Other Imaging Equipment	
CA1 Rigel Systems Spectrascope	Gordon Hansen
CA2 Celestron 1.25" to T-Adapter (male) #93625	Gordon Hansen
CA3 Canon EOS Deluxe Astrophoto kit for Canon EOS mount, T-thread adapter and variable 1.25" extender	Tim Dey
CA4 Orion StarShoot LCD-DVR #58125 2.5" LCD screen	Gordon Hansen
CA5 Celestron Canon EOS T-ring adapter #93419	Gordon Hansen
Special Event Items - Not available for Loan Out	
BK1 Orion BT-100 Binocular telescope w/hard case, Orion VersaGo h.d. manual Alt/Az mount w/ Vixen dovetail head and Vixen style binocular holder bracket	Ken Anderson
BK2 Zhumell 25x100 Binoculars, hard case, & Zhumell TRH-16 tripod w/soft fabric bag	Sandar Macika
TAK1 Night Vision Image Intensifier for telescopes (2" barrel size)	George Korody



Telescope Support Systems



FAAC Astronomy Conference & Swap Meet

Saturday, April 7, 2018 9:00 am - 3:00 pm

General Astronomy

9:30 am: **Deep Sky Wonders** – Tony Licata, FAAC
10:45 am: **Meteorites** – Todd Slisher, Longway Plt.
12N **Eclipses, Geysers & Stars** – Dr. Axel Mellinger, CMU
1:30 pm: **Zowada Observatory** – Dr. David Cinabro, WSU

Technical Talks

9:30 am: **Ideas in Equipment** – Clay Kessler, TSS
10:45 am: **How it is Really Made** – Tim Cambell, FAAC
12N **The Road to Totality** – Liam Finn, FAAC
1:30 pm: **A Remote Observatory** – Dr. Brian Ottum

Planetarium Shows

10:00am, 11:30am & 1:00pm FAAC Members

Interactive Solar System Tour

10:45am John McGill – NASA Solar System Ambassador

Swap Meet

All Day...Earn Cash by Selling Those Items Sitting Around Collecting Dust!
Telescopes, Eyepieces, Cameras, Binoculars, Mounts, Software, Books, and Accessories, etc.

Participating Vendors

Telescope Support Systems, Wood Wonders, Sirius Astro Products, LX-200 Electronics Exchange

Admission: \$5.00 (children 15 and younger – Free / must be accompanied by an adult)

Sales Table: \$15 in advance, or \$20 at the door as available, (one admission ticket included).

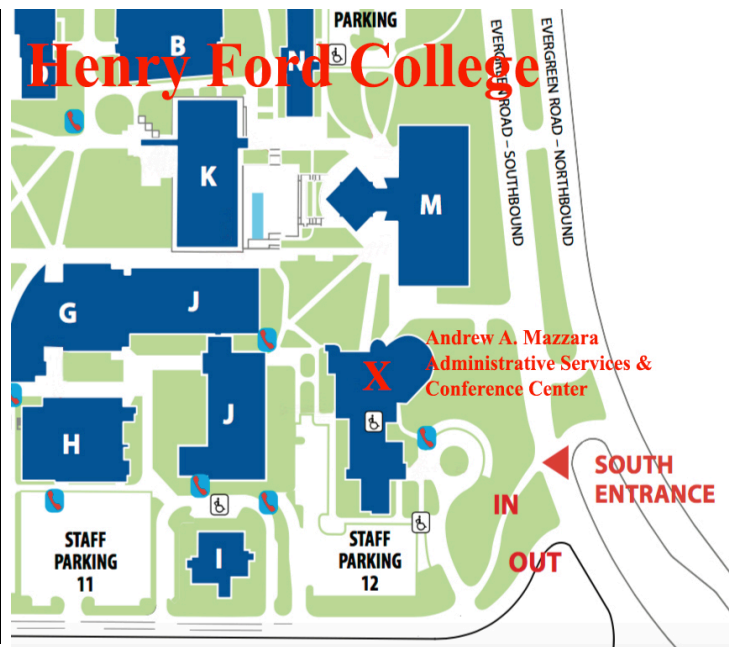
Advanced Table Registration ends Mar 29, 2018

Doors Open: 8:00am for setup.

Make Checks Payable: to **FAAC** for advance table registration.

Send payment to: Ford Amateur Astronomy Club, P.O. Box 7527, Dearborn, MI 48121-7527

Location: Henry Ford College, 5101 Evergreen Rd, Dearborn, MI 48128 (Andrew A. Mazzara Admin. & Conference Center... See **X** on map, Staff Parking Lots 11 & 12 will be open)



For More Information: Contact Jim via email: w8tu@comcast.net or call (734) 751-6280 or Frank Ancona via email: FrankAncona34@yahoo.com or call (248) 345-0176