



September 2004 Volume 13 Number 9



**Editor: Jim Frisbie** 

# A MESSAGE FROM THE PRESIDENT

# Waning Warmth:

We're getting to the last of the summer days, and boy, has the year gone fast. Sept. 11 was the annual FAAC Star Party/Beginner's Night, the last FAAC viewing event of the year, save for the October 27 lunar eclipse night. The viewing that night was not so great– a little hazy - but at least we had some viewing, for a change. Many thanks to Bob MacFarland, Bob FitzGerald, John Kirchhoff, and all who have been supporting the special events and Beginner's Nights this year.

We plan on discussing the lunar eclipse arrangements at the September meeting, but it looks like the FAAC will be supporting at least two sites – our usual Lake Erie MetroPark eclipse site, and a new location behind Henry Ford Community College (preliminary site is in the field, off parking lot G).

Things are getting better and better, regarding our new meeting home, at HFCC. Dr. Charles Jacobs and Ed Halash from the FAAC are working together to make the room and facilities as accommodating as possible. It's a little spread out, and maybe hard to hear everyone quite clearly from one end of the room to the other, but beware, we're looking at alternative seating arrangements.

# NOTE: If you have not heard, the new start time will be 5:30 pm for our meetings, beginning this month – at the September 23 meeting, at HFCC.

From the insider information dept.: They are working on a brand new, updated Planetarium presentation at HFCC. We will be getting a look inside the Planetarium, and will see the new show, as part of our October general meeting (don't miss it!).

Another item that has come up in discussion – and becomes more of a concern at each star party – is the Island Lake site. While a convenient place for meeting, Island Lake just might be improved upon, for stargazing. The nightlight glows from Novi and Brighton grow ever more disheartening. The question of course, is, where else do we go, for darker skies, at not too far a distance, and for similar convenient access? Any ideas would be welcome; maybe we can all brainstorm this a bit at the upcoming general meeting.

Also, as the longer days wane, it's not too early to start thinking about next year! We need to start planning our next election (get those officers' nominations ready), our Dinner Party for next year (volunteers?), and – cross your fingers - another go at the FAAC Swap Meet, which was a great success this past January, thanks to Jim Frisbie and John Kirchhoff, among others. Let's hope we can find a new place of business. Big thanks again, to all who have helped make these events a success in the past, and in advance, to those who can help with the next ones.

Around the solar system - some things I learned, or was reminded of, on the way to looking other things up:

The moon: is lumpy. The orbits of our initial space probes around the moon were eerily slowing down and speeding up at different points. Scientists figured the moon must have denser lumps of material at various points beneath the surface, likely due to collisions with large, dense meteoroids, which then settled beneath the surface. Later measurements proved this out – the existence of the "lumps," anyway.

The sun: is hot. No kidding. The internal temperatures range between 15,000,000°C (27,000,000°F) at the center to 7,000,000°C (12,600,000°F) at the outer edge of its central core. Metal glows white at only around 6000° C. The sun's density at the center is 8 times the density of gold (160g/cm3). The sun's hydrogen fusion furnace puts out about  $4 \times 10^{26}$  watts of energy. The total U.S. demand for electricity for 2001 was about  $6.7 \times 10^5$  watts. And, according to Einstein's E=mc<sup>2</sup>, this means about 4.8 million tons of matter is being converted to energy, every second. Still, stars like our sun are thought to have a lifespan of some 10 billion years; our sun is about half that age. So, we have sun to burn, apparently.

The sun, incidentally, while not a giant, is in the top 10% of stars, by mass, in our galaxy. The median size of stars in our galaxy is probably less than half the mass of our sun.

Jupiter is hot, too: Oh really? Temperatures in this giant planet's upper clouds remain at around -240 F. But internally, Jupiter is hot enough to have a molten iron core, which generates its massive magnetic fields. In fact, Jupiter gives off 2-1/2 times the heat it takes in from the sun. The source of much of this heat is likely due to the slow collapsing of Jupiter's core upon itself, due to its massive gravity, along with some radioactive decay. In case you were wondering.

