



STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

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March 2015

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The Cold Never Bothered Me Anyway

By Dr. Ethan Siegel

For those of us in the northern hemisphere, winter brings long, cold nights, which are often excellent for sky watchers (so long as there's a way to keep warm!) But there's often an added bonus that comes along when conditions are just right: the polar lights, or the Aurora Borealis around the North Pole. Here on our world, a brilliant green light often appears for observers at high northern latitudes, with occasional, dimmer reds and even blues lighting up a clear night.

We had always assumed that there was some connection between particles emitted from the Sun and the aurorae, as particularly intense displays were observed around three days after a solar storm occurred in the direction of Earth.

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President's Article

By Tim Campbell

Conference & Outreach Results

While it's only March, outreach activity is in full swing. I'm thinking people are itching for spring and want to get outside for another season of observing.

I thought I'd share a few results of the club activities over this past month.

FAAC Astronomy Conference

Up first is the FAAC Astronomy Conference (& Swap Meet — though Jim Frisbie is training me to say "Astronomy Conference" instead of "Swap Meet".) The club makes it's annual operating budget primarily from membership renewals and this conference. Other events are mostly break-even or even a slight loss. The Annual Banquet operates at a slight loss.

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STAR STUFF is published eleven times each year by:

FORD AMATEUR ASTRONOMY CLUB
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Club Information:

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the combined November/December meeting on the first Thursday of December - at Henry Ford College Administration Services and Conference Center in Dearborn. Refer to our website for a map and directions (www.fordastronomyclub.com).

The FAAC observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains an after-hours permit, and observes on Friday and Saturday nights, and nights before holidays, weather permitting. The FAAC also has use a private observing site near Gregory Michigan and Lake Erie Metro Park. See the FAAC Yahoo Group* for more information.

Observing schedules and additional info are available on our website, or via the FAAC Yahoo Group.* Or call the FAAC Hotline, for info and leave a message, or ask questions: 313-757-2582. or send email inquiries to info@fordastronomyclub.com.

Membership in the FAAC is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (F.E.R.A.). Membership fees:

Annual - New Members: \$30 (\$15 after July 1)
Annual - Renewal: \$25 (\$30 after January 31)

Membership includes the STAR STUFF newsletter, discounts on magazines, discounts at selected area equipment retailers, and after-hours access to the Island Lake observing site.

Astronomy or Sky & Telescope Magazine Discounts

Obtain the required form from the FAAC club treasurer for a \$10 discount. Send the completed form directly to the respective publisher with your subscriptions request and payment. Do not send any money directly to the FAAC for this.

Star Stuff Newsletter Submissions

Your submissions to STAR STUFF are welcome! Send your story and/or images to the editor: StarStuff@fordastronomyclub.com. Email text or MS Word is fine. STAR STUFF will usually go to press the weekend prior to each general meeting. Submissions received prior to the 15th can be included in that issue.

* FAAC Members are welcome to join our Ford Astronomy Club Yahoo!Group. Messages photos, files, online discussions, and

This month's background photos of the moon Page 1 courtesy of John Kirchhoff. See more of John's photos at:

<http://www.flickr.com/photos/33926475@N06/with/4311533997/>

Miscellaneous sales at Astronomy at the Beach is a tiny bit of income. But these amounts are "in the noise" compared to membership renewals and the Astronomy Conference. Put simply: the Astronomy Conference is extremely important to the financial health of our non-profit club.

The conference made about \$50 more this year vs. last year. That's not the interesting part... the interesting part is how that was made possible. The club cut the sponsorship price in half and also reduced the price of vendor tables. As a result, we actually sold out of vendor tables this year (for what I believe may be the first time.) This wasn't accidental... Jim Frisbie really worked to find every astronomy vendor in our state and nearby states and invited them to participate or send hand-out literature. The number of people through the door was about the same.

While prices were reduced, participation was up enough to more than make up for the reduced prices.

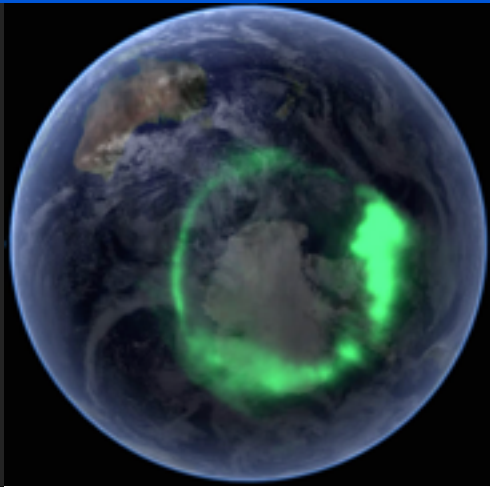
I consider this to be a nice improvement and thanks go out to all of our volunteers that made this year's Astronomy Conference a success!

