



STAR STUFF

Ford Amateur Astronomy Club Newsletter

Star Stuff

This newsletter is published eleven times per year by:

Ford Amateur Astronomy Club
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Officers

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Secretary: Jessica Edwards
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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.

Annual Banquet

Last chance to reserve your spot for the FAAC Annual Banquet. This year's event is Saturday May 5 at Tanglewood Golf Club in South Lyon.

Please contact John McGill at vp@fordastronomyclub.com

President's Corner

by Liam Finn

Busy start to the year

March was a busy month with our first outreach event at Lakeside Mall in Sterling Heights for the Girl Scouts with an estimated 1500 attendees.

Groups.IO

As most of you are aware we have moved our group chat from Yahoo to Groups.io. This move has been completed successfully. While we still have some members that have not accepted the invitation to groups.io

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What's It Like Inside Mars?

By Jessica Stoller-Conrad

Mars is Earth's neighbor in the solar system. NASA's robotic explorers have visited our neighbor quite a few times. By orbiting, landing and roving on the Red Planet, we've learned so much about Martian canyons, volcanoes, rocks and soil. However, we still don't know exactly what Mars is like on the inside. This information could give scientists some really important clues about how Mars and the rest of our solar system formed.

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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 area equipment retailers, and

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

the vast majority have. For anyone that has yet to accept the Groups.io invitation or any member that did not receive an invitation to Groups.io, please email me at president@fordastronomyclub.com and I will send you an invitation to ensure you receive the latest on all the clubs conversations, events and observing session.

Conference and Swap Meet

Next was our Annual conference and swap meet where we had a record turnout of attendees, record number of tables sold and fantastic presentations. This was our first time holding the event at Henry Ford College and won't be our last. Steve Murrell of HFC was super helpful in every way possible to make it a success and we have already agreed to hold the event at Henry Ford College in 2019.

This event is gaining popularity and we as members of the club should drive this message to all friends and family as the event is not only for astronomers but also any member of the public with interest in astronomy and the sciences. Details on the outcome of this will be announced at next weeks meeting.

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Inside Mars (cont'd from page 1)

This spring, NASA is launching a new mission to study the inside of Mars. It's called Mars InSight. InSight—short for Interior Exploration using Seismic Investigations, Geodesy and Heat Transport—is a lander. When InSight lands on Mars later this year, it won't drive around on the surface of Mars like a rover does. Instead, InSight will land, place instruments on the ground nearby and begin collecting information.

Just like a doctor uses instruments to understand what's going on inside your body, InSight will use three science instruments to figure out what's going on inside Mars.

One of these instruments is called a seismometer. On Earth, scientists use seismometers to study the vibrations that happen during earthquakes. InSight's seismometer will measure the vibrations of earthquakes on Mars—known as marsquakes. We know that on Earth, different materials vibrate in different ways. By studying the vibrations from marsquakes, scientists hope to figure out what materials are found inside Mars.

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.