By the way, this is the last newsletter to be edited by the formidable Jim Frisbie. Thanks, Jim, again, for years of patient and earnest service as Newsletter Editor. Those are some big shoes to fill; we welcome and offer our best wishes and support to the new editor beginning next month - Greg Burnett.

Dale Ochalek

Ford Amateur Astronomy Club P.O. Box 7527 Dearborn MI 48121-7527

#### http://www.boonhill.net/faac

Submissions to STAR STUFF are welcome Please write to the address above or contact the editor:

Jim Frisbie via tele #: 734-453-1422 or email: w8tu@comcast.net

Dead line is the 15<sup>th</sup> of each month of publication.

#### **Officers:**

President	Dale Ochalek
Vice President	Don Klaser
Secretary	Bob McFarland
Treasurer	Gordon Hansen

#### **General Meetings:**

The Ford Amateur Astronomy Club holds regular general meeting on the fourth Thursday of each month (except the combined November/December meeting held the first Thursday of December) at 5:00 PM at the Ford Motor Credit Building off Mercury Drive near Michigan Ave. in Dearborn.

#### **Observing:**

The Ford Amateur Astronomy Club observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains a permit for afterhours access. Weather permitting, the club observes on Friday nights, Saturday nights, and nights before holidays.

#### **Club Information:**

Observing schedules and additional Club information is available by calling the Observing Hotline at: (313) 390-5456 or via the Ford Intranet: www.be.ford.com/astro/faac.html or the public Internet: www.boonhill.net/faac. Membership in the Ford Amateur Astronomy Club is open to Ford employees and non-employees. Write or call for an application. Annual - New Member: \$30; Renewal: \$ 25 (before Jan 31 of each year); \$15 for new members after July 1. Lifetime - \$ 150

#### Membership includes:

Discounts on ASTRONOMY and SKY & TELESCOPE magazines, after-hours access to the observing site and discounts at selected area equipment retailers.

#### **Magazine Discounts:**

In This Issue:

Do not send money to FAAC for SKY & TELESCOPE or ASTRONOMY magazine subscriptions. We have a form that you send in with your subscription directly to the publisher to receive a \$10 discount. Pick up a form at the next meeting, or contact a club officer.

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### \*\*\* NEW MEETING LOCATION - AT HFCC \*\*\*

FAAC general meetings are now held at Henry Ford Community College, effective July 22, 2004. We will meet in the Roseneau Conference Rooms at the Administrative Services and Conference Center. See the map on page 7 for directions to the meeting at HFCC. Use of parking lot J or H is recommended.

Ed Halash led the successful effort for FAAC, in arranging for the new location, and Charles W. Jacobs, Ph.D., Associate Dean of Science at HFCC, is our contact. We begin a new association with HFCC, and welcome participation of students and public, as usual. The location at HFCC allows free access for members, and the further advantage of possible future use the of HFCC's planetarium facility. FOR SALE: Meade 16" Starfinder Dobsonian (Big Ed), Meade Magellan I digital setting circle, Custom detached wheeled base, 7 Celestron, Meade, TeleVue, & Orion eyepieces with adapters, 5 filters and case. \$999.00 Contact Dan Kmiecik at 313.608.0181 or email at onyonet@yahoo.com

**FOR SALE:** 8" Meade 2080 SCT, f/10, AC power, Wedge, Diagonal, 3 Eyepieces 1.25": 40mm, 18mm, 25mm, B & L Field Tripod w/level, Celestron 1.25" Polarizing Filter, Glass 8" Solar Filter, Dew Zapper, Storage Trunk. Asking \$600.00, Call Patti Forton @ 734-367-7103

# MINUTES OF THE AUGUST 24TH FAAC GENERAL MEMBERSHIP MEETING By Bob MacFarland

**Dale Ochalek** opened the meeting at 5:00 pm by welcoming everyone to the new location (at the Henry Ford Community College) and then asking for a round of introductions from the 40 attendees in the room. This included new members **Nick Ristow, Colin Ferrell** and **Fred Wilson** who were attending the general membership for the first time. Several members commented on their observing experiences since the last meeting. These included: **George Korody** who attended the Astrofest star party in Ontario, Canada and **Dennis Salliot, Mike Bonner, Harry Juday** on the Leonid meteors.