Our club is only able to maintain at the \$30 annual membership fee (\$25 for early renewal) because of our many volunteers and the success of the Astronomy Conference as it contributes to our operating funds.

Space Week at Michigan Science Center

Sandra Macika set up a meteorite table inside while outside we had solar telescopes with Gordon Hansen, Liam Finn, and myself. Gary Ross of the Warren Astronomical Society joined in the fun on Sunday. We attended Wednesday through Sunday (except for Saturday because that was (a) overcast and (b) the Astronomy Conference in Livonia.)

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Auroral overlays from the IMAGE spacecraft.

Image credit: NASA Earth Observatory (Goddard Space Flight Center) / Blue Marble team.

The Cold Never Bothered Me Anyway

(continued from Page 1)

Presumably, particles originating from the Sun—ionized electrons and atomic nuclei like protons and alpha particles—make up the vast majority of the solar wind and get funneled by the Earth's magnetic field into a circle around its magnetic poles. They're energetic enough to knock electrons off atoms and molecules at various layers in the upper atmosphere—particles like molecular nitrogen, oxygen and atomic hydrogen. And when the electrons fall back either onto the atoms or to lower energy levels, they emit light of varying but particular wavelengths—oxygen producing the most common green signature, with less common states of oxygen and hydrogen producing red and the occasional blue from nitrogen.

But it wasn't until the 2000s that this picture was directly confirmed! NASA's Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) satellite (which ceased operations in December 2005) was able to find out how the magnetosphere responded to solar wind changes, how the plasmas were energized, transported and (in some cases) lost, and many more properties of our magnetosphere. Planets without

significant magnetic fields such as Venus and Mars have much smaller, weaker aurorae than we do, and gas giant planets like Saturn have aurorae that primarily shine in the ultraviolet rather than the visible. Nevertheless, the aurorae are a spectacular sight in the evening, particularly for observers in Alaska, Canada and the Scandinavian countries. But when a solar storm comes our way, keep your eyes towards the north at night; the views will be well worth braving the cold!

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Treasurer's Report

March 16, 2015

By Gordon Hansen

Mar 16, 15

ASSETS

Current Assets

Checking/Savings

10000 · Checking 840.98

11000 · FAAC Savings

11100 · FAAC Club Savings 2,854.24

11200 · Equipment 1,944.49

11300 · Scholarship 400.26

11400 · GLAAC 5,266.18

Total 11000 · FAAC Savings 10,465.17

12000 · Petty Cash Account 121.75

13000 · CD's

13100 · CD 200599272 1,061.08

13200 · CD 205196033 1,006.03

13300 · CD 89265268 1,109.04

Total 13000 · CD's 3,176.15

Total Checking/Savings 14,604.05

Total Current Assets 14,604.05

Meeting Agenda - March 26th

HFC – Berry Auditorium -Admin. Services & Conference Center www.fordastronomyclub.com
5:30

Opening/Introduction/Member Observing

Main Presentation:

GAIA Spacecraft: Mapping the Milky Way
Jeff MacLeod

Tech Talk:

Meade Light Switch LS-8 Dr. Tim Dey

Club Projects/Committees/Member Support

Club Business/Secretary/Treasurer/Equipment Reports

President's Article

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Numbers for the week were 648 visitors on Wednesday, 383 on Thursday, 676 on Friday, and 498 on Sunday. That's over 2200 visitors for Space Week. I was primarily outside, but I'm told Sandra was quite busy inside. Guests outside told me her presentation was impressive. It's also fun to hear the reactions as people look at the Sun — many for the first time in their lives.

One additional note on the Science Center... next year they are likely to move Space Week to April and will be the week leading up to Astronomy Day. This should help with warmer temperatures and improved probability of clear skies.

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Astro Imaging SIG

Gordon Hansen

All are invited to join us in the Astro Imaging SIG meetings, to share and discuss images, experiences, and techniques.

We always have a good time, with lively discussion, and sharing of valuable information.

Next meeting is **April 14th**. The meeting room location – HFCC Admin. Services and Conference Center (same building), Berry Amphitheater Auditorium.

Topics invited. Pizza served.

FAAC Events 2015

April 24th - Livonia Franklin High School Outreach

April 25th - Astronomy Day

May 2nd - Annual FAAC Banquet

Kensington Metropark Nature Center (Daytime Solar)

Michigan Science Center (Daytime Solar)

Beginner's Night at Lake Erie Metropark Nature Center (Evening/ Night)

Background Photo from Lunt Solar Scope Image taken at the Hector J Robinson Observatory, June 28, 2010

One FAAC members blog

<http://hjrobservatory.blogspot.com/>

A few updates on the observatory, quick articles and photos. I'll try to improve my writing on this blog. Also, I try to keep daily updates on this blog. - Greg Knekleian, HJRO volunteer.