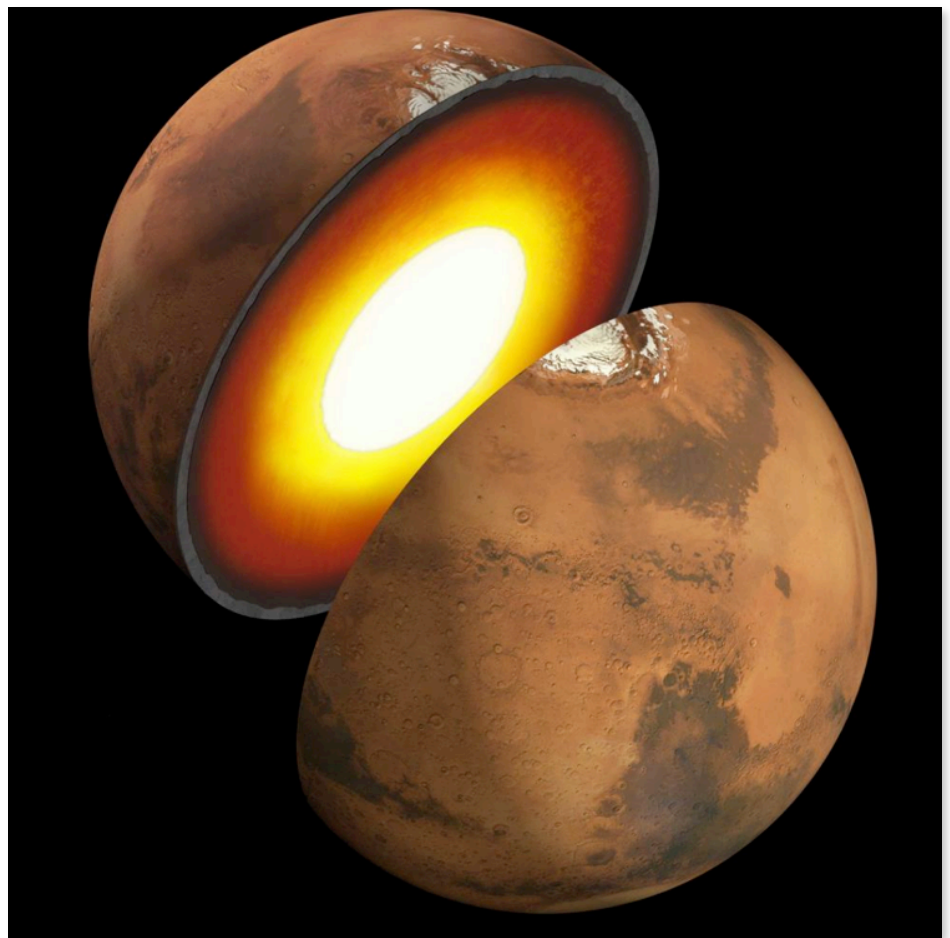
Communication

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

InSight will also carry a heat probe that will take the temperature on Mars. The heat probe will dig almost 16 feet below Mars' surface. After it burrows into the ground, the heat probe will measure the heat coming from the interior of Mars. These measurements can also help us understand where Mars' heat comes from in the first place. This information will help scientists figure out how Mars formed and if it's made from the same stuff as Earth and the Moon.

Scientists know that the very center of Mars, called the core, is made of iron. But what else is in there? InSight has an instrument called the Rotation and Interior Structure Experiment, or RISE, that will hopefully help us to find out.



*Caption: An artist's illustration showing possible inner structure of Mars.
Image credit: NASA/JPL-Caltech*

Although the InSight lander stays in one spot on Mars, Mars wobbles around as it orbits the Sun. RISE will keep track of InSight's location so that scientists will have a way to measure these wobbles. This information will help determine what materials are in Mars' core and whether the core is liquid or solid.

Join by visiting groups.yahoo.com/foradastronomyclub to request membership.

Articles & Submissions

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

InSight will collect tons of information about what Mars is like under the surface. One day, these new details from InSight will help us understand more about how planets like Mars—and our home, Earth—came to be.

For more information about earthquakes and marsquakes, visit: <https://spaceplace.nasa.gov/earthqua> 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 March General Meeting

Member Observations and What's Up

Clouds are a continued problem, but Venus and Mercury have been seen on a few of the clear nights we have had. The Lyrid Meteor Shower peaks on the 22nd with a predicted rate of 18 per hour. Venus is visible in the evening with Jupiter rising later. The rest of the planets can be seen in the morning.

Main Talk - LIGO and the Detection of Gravitational Waves - Jerry Dunifer

Space-time is curved by massive bodies. As these bodies accelerate they make waves that carry away energy at the speed of light. The merging of two black holes was predicted to generate the largest of these wave, but they would only make space time wobble on the order of 10^{-18} m which was thought to be undetectable. Advances in detection have made this attainable. Using an interferometer with 4 km long arms, the signals from merging black holes have been detected. The event, usually lasting for about 0.1 seconds, gives off energy on the order of 50x the luminosity of the universe. One of the merges that was detected was between a 29 and 36 stellar mass black holes. The resulting black hole only had a mass of 62 which means 3 solar masses of energy were released in the 0.1s duration of the event. There are plans for several other detectors to be built that will help narrow down the locations of these mergers. It is estimated that LIGO will be able to detect about 1 of these events per month.

