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April 2008



Stellar Compass for Space Explorers Patrick L. Barry

In space, there's no up or down, north or south, east or west. So how can robotic spacecraft know which way they're facing when they fire their thrusters, or when they try to beam scientific data back to Earth?

Without the familiar compass points of Earth's magnetic poles, spacecraft use stars and gyros to know their orientation. Thanks to a recently completed test flight, future spacecraft will be able to do so using only an ultra-low-power camera and three silicon wafers as small as your pinky fingernail.

"The wafers are actually very tiny gyros," explains Artur Chmielewski, project manager at JPL for Space Technology 6 (ST6), a part of NASA's New Millennium Program.

Traditional gyros use spinning wheels to detect changes in pitch, yaw, and roll—the three axes of rotation. For ST6's Inertial Stellar Compass, the three gyros instead consist of silicon wafers that resemble microchips. Rotating the wafers distorts microscopic structures on the surfaces of these wafers in a way that generates electric signals. The compass uses these signals—along with images of star positions taken by the camera—to measure rotation.

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GoTo, or not GoTo...

President's Corner Doug Bauer, FAAC President

That is the question.

I have had discussions on this topic with various people, both club members and people looking to buy a telescope. The issue of whether it is better to get a GoTo scope that is computer controlled, allowing it to find specific

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STAR STUFF

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PRESIDENT: VICE PRESIDENT: SECRETARY: TREASURER: NEWSLETTER EDITOR: Doug Bauer Gordon Hansen Ken Anderson Steve Flessa Dale Ochalek

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 Community College, Administrative Services and Conference Center in Dearborn. Refer to our website for a map and directions (www.boonhill.net/faac).

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 Richmond Airport, Unadilla, given prior permission, and Lake Erie MetroPark. 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: **248-207-2075**. Or send email inquiries to **fordastronomy@comcast.net**.

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 Member:	\$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 subscription request and payment. Do not send any money directly to the FAAC for this.

STAR STUFF NEWSLETTER SUBMISSIONS

Your submissions to *STAR STUFF* are more than welcome! Send your story and/or images to the editor at **dake00k@yahoo.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 that weekend can be included in that issue.

* FAAC Members are welcome to join our **FordAstronomyClub** Yahoo! Group. Messages, photos, files, online discussions, and more! URL: groups.yahoo.com/group/FordAstronomyClub.

President's Corner... (continued from page 1)

objects in the night sky, or get a telescope that is manually pointed to locate objects.

There are pros and cons to each.

With GoTo telescopes it is much easier to find objects, particularly the ones that are not naked eve objects. I have found that, when well aligned, my LX200 places almost every object in the field of view when the telescope slews to it. This enables people with little observing time to see many more objects. Also, in light-polluted skies, where only a few of the stars and constellations are visible, a GoTo scope eliminates the frustration of trying to locate deep sky With GoTo electronics comes the objects. disadvantage of the need for electricity (batteries), the time to level and align the telescope, and some cost. An advantage is that the scope tracks objects, which is a big plus when you are trying to show people objects at a club public viewing event or doing astrophotography. The down side is that you also tend to rely on the computer and not learn the sky.

Manually pointed telescopes offer fairly quick setup, but this may be offset by collimation time. Manual scopes are less dependent on electricity, although dew and mirror cooling may also require electricity. The biggest difference is that you need to know the night sky to find things. This can be fun and a real challenge, but also very rewarding. My first telescope was a manual scope and I quickly switched to a GoTo scope when I could not find objects from my driveway.

After years of using a GoTo scope, I have recently purchased a 16" Meade Lightbridge which gathers a lot more light, but requires manual pointing. I used this scope in very dark skies at the Winter Star Party and learned more about the night sky in a week than I did in the previous 10 years. It was a very satisfying and educational experience to be able to star hop and actually find things. That said, when I use it in my driveway in the light polluted skies of Troy, I find it difficult to locate very many objects.

Astronomy should be fun, so whichever scope will get you out viewing the night sky most often is the best option. My conclusion is that both scopes will have a place in my viewing arsenal.

Doug Bauer

Stellar Compass ... (from page 1)

"It just performed beautifully," Chmielewski says. "The data checked out really well." The engineers had hoped that ISC would measure the spacecraft's rotation with an accuracy of 0.1 degrees. In the flight tests, ISC surpassed this goal, measuring rotation to within about 0.05 degrees.