**Dr. Charlie Jacobs** had arranged for the HFCC facilities staff to arrange the tables in one large U shape similar to the old Ford Motor Credit Building location. This appeared to work out very well for our meeting format. Special appreciation was given to Ed Halash who had coordinated with **Dr. Jacobs** to work out this location. (**Great job Ed!**). We are looking forward to a close relationship with the college. Also, appreciation was given out to both **Dennis Salliot** and **Gordon Hansen** who arranged for the pop and pizza for the meeting.

**Bob MacFarland's** minutes of the last meeting were accepted as is. **Gordon Hansen** detailed the status of the club treasury (found elsewhere in this issue). Gordon also commented that the FAAC club membership has grown to 155 members.

**George Korody** reported that the Astrophotography SIG would be meeting at this same location (HFCC) on September  $9^{th}$  at 5:30 pm. At the last SIG meeting, **Jeff Thrush** gave a very interesting presentation on the subject of photometry.

The plans for the 12<sup>th</sup> annual FAAC September 11<sup>th</sup> Island Lake Star Party were discussed. The event will include a member picnic (bring your own food) at 5:00pm, a Beginner's night, and late night observing for everyone. As always, the public is encouraged to attend and share the night skies with us. (Note that this will be a lower key event that what we have held in prior years - no tent, food concession, formal

September 2004 Page 3 speakers or raffle). **Bob Fitzgerald, John Schroer, Don Klaser** and **Bob MacFarland** will be finishing up the physical observing portion of Webalos Astronomy badge requirements for the 14 Farmington area cub scouts at the park that same evening.

Three venues are being considered for the October 27<sup>th</sup> lunar eclipse. These include: the Lake Erie Metropark, the Detroit Science Center and potentially, Henry Ford Community College/U of M Dearborn. Details will be worked out by the September general membership meeting. (Note: last year, the club supported both the Lake Erie and the DSC).

Harry Juday proposed that the general membership meeting start at 5:30 pm rather than 5:00 pm to allow more time for commute time for regional members to get to the meeting. A motion was carried to start at 5:30pm as long as it was acceptable to HFCC (room availability, etc). After the college is contacted, and if the start time change is approved, announcements will be made in the newsletter, on the FAAC e-mail distribution, on the website and on the hotline voicemail.

Having concluded the business portion of the meeting, **Dale** introduced **Gary Strumolo** who gave a very informative talk on the art of sketching planets. Gary took us through a sketcher's PowerPoint tour of the last cycle of Jupiter's approach during the first half of 2004. On this voyage, Gary showed his own sketches and comparator photographs to demonstrate the craft. Along the way, he detailed how one can get started, what materials are needed, how seeing conditions and equipment can influence the outcome, and what techniques to use.

**Jeff Thrush** gave an interesting talk called Projects for Astronomy. Jeff chronicled how his love for astronomy brought him to various facets of the science. Starting with film and CCD photography, Jeff chronicled his interests in spectroscopy, radio astronomy, frequency designations, meteor scatter propagation, double stars, occultation's, minor planets, photometry, and automated observatories. With many example photographs of each Jeff discussed how he got interested, what equipment was needed, references on where to get essential information or how to tie into professional specialty organizations in these areas.

### TREASURERS REPORT AUGUST 25th By Gordon Hansen

**Bank Accounts** Checking \$ 153.93 Savings \$ 870.12 **TOTAL Bank Accounts** \$ 1,024.05 **Cash Accounts** 170.36 Cash Account \$ \$ 170.36 TOTAL Cash Accounts Asset Accounts \$ FERA Ticket Sales \_

GLAAC	\$	795.00
Projector	\$	503.20
Scholarship	\$	30.00
Swap Meet	<u>\$</u>	
<b>TOTAL Asset Accounts</b>	<u>\$</u>	1,328.20
OVERALL TOTAL	\$	2,522.61



# **RESISTING RETIREMENT: EARTH OBSERVING 1** By Patrick L. Barry

The Hubble Space Telescope isn't the only satellite that scientists have fought to keep alive beyond its scheduled retirement. Scientists also went to bat for a satellite called EO-1, short for Earth Observing 1, back in 2001 when the end of its one-year mission was looming.