President's Article

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Robert Frost Middle School Outreach

Lastly, we did an outreach for Robert Frost Middle School in Livonia. This is quite a special school... while it is a public school, the students are the top 5% in the district. Many have skipped a grade and some have skipped 2 grades. It's actually "cool" to be a geek in this school.

Consequently, the level of interest in the outreach is noticeably elevated over what I usually experience when doing outreach at other schools. They seemed to thoroughly enjoy the day.

In the early afternoon, Sandra did her meteorite presentations inside while I did solar observing outside. The clouds didn't break much in the afternoon as forecasted — we only had a few passing glimpses between clouds, but they sure did enjoy it.

Later in the day, students returned to do evening events. Liam Finn, Kevin Reina, and Patrick Lawson were all there with telescopes and, I'm told, there were quite long continuous queues to look through the scopes. They looked at the Sun, Venus, Jupiter, and the Orion Nebula.

During the day, we had 300 students who viewed the meteorites and sun. During the evening we had another 200 students and parents show up for more viewing — about 500 people in all!

Summary

The club has reached more than 2700 people doing outreach... and that's just for March!

The respect and gratitude of the club go out to all of those who volunteered to make this possible!

FAAC Equip Report 3/13/15

By Dennis Salliotte

<u>Item</u>	<u>Currently Held By:</u>	<u>Date Last Verified</u>
Telescopes		
4" Dobsonian (Harold's donation)	George Korody	1/22/15
Presentation Tools		
Projector (older)	Jim Frisbie	1/6/15
Projection Screen 8'	Bob MacFarland	1/11/15
Speaker System w/wireless mic	Bob MacFarland	1/11/15
Bullhorn	George Korody	1/22/15
DVD Player	Jim Frisbie	1/6/15
Projection Screen 6'	Gordon Hansen	2/13/15
Projector, ViewSonic	Gordon Hansen	2/13/15
Demonstration Tools		
Weight On Planets Scale	George Korody	1/22/15
Lunar Phase Kit	Bob MacFarland	1/11/15
100 ft Scale Model Solar System Kit	Bob MacFarland	1/11/15
Display Items		
Astronomy Event Sign (3' X 6')	Gordon Hansen	2/13/15
PVC Display Board - Folding	Tim Campbell	1/22/15
Banner – Small (24" X 32")	George Korody	1/22/15
Banner – Medium (24" X 72")	Tim Campbell	1/28/15
Banner – Large (32" X 16')	Dennis Salliotte	3/13/15
Tri-Fold Presentation Boards	Don Klaser	1/22/15
Tri-Fold Poster Board (Early Club Photos)	George Korody	1/22/15
Other		
Canopy (10' X 10')	Tim Campbell	1/22/15
Equipment Etching Tool	Gordon Hansen	2/13/15
Pop Cooler	Michael Dolsen	1/22/15
EQUIPMENT KITS		
Telescopes		
TK3 Celstrn 130 Newt Goto mount	Liam Finn	2/13/15
TK4 Clstrn 90 Refrctr w/man mount	Liam Finn	2/13/15
TK5 4 1/2" Reflector, on Fitz GEM mount	George Korody	1/22/15
TK6 8" Orion 8XTi Dobsonian	Patrick Lawton	2/13/15
Binoculars		
BK3 15x70 binocs, monopod mount	Bob MacFarland	1/11/15
BK4 20x80 binocs, altaz goto mount	Sandra Macika	2/5/15
BK5 25x70 binocs w/tripod adaptor	Tim Dey	2/13/15
CA3 Canon EOS deluxe astrophoto kit FOR Canon bayonet T-thread adapter ans variable 1.25" extender	Gordon Hansen	2/13/15
CA4 Orion StarShoot LCD-DVR #58125 2.5" LCD screen	Gordon Hansen	2/13/15
CA5 Celestron Canon EOS T-ring adapter #93419	Gordon Hansen	2/13/15