That success paves the way for using ISC to reduce the cost of future science missions. When launching probes into space, weight equals money. "If you're paying a million dollars per kilogram to send your spacecraft to Mars, you care a lot about weight," Chmielewski says.

At less than 3 kilograms, ISC weighs about onefifth as much as traditional stellar compasses. It also uses about one-tenth as much power, so a spacecraft would be able to use smaller, lighter solar panels.

Engineers at Draper Laboratory, the Cambridge, Massachusetts, company that built the ISC, are already at work on a next-generation design that will improve the compass's accuracy ten-fold, Chmielewski says. So ISC and its successors could soon help costs—and spacecraft—stay on target.

Find out more about the ISC at nmp.nasa.gov/st6. Kids can do a fun project and get an introduction to navigating by the stars at spaceplace.nasa.gov/en/kids/st6starfinder/st6star finder.shtml

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



Compass is built as two separate assemblies, the camera-gyro assembly and the data processor assembly, connected by a wiring harness. The technology uses an active pixel sensor in a wide-field-of-view miniature star camera and microelectromechanical system (MEMS) gyros. Together, they provide extremely accurate information for navigation and control.

March 27 Meeting Minutes

Ken Anderson

Attendance: 36 signed in, 40 counted

Doug Bauer started the FAAC meeting at 5:15 pm in the HFCC Rosenau conference room with introductions, and pizza and pop. At the end of the meeting one member complained about missing the introductions and pizza, so we will try to start closer to the official 5:30 pm start time in the future. We welcomed quest Dave Bailey from WAS. Randy and Pamela Smith imaged Saturn. Ken purchased a 40mm Lumicon focal reducer for his 2" 40mm 70 deg AFOV eyepiece and was able to see the entire M45 Pleiades cluster in his 17.5" F4.1 (however it worked miserably on Jeff Hinelines' longer focal length dob with the same eyepiece). He still needs to evaluate it with the 2" OCS Denkmeier binoviewers to see if it will provide an acceptable wider field of view.

George Korody led the "Computer Planetarium Software - Sky 6 demonstration and capabilities" Tech Talk. George says he uses this software every single day of the year for both planning his nightly observing sessions and just obtaining general information. Other competitor software includes Sky & Night, Free Software, Google-Earth Free, K-Stars for Linux, and Sky Map Pro Version 11. Sky Pro 6 costs \$270 initially plus upgrades, and is free with a Celestron purchase. They also have a \$79 pocket edition for Palm or Bluetooth. The main version contains 85 million objects to observe (one million galaxies, etc.) and one billion additional objects (stars); but only has 50,000 "close-up" images to look at. You can also time travel to see the sky's relative movement (precession) anywhere from 4,000 BC to 10,000 AD. Additional information can be found at www.bisque.com.

In sequence George turned on the stars, constellations, names, equatorial grid, and added a yellow line for the local horizon at his site (some add actual photograph horizon using a fisheye horizon digital camera!). To get the local horizon you can hook the system to your computerized telescope and trace the tree outline. You can also add sky glow. Time steps can be set to oneminute discrete rotation. You can obtain planet rise and set time information, as well as object information. You can see the sun and sunset with the relative locations of Mercury and Venus. You can turn the Milky Way on, and see the Bevus Constellation drawings.

As an example of one of the 50,000 images George zoomed into and out of the Rosette Nebula. You can also compare other objects, like Andromeda or other planetary nebulas, at the same scale. George adds a rectangular picture frame for his C14 F6.9 telescope and rebel camera system. He also selected a Megrez 90 with focal reducer picture frame to show how it could image the entire Andromeda galaxy with one image. On October 25th, George used the software to show when it was visible and conform that the tail was pointing away from Earth. He then showed an asteroid "Tau Theth's (?)" orbit from September 25-November 12, 2008, where it approaches 0.05 AU (four million miles) from Earth; and you can see if it is above or below the ecliptic. In 2004 it approached less than one million miles from Earth. George ended with an image of M84/M84 which he called the "Alien's face," but Ken recognized it at the beginning of Marakarian's (galaxy) chain.