The motivation in both cases was similar: like Hubble, EO-1 represents a "quantum leap" over its predecessors. Losing EO-1 would have been a great loss for the scientific community. EO-1, which gazes back at Earth's surface instead of out at the stars, provides about 20 times more detail about the spectrum of light reflecting from the landscape below than other Earth-watching satellites, such as Landsat 7.

That spectral information is important, because as sunlight reflects off forests and crops and waterways, the caldron of chemicals within these objects leave their "fingerprints" in the light's spectrum of colors. Analyzing that spectrum is a powerful way for scientists to study the environment and assess its health, whether it's measuring nitrate fertilizers polluting a lake or a calcium deficiency stressing acres of wheat fields.

Landsat 7 measures only 8 points along the spectrum; in contrast, EO-1 measures 220 points (with wavelengths between 0.4 to  $2.5 \,\mu$ m) thanks to the prototype Hyperion "hyperspectral" sensor onboard. That means that EO-1 can detect much more subtle fingerprints than Landsat and reveal a more complete picture of the chemicals that comprise the environment.

As a NASA New Millennium Program mission, the original purpose for EO-1 was just to "test drive" this next generation Hyperion sensor and other cutting-edge satellite technologies, so that future satellites could use the technologies without the risk of flying them for the first time. It was never meant to be a science data-gathering mission.

But it has become one. "We were the only hyperspectral sensor flying in space, so it was advantageous to keep us up there," says Dr. Thomas Brakke, EO-1 Mission Deputy September 2004 Scientist at NASA's Goddard Space Flight Center.

Now, almost three years after it was scheduled to be de-orbited, EO-1 is still collecting valuable data about our planet's natural ecosystems. Scientists have begun more than a dozen environmental studies to take advantage of EO-1's extended mission. Topics range from mapping harmful invasive plant species to documenting the impacts of cattle grazing in Argentina to monitoring bush fires in Australia.

Not bad for a satellite in retirement.

Read about EO1 at eo1.gsfc.nasa.gov. See sample EO-1 images at <u>http://eo1.usgs.gov/samples.php</u>. Budding young astronomers can learn more at spaceplace.nasa.gov/eo1\_1.htm.

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

## ASTROPHYSICS PHUN PHACTS By Vicki Burnett

#### You Know You're A Deep Sky Person When ...

1. You consider the moon a major annoyance.

2. You consider Jupiter 'light pollution'.

3. You spend most of your time looking at or for objects you can barely see.

4. Your favorite objects are objects you can barely see.

5. You enjoy looking at faint fuzzies with the smallest possible aperture.

6. You enjoy looking at faint fuzzies with the largest possible aperture.

7. You like to choose objects that are easier to imagine than to see.

8. Your observing schedule demands that you search for objects in twilight.

9. You keep thinking that if only the stars would go away, it might really get dark.

10. You wonder how your favorite objects missed getting included in the New General Catalog or the Index Catalog.

11. You're not sure that anything in this solar system counts as astronomy any more.

12. You're amazed that anyone needs artificial light to read charts.

13. You could do a Messier Marathon from memory, if you still bothered with Messier objects.

14. You can read all the NGC abbreviated visual descriptions without using the key, but you have to be careful not to cheat by just remembering what things look like.