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

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

First Beginners' Night of 2018

Our first beginner's night of 2018 was a success. We had approx. 12 astronomers turn out. Some experienced, some not which is why we hold these events. We had a few members of the public turn up with telescopes of various shapes and sizes which needed our assistance and we also had new members of our club attend who needed some guidance.

As well as astronomers we had members of the public who found our event on Meetup and Facebook who drove quite some distance to be there. They came to observe and learn and even though the weather did not cooperate 100% it was good enough to kick start their interest and good enough to make the event a success. As always, after we packed up the skies became crystal clear but that's Michigan in April. I look forward to more amazing beginner's nights and seeing more members' faces as the weather warms up so more telescopes get dusted off and put to use after our long winter.

Annual Banquet

Just a reminder to all, if you wish to attend our annual banquet you need to get your reservation into John McGill or Mike Bruno no later than our club meeting on the 26th of April. We need to submit the numbers to the event on Friday 27th so please, if you have not already done so, get your reservation in ASAP to secure your place.

If you have not attended the banquet before, it's an evening of friends, food and fun and a must attend for all members and their spouse and family members. It is also a way to share our passion in a light hearted way with our family members.

So much already has happened this year and it's just beginning. I foresee 2018 as a bumper year for events and these events are getting more and more popular with the public which in turn draws in more members and more people to find a passion for astronomy that all of us enjoy. To support these events we will need our members to band together to make these events greater each year. I look forward to the continued growth and success of our events throughout 2018 and beyond. All this is possible because you, our members, love to share and get involved in our outreach events. Please ensure you have joined the Groups.io group so you are up to date in all our club events so you can participate.

FAAC Rock Stars

by Greg Knekleian



FAAC Rock Stars — Interviews with meteorites or their relatives

This month's column brings a glassy eyed child of a rock star known as Libyan Desert Glass. Here's how our interview went.

Greg - I noticed your eyes look a little glassy, like you're a bit hung over. Were you out drinking last night?

Glassy - No. that's just the way I look. I'm made up of Libyan desert glass, so basically I'm glass from sand. Though some might argue I'm stoned by nature.

Greg - Well that's certainly a clear glassy look, a little on the yellow side.

Glassy - I may be yellow, but I'm not afraid of anybody.

Greg - So tell me your history.

Glassy - Scientists say about 28 million years ago a comet slammed into the country now known as Egypt. . . .

Greg - Wait a minute, I thought you were from Libya.

Glassy - No, I'm from the Libyan desert which is also in Egypt, so I actually came from modern day Egypt. But I arrived 28 million years ago in a flash.

Greg - I noticed your a pretty cheap stone to book for a concert. Is there a reason for that?

Glassy - Well there is a lot of me around so there are plenty of band members out there to pick from. We're basically very popular and very widespread. We even used to be a favorite of the Pharaohs, and considered a precious jewel.

Greg - I've heard from Sandra Macika in our club say that you're a favorite piece with the rock fans out there. When they come to a show they often pick you as a favorite among others.

Glassy - Yeah everyone wants to see me. I'm often picked as a favorite from other impactites and tektites out there. Maybe it's because I have that blonde look.

Greg - I noticed small pieces of rock inside you.

Glassy - Every good rock star has to love rock. It's just a part of me.

Greg - Comet impact or meteorite?

Glassy - A respectable Rock Star will never tell all, so you'll have to guess at that one.

Greg - So what's your favorite song?

Glassy - Walk Like An Egyptian.

Just the facts :

Age 28 million years old. Created from comet or large meteorite impact. Composed of aged and weathered glass and possible fragments of comet or meteorites that impacted the earth.

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Rock Stars (cont'd from page 6)



Next month interview with meteorite Tatahouine, a diogenite meteorite. One of three HAD types thought to have come from the asteroid Vesta.

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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Scheduled Observing Nights

| Month | Date | Sunset | Location |
|-----------|---------------------------------------|------------------|---------------------------------|
| 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 (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 | Tim Dey |
| 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) | John McGill | PVC Display Board - Folding | Sandra Macika |
| Projector (newer) | John McGill | Banner - Small (24" x 32") | George Korody |
| Projection Screen 8' | John McGill | Banner - Medium (24" x 72") | Sandra Macika |
| Projection Screen 6' | John McGill | 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 | John McGill | 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 |