Gary Strumolo gave the Main Presentation, "Saturn Serenade." His introduction was a 1941 Superman cartoon called the "Magnetic Telescope" about a mad scientist/astronomer who could magnetically pull in (and repel) comets; but the police broke his equipment and Superman had to power the magnetic gyros himself to repel the comet and save the day. The moral of the story is to just use a bigger telescope with higher magnification, or send a satellite probe out to explore, versus putting the entire planet in danger! Cassini launched on October 15, 1997 and reached Saturn in July 2004. It is able to observe constantly from its' orbital plane. Saturn's rings form out to inner are A (containing Enke Division), Cassini Division, B, C (Ceres?). He showed a film clip from bright bottom side of ring to the dark top side panoramic of the ring, which can be found at ciclops.org site. Saturn has 28 moons of which 8 can be seen in small telescopes. Mimas sweeps the Cassini division in 2:1 resonance. Mimas resembles Darth Vader's Death Star from Star Wars, although this moon with large single crater had its first close up image three years after the movie. The Saturn finale consisted of 64 images from Cassini that were put together for Sir Paul McCartney's 64th birthday (and originally contained Beatles music which was eliminated due to copyright royalty issues that NASA didn't want to pay). One of the moons had geysers that spray covered a satellite with organic compounds.

Doug Bauer led the business portion. Ken Anderson gave the Secretary's Report, and February minutes were accepted and approved,

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Minutes ... (from page 4)

with one correction - call the projector a "video" projector. Steve Flessa passed out the Treasurer's Report which shows FAAC has \$8,628.57 (\$100 cash + \$5414.05 liquid accounts + \$2,041.51 long term CD investments + \$973.01 Equipment/Scholarship funds) of which \$1,230 will be withdrawn for the FAAC banquet (57 reservations). Steve also reports that he is holding \$2,015.62 for GLAAC. Tom Blaszak asked if there were any outstanding SWAP expenses, so they can close those books.

Harold Thomason gave the Equipment Manager's Report accounting for everything, most of which was at the club meeting. Our club also owns a 10x10 ft. canopy, video projector, screen, sound system, bullhorn, and sky quality meter. Frank Ancona previously mentioned, we may be receiving an 8" Blue SCT (Diva Mac) and eyepiece donation; but Harold has not heard or seen anything official. Club members are reminded to read the new Process and Rules, found in the July 2007 Star Stuff and on our Yahoo website, if they want to sign out equipment.

Ken Anderson, John Schroer, Greg Ozimek, Sandra Macika, Bob MacFarland, Steve Harvath, Erik Webster and Doug Bock are on the FAAC club telescope committee. Anyone else with experience with dob(s) 22" or greater, or having people skills getting donations or negotiating land use deals would be greatly appreciated. We are potentially seeking a large (30" or greater) semi permanent but transportable short focal length dobsonian, which could be relocated for star A short focal length would increase parties. safety and reduce the requirements for a tall ladder, at the additional expense of a Tele Vue Paracorr. Webster Telescopes agreed to provide free labor if our club purchases the raw materials for a 36" or larger "worthy" Webster telescope.

The Big Dob yahoo group site also recommended having tracking to speed up guest throughput of the same object (vs. having to constantly relocated the object climbing up a ladder between guests); however one supplier said this upgrade may cost an additional \$4-5 thousand). John Schroer suggested we may be able to get a large dob donated to us (or possibly a small observatory). This committee would also seek land to house/store the telescope and the primary observing site. The goal would be club members would only need to bring eyepieces and key, to open up, and start observing. Gordon Hanson advised us our club only has \$5000, some of which is allocated to GLAAC, etc. Our Richmond fee is only \$300 to their club picnic, since we do not have anything permanent at their airfield, and Ed Halash was going to ask them about the possibility of locating our semipermanent large dobsonian there near the antennas and weather equipment.

Kevin Denhe of the Warren Astronomical Society (WAS) set up tracking Dobzilla with place holders for all accessories with a large finder at the bottom.

John Schroer will be gathering scope names of those interested (est. 35%) in joining the Astronomical League. FAAC has agreed to pay \$10 to list the club. FAAC members will have to pay \$7.50 out of pocket to join the Astronomical League on their own (cheaper than \$35 to join individually not affiliated with any club). John will submit names, collect and send in money

Jim Frisbie posted the sky meter light pollution survey forms, said the new model with "lump" has a narrower 60-deg field of view (FOV), compared to the original model w/o lump having 120-deg FOV. Frank is asking for a light pollution survey to provide data to legislatures and businesses.

Greg Ozimek reported a bright/blinding streetlight at Ford UAW legal on Oakland between Ford and Michigan Ave. He reported the hazard; it made it difficult to see kids. He said six lights were added north of Oakland but those were not blinding.