15. You view a major earthquake as an opportunity for a close-in dark-sky star party.

16. You welcome (and have even considered instigating) power cuts, but only if they occur on clear moonless nights. Thanks to Spacebox.org

# THE SUN - LIVING WITH A STORMY STAR NATIONAL GEOGRAPHIC MAGAZINE Submitted by Don Klaser

In the July, 2004 issue, author Curt Suplee takes an indepth look at the increasing amount of research being done on the most important astronomical object in the sky. From space-based

observatories such as SOHO, and the Advanced Composition Explorer (ACE) satellite that detects coronal mass ejection (CME) strikes coming towards Earth, to the Swedish Solar

Telescope on LaPalma in the Canary Islands and the National Science Foundation's National Solar Observatory in Arizona & New Mexico, scientists and astronomers around the world are making discoveries about " 'Ol Sol " that have puzzled mankind for centuries.

Among the questions that astronomers are hoping to answer: A. What interior mechanism(s) produce the sun's mighty magnetic dynamo ? B. How is it possible that the corona - which extends millions of miles out into the chill of space - is hundreds of times hotter that the surface ? C. What explains flares and the CMEs that are responsible for massive blackouts, and how can these storms be predicted ?

Another area of interest to scientists working on satellites and manned space missions is 'space weather'-being able to predict when flares and CMEs that can disable communication satellites and possibly even kill a spacewalking astronaut, will occur. According to Timothy Killeen, director of the National Center for Atmospheric Research, "With today's observational and computing power, we've got the resources to make significant progress within just a few years " in this area.

Also, enhanced imaging by the Swedish Solar Telescope has revealed the presence of Texas - sized bubbles of plasma, called granules, that cover the sun and carry heat to the surface much in the same manner as water boils in a pot.

While it seems that most amateur astronomers can't wait for the Sun to get out of the way, we might just want to adjust our thinking about our " Big 'Ol Ball of Gas " !

# ASTRONOMICAL IMAGING S.I.G. By Jim Frisbie

The Astronomical Imaging S.I.G. will take place at the Henry Ford Community College (HFCC) on Thursday, October 14 starting at 5:30 PM. We will have a time slot that extends to 8:00 PM as needed. Jim Frisbie will lead a discussion on Image Amplifiers for Astro Imaging.

We will be meeting on the second Thursday of each month and will meet in Roseneau Conference Rooms A & B, which are the same rooms where the regular FAAC General Membership meetings are held, except that the FAAC meetings take place on the fourth Thursday of each month.

The Roseneau Conference Rooms are in the Administrative Services and Conference Center (ASCC) building. Parking can be in Lot J or in the Staff Parking lot next to the ASCC building if Security is present there.

September 2004 Page 5 Security will be there to permit parking for us only. There really isn't much difference in walking distance from either lot, but once college begins in the fall Lot J could be quite full.

A layout of the college area can be found in the July newsletter, which is on-line at our WEB site at <u>http://www.boonhill.net/faac/</u> If anyone has questions, they can contact the writer.

All FAAC members are welcome and encouraged to attend these discussions.

## **NEW MEMBER WELCOME**

FAAC welcomes the following new members:

John	Herr
Nicholas	Riston

# FAAC CALENDAR

Activity	Date	Time
- General Meeting	Sep 23	5 pm
- Board Meeting	Oct 14	5 pm
- General Meeting	Oct 21	5 pm
- Board Meeting	Nov 11	5 pm
- General Meeting	Dec 2	5 pm

# ASTRONOMICAL CALENDAR

All times are Eastern Standard Time or Eastern Daylight Saving Time, whichever applies

# September

0	21	Tu	First Quarter Moon
	22	We	Equinox - 12:30 PM
0	28	Tu	Full Moon

# October

	6	We	Last Quarter Moon
	7	Th	Moon near Saturn
	10	Su	Moon near Venus
	12	Tu	Moon near Jupiter
	13	We	New Moon
0	20	We	First Quarter Moon
0	27	We	Full Moon-Lunar Eclipse
	31	Su	Daylight Savings Time ends

This information was obtained from the

Henry J. Buhl, Jr. Planetarium in Pittsburgh, PA.



#### Swap meet in Club House

- Bring your old equipment and your wallet
- Vendor Rider's Hobby Shop of Livonia will have new astro-equipment for sale.