FAAC Equip Report 3/13/15

By Dennis Salliotte

<u>Eyepiece Kit</u>		
EPK1 Eyepieces, filters & accesories	Liam Finn	2/13/15
<u>Other</u>		
TA Sky Quality Meter	Syed Saifullah	2/14/15
TA Sky Atlas 2000.0	Tim Dey	2/13/15
TA Orion telescope binoviewer	Liam Finn	2/13/15
<u>Lincoln Park Observatory</u>		
LPO Celestron binoviewer #93691	Tim Dey	2/13/15
LPO Celestron 2X 1.25" Barlow	Tim Dey	2/13/15
<u>Imaging SIG</u>		
C1 Celestron NexImage Solar System Imager model #93712	Gordon Hansen	2/13/15
C2 Meade Deep Sky Imager PRO III w/AutoStar Suite	Gordon Hansen	2/13/15
C3 Orion StarShoot Deep Space Video Camera NTSC #52185 w/video capture device #52178	Gordon Hansen	2/13/15
C4 Meade Electronic Eyepiece w/cable to a video monitor, VCR or TV. Pairw#43 AND Meade 3.5" LCD Color Monitor Kit # 07700 Complete (unused). Pair w#34	Gordon Hansen	2/13/15
C5 Orion StarShoot Deep Space Video Camera II #52195 AND Orion StarShoot iPhone Control for Deep Space Video Camera II #52195	Gordon Hansen	2/13/15
CA1 Rigel Systems Spectroscope	Gordon Hansen	2/13/15
CA2 Celestron 1.25" to T-Adapter(male thread) Model #93625	Gordon Hansen	2/13/15
CA3 Canon EOS deluxe astrophoto kit FOR Canon bayonet T-thread adapter ans variable 1.25" extender	Gordon Hansen	2/13/15
CA4 Orion StarShoot LCD-DVR #58125 2.5" LCD screen	Gordon Hansen	2/13/15
CA5 Celestron Canon EOS T-ring adapter #93419	Gordon Hansen	2/13/15
<u>Special Event Use Only- Not Available For Loan Out</u>		
TK1 Coronado PST solar scope w/double stack, Meade Autostar Goto mount & tripod and accessories	John McGill	1/22/15
TK2 Meade 8" ETX-LS-ACF w/tripod, voice assist, computerized GPS plus MANY (35+) accessories	Tim Dey	2/13/15
BK1 Orion BT-100 binocular telescope w/hard case, Orion VersaGo h.d. man altaz mount w/Vixen dovetail head and Vixen style binocular holder bracket	Ken Anderson	1/11/15
BK2 Zhumell 25x100 binoculars, hard case & Zhumell TRH-16 tripod w/soft fabric bag	Sandra Macika	2/5/15
TAK1 Night Vision Intensification binocular unit	George Korody	1/22/15
Dennis Salliotte equipment@fordastronomyclub.com		



2015 FAAC Dinner Banquet

Saturday, May 2, 2014
6 PM till 10 PM

After Dinner Talk

Robert Clubb: The Fun Side of H-R Diagrams

Plus

Astro Picture Presentation – Door Prizes – Astro Jeopardy

Location: Karl's Cabin

Dinner Selections:

- **New York Strip Steak - \$40.00** – Char-grilled 12 oz. cut cooked medium
- **Chicken Marsala - \$35.00** – Lightly floured & Sautéed with marsala wine sauce
- **Parmesan Encrusted Cod - \$35.00** – Cod, Parmesan & Herb Crumb Crust, Citrus Beurre Blanc
(Vegetarian Choice Available on Request)

Includes green beans, red skin potato, tossed garden salad with choice of two dressings, warm rolls and butter



Hot Fudge Sundae, Coffee, hot tea, and soft drinks included

\$\$Cash Bar\$\$

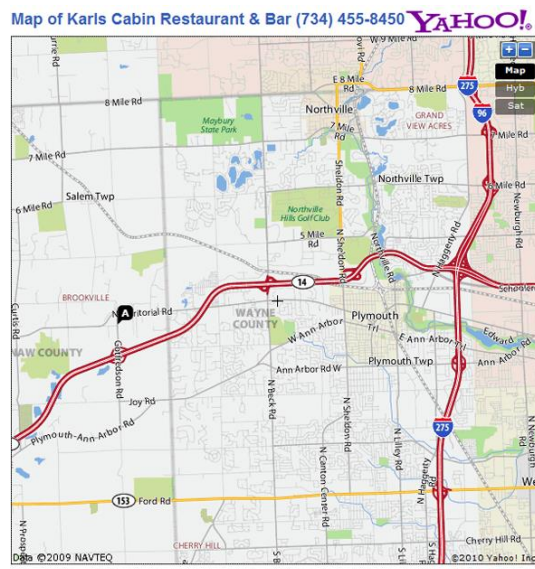
Cocktails at 6 PM – Dinner at 7 PM

Reservations:

Gordon Hansen at treasurer@fordastronomyclub.com

or post a note on the Yahoo Group

Karl's Cabin is located at:
6005 Gotfredson Road
Plymouth, MI 48170
Phone 734-455-8450



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