Michigan does not have light trespass legislation or organization. Send complaints to city councils or town ordinance (not state). Government more concerned about safety and saving money (not really caring about preserving nocturnal natural sky light. Some home ordinance fines exist \$100/day for light trespass (light shining into homes making it difficult to sleep, etc).

The meeting adjourned around 8:30 pm after discussing the below business/club events.

In club events:

Lake Erie Ice Days – Bob MacFarland received a "thank you" letter for FAAC supporting the event with 33 volunteers and 1100 participants.

Hillside Elementary Outreach – Farmington Hills March 13. DSC brought their portable planetarium. Don Klaser and other club members brought telescopes. No word on attendance.

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Minutes ... (from page 5)

Every Tuesday evening at 7:30 pm from March 25 to June 17, 2008, FAAC's Dennis Salliotte, Bob Clubb, and Ken Anderson will present the new "Spring Sky" show in the HFCC Science Building Planetarium (room S-126). Shows are free and first come first serve. Doors open around 7:15 pm and close promptly at 7:30 pm. Sometimes, Ken brings his binoculars to treat guests with post show highlights outside in the Science Building parking lot. Bob Clubb has created a FAAC/HFCC Planetarium webpage. Dr. Jacobs and Mike Lapresto have created a Tour of the Solar System on the campus of HFCC. HFCC campus maps can http://www.hfcc.edu/contact/ found at he locations.asp.

Eric Rasmussen will open the University of Michigan-Dearborn (UM-D) Observatory (3rd floor of UM-D's Science Learning Research Center) on some Tuesday's 8:30-10 pm (if it is clear) immediately after the HFCC planetarium show on March 25, and April 1, 4, 15, 22, and 29. UM-D also plans special observing sessions on May 10 (10-11:30 pm) and June 20 (10:30-midnight).

Please call the UM-D observatory hotline at 313-583-6566 one hour before to confirm whether inclement weather has caused cancellation of this outdoor observing event. The HFCC and UM-D facilities are about a quarter mile apart, close enough to walk, but most may drive.

UM-D campus maps can be found at http://www.umd.umich.edu/maps_directions/

FAAC Club Banquet at Station 885, 885 Starkweather (three blocks north of Plymouth Rd. east of downtown), Plymouth, March 29 6pm-? – Doug Bauer, \$30 per person. Speaker is Todd Flescher from the Detroit Science Center (DSC).

Don Klaser is to receive a special FAAC plaque for his support as president, etc.

Lights Out America is March 29 to demonstrate the effect of light pollution (enjoy the Milky Way!), and demonstrate energy waste and potential energy savings. Everyone is requested to turn off outside lighting 8-9 pm.

Lake Hudson State Park Messier Marathon Alternative date April 5 (March 8 date cancelled due to weather) – John Kirchhoff will bring his trailer for participants to warm up and take a rest break mid evening. He may also have some home cooked chili to warm you up. Selected on new moon weekends, this is the only time of year you can see all (or most of) 109 Messier objects on the same night. Three survived all night last year. How many will survive this year?

The SIG meetings are the second Thursday of each month (next one April 10) at 5:30 pm. This meeting will be in the HFCC Technology Building Gafarri conference room (NOT our normal Admin building Rosenau conference room), topic TBD.

FAAC meetings are every fourth Thursday of each month (next one April 24) normally at HFCC Rosenau conference room. Main Presentation will be Bob Bertha's "Ultra Sensitive Video Presentation and Description of our Outreach Program."

Tony Licata is giving the Tech Talk "Public TV Interview of Club Members" and "Evolution of Equipment." The FAAC Board meets first Thursday of each month (April 3, 5 pm) at Dimitri's Restaurant in Dearborn. Doug Bauer had samples of proposed club badges and lanyards.

The FAAC Library and DVD collection Open House is April 22, at 4 pm in HFCC Science Building Room 109; library will be open one hour before our monthly FAAC meeting. Gary Stahl recommends a courtesy e-mail a day before the meeting. The list of 100+ books/descriptions is at the FAAC Yahoo site; books can be signed out for one month, with extensions allowable. There are still 20 or more books to be cataloged. President Doug Bauer and V.P. Gordon Hansen are backup key holders for returning books.

Beginner's Night will now be both at Lake Erie MetroPark, Marshlands Museum, and Island Lake State Park, Spring Mill Pond (see flyer in the newsletter). Bring your telescope/binoculars, or look through others.

Gordon Hansen has submitted annual permits for Lake Erie MetroPark. Ken Anderson submitted annual permit for Island Lake State Park.