12:00 - 1:00

- Break
- 1:00 2:00
- Kids Activities

#### 2:00 - 5:30

- H-alpha solar observing and talk TBA
- Equipment Talk TBA
- Astro-software Talk TBA

#### 5.30 - 7.00

 Dinner Break – Prepaid Dinner package in the works...

#### 7:00 - 8:00

- Door Prize Drawing must be present to with.
- Closing comments

#### 8:00 - 222

- Observing on the hill
- Welcome tent open all night
- Free hot chocolate/ coffee
- Bring your scopes! Gate closes at 10:00
- ABSOLUTELY NO CAR LIGHTS ALLOWED

#### Sunday, September 19<sup>th</sup>:

Departure by 12:00

### ASTRONOMICAL IMAGING S.I.G. MOVES FORWARD

### By George Korody

After 20 months as the coordinator of the Astro Imaging S.I.G. I felt it was time for a new coordinator with fresh ideas. It only took a little bit of arm twisting and espousing of the many rewards and experiences one receives by overseeing such a group, to get Jim Frisbie to agree to take over the helm. So, starting with the October meeting, Jim will be our new coordinator. See Jim's announcement elsewhere in this newsletter.

The objective of the S.I.G. is to share our knowledge and experience in astronomical imaging with others so we can all benefit; and this certainly has occurred. However, our group would not have been very successful without those members who agreed and even volunteered to present material and lead meeting discussions on various aspects of astronomical imaging. So, I would like to offer a very special thank you to the presenters who gave so freely of their time and knowledge to help all of us in the group. Also, I would like to thank everyone who attended and participated in the monthly meetings and never seemed to be short of questions and suggestions. In fact, I'm sure that the attendants at the Ford Family Service and Learning Center will remember us as the group that just could never end their meetings at the designated closing time.

The Astro Imaging S.I.G. is open to all members of the Ford Amateur Astronomy Club. There are no costs of any kind to attend. It is a great way to increase your knowledge of astronomy and to participate in your Club's activities.

# THANKS FOR THE OPPORTUNITY!

When I first considered taking over as editor of Star Stuff I looked at it as a chance to give back. In addition to being a chance to give back, it has proved to be an enjoyable, rewarding, and learning experience. My knowledge of astronomy has expanded considerably as a result of editing Star Stuff.

I would like to thank the people who went out of their way and became Regular Contributors to Star Stuff. They include Doug Bock, Greg Burnett, Vicki Burnett, Jan Kessler, Clay Kessler, John Kirchhoff, Pat Korody, George Korody and the Club Officers. My special thanks to Rider's Hobby for their financial support in carrying advertising, promoting FAAC, and distributing copies of Star Stuff to their customers.

When I decided to handoff the editor position, I was concerned that no one would be interested in doing the work. But Greg Burnett was quick to step forward. It is very comforting to me to leave Star Stuff in Greg's experienced and capable hands. I have no doubt he will do an outstanding job once again as editor. I encourage your continued support for Greg as the New Editor of Star Stuff.

I look forward to serving the Club in other ways.

#### Jim Frisbie, Editor



NEW MEETING LOCATION For FAAC General Meeting Sept 23, 2004 @ 5:30 pm

#### NOTE:

- HFCC is located on Evergreen Road between Ford Road and Michigan Avenue.

- Suggested parking lots H and J have been circled.

- The meeting will be held in the Administrative Services and Conference Center which has also been circled. Ford Amateur Astronomy Club Star Stuff Newsletter P.O. Box 7527 Dearborn, MI 48121-7527





Store Hours:Gen. Manager:John Kirchhoff30991 Five Mile Rd.M-F 10am-9pmWebsite:http://www.riders.comLivonia, MI 48154SAT 10am- 6pmEmail:riderslivonia@aol.comTele:SUN Noon-5pmFax:734.425.2029

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The NEW Orion 100 ED Refractor!

Both OTA @ \$999.00 & complete scope @ \$1399.00

New Meade LXD75 8'' SCT \$1599.99

Coming Soon...

Meade Deep Sky Imager \$299.99