Astronomy Day is May 10, with DSC Solar Observing, and a photo contest for deep sky, and lunar/planetary. Please disregard any previous John Schroer comments regarding possible DSC volunteer background checks, since FAAC members wearing FAA garments will be covered by FAAC' insurance.

Lincoln Park event is on May 12 "How to Build a Telescope," by Harold Thomason (25 years).

FAAC Outreach event is May 15, for Science Week at Barth Elementary School (near Romulus), with

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Minutes ... (from page 6)

Astronomy 101, DSC Star Lab – TBD, observing (200 participants estimated).Proud Lake State Park will host an Earth Day, June 7 (rescheduled from April 20), 7-10 pm - Paul Offberger coordinating, Doug Bauer contact, Campfire lunch 3-6 pm, Astronomy 101, Dark Sky Preservation, Telescope Observing.

Astronomy at The Beach (AATB) is September 5-6, Kensington MetroPark. Kensington MetroPark is seeking recommendations for a new pavilion (next year), acknowledging that the GLAAC AATB brings in more people than any other single event at the park. Next GLAAC planning meeting is Sunday TBD at 1 pm at the Nature Center. Contact Bob MacFarland or Bob FitzGerald for details or future meetings.

The Great Lake Star Gaze is, September 25-26, at River Valley in Gladwin, Michigan. This site has restrooms and a shower.

The next Dark Sky workshop will be September 29-October 5 at River Valley in Gladwin (immediately following the star gaze, so we can keep equipment set up!).

The International Year of Astronomy 2009 (IYA 2009) will be celebrating the 400th year of the (Galileo's) telescope. American Astronomy Society and Astronomical League are celebrating "International Year of the Telescope." All year long, expect speakers. Astronomy Day will be advertised greater, and we may get additional support for our AATB. DSC, Cranbrook, FAAC, and GLAC plan to bring more astronomy to the general public.

Eric Rasmussen will be planning events at University of Michigan (Dearborn and Ann Arbor) and HFCC. U of M will have Saturday Morning Talks. John Schroer passed out several handouts at the board meeting to show national intentions.

Steve Flessa has sweatshirts, shirts, hats, and patches available for purchase from Diane Worth's last order. At the next meeting Diane will discuss interest in a new order from Saginaw for same, and a possible expansion of items from a new catalog. We also have new small logo on chest stenciled \$10 T-shirts and \$20 sweatshirts. One club member asked if we could also have the large logo stenciled on the back for additional cost in future orders.

The 2008 Astronomy calendars are available for \$7. Steve Flessa reported we have sold out both Royal Canadian Handbooks and Royal Canadian Beginner Guides. Jon Blum passed out free bookmarks "Sleep is for Sissies."

The FAAC is still seeking 2007 speakers for both FAAC 30-60 minute Main Presentations, and 15-20 minute Tech Talks. Please contact Doug Bauer at dougbauer@comcast.net or call 313-828-7385.

Astronomical League in your Future?

John Schroer

The Ford Amateur Astronomy Club relinquished its membership in the Astronomical League a few years ago, thanks to the exorbitant increase in the dues that each member astronomy club had to pay for the privilege of membership. The league, having lost more than a few clubs, has decided to revisit the issue of membership costs. With the following changes, I thought the time was right to see if you, members of the FAAC, are interested in participating in the Astronomical League.

Benefits of membership include:

- Full voting privileges.
- The Reflector quarterly newsletter mailed direct to each of your members.
- *Liability insurance to protect the society and its officers.
- The Book Service through which your members can buy astronomy-related books at a 10% discount.
- Observing awards for your members to work toward, promoting observing and the study of the sky.

Costs of membership – the FAAC would pay a \$10.00 member society fee once a year. I am proposing that individual FAAC members pay the per member fee of \$7.50 annually per member. I will volunteer to be the ALCOR or representative of the Astronomical League.

AL dues are due in May, so if anyone is interested, I will be collecting information and forwarding the \$7.50 fee for FAAC Treasurer Steve Flessa, who will cut a check to the Astronomical League for the collected dues and the member society fee of \$10.00.

Please give me a call at (248) 538-1514 if you have any questions, or email me at jschroer@sciencedetroit.org or ka8grh@yahoo.com.

Meeting Agenda - April 24

5:30 pm HFCC - Rosenau CR - Admin. Services & Conference Center

(For map see: http://www.hfcc.edu/contact/campus_maps.pdf)

Opening/Introduction/Member Observing

Presentation: Meteor Study for NASA - Sandra Macika

Tech Talk: Public Access TV Interview of Club Members – Tony Licata

Club Business/Secretary/Treasurer/Equipment Club Projects/Committees/Member Support

- Astro-Imaging SIG
- Astronomical League Membership
- Dark Sky
- Club Telescope Committee
- Outreach at Proud Lake Recreation Area Earth Day Celebration
- Innisfree Girl Scout Camp Howell, Saturday, June 7th, 7:00 – 11:00 PM
- Barth Elementary School Thursday, May 15th 4:00 – 10:00 PM
- Open Discussion

Astro Imaging SIG

Tony Licata

Gallery Submissions Requested!!

If you have any interesting photos, astronomy related or not, please send them to tglicata@aol.com as JPG attachments.

The SIG gallery of images will be viewed during each SIG meeting. A reminder will be posted periodically on the Yahoo group for gallery submissions.

All are invited to join us, share and discuss their images. We always have a good time, with lively discussion. It can be anything you want to talk about with the imaging group. Examples might include things like; periodic error trails, or things you need help with, birds, or other objects illustrate terrestrial that optical characteristics, and yes, astrophotos, good or bad. In short, anything you want to talk about.

The next meeting of the Astro Imaging SIG will be Thursday, May 8th, 2008, 5:30 pm at Henry Ford

Community College in Dearborn, in the Administrative Services & Conference Bldg. (same as the FAAC General Meeting).

Another session of "Ask the Imager" is on the agenda. An additional is TBD. If you drive up to the Faculty parking lot gate, it should open allowing closer parking.

Mark your calendars! The Dark Sky Workshop 2008 is scheduled for Monday Sep 29th through Oct. 5th, at River Valley RV Camp, in Gladwin. A flier and sign up sheet will be forthcoming.

FAAC Events 2007

Bob MacFarland

Мау	10 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
June	7 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
July	12 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
August	9 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
September	 5-6 – Astronomy on the Beach – GLAAC Kensington Park 25-28 – Great Lakes Star Gaze, Gladwin 29-Oct. 4 – Astro-Imaging Workshop, Gladwin
October	4 – Beginner's Night - Island Lake, Lake Erie MetroPark

Items for Sale

Schmidt-Newtonian 10" – F5.35, 1360 mm focal length with 2" focuser, 60 mm guide scope, Thousand Oaks Full aperture solar filter (Mylar). Cooling fan, extra set of "O" rings, Optron Corrector plate. Crestliner mount (on wheels) available. Scope made by Nelson Lewis of Detroit Astronomical Society in 1962. Purchased 1981. Selling telescope for \$325. Mount for \$200.

Contact: Harold Thomason 313-584-7465

Coulter 10" Dobsonian telescope. \$400.

Contact Bob Stonik, 313-361-4954.







The Ford Amateur Astronomy Club, Rider's Hobby Shop of Livonia, and

The Detroit Science Center invite you to

Beginner's Nights - 2008 now at both

Lake Erie MetroPark and Island Lake State Recreation Area!

May 10th, June 7^{hh}, July 12th, August 9th, & October 4th from 7:00 pm to Midnight

(Arriving at 7 pm will allow you to get help during daylight)

Do you have a new telescope that you are learning to use? Do you want to see samples of what the night sky has to offer? Consider coming out to Lake Erie MetroPark or Island Lake State Recreation Area on <u>Beginner's Night</u>. These nights are dedicated to providing equipment and observing assistance to new astronomers

(Weather permitting) The event will take place on the date indicated regardless of sky conditions, cloudy or clear. *If it is raining, the event will be <u>cancelled</u>.*

The Island Lake site is at the "Spring Mill Pond" parking lot/picnic area, at the Island Lake State Recreation Area, on Kensington Road, south of I-96 between South Lyon and Brighton.

The Lake Erie MetroPark site is the south end of the "Cove Point" picnic area of the Lake Erie MetroPark, on West Jefferson Road, north of Huron River Drive, east of I-75 in Brownstown Twp.

For more info contact Gordon Hansen at 734-675-6137 or email Gordon at fordastronomy@comcast.net

The Ford Amateur Astronomy Club observes at the Lake Erie MetroPark or the Island Lake site on Friday and Saturday evenings year-round, provided skies are clear. You are welcome to visit the observing site on any weekend, but you must be with a club member to observe after 10 pm. Call 1-248-207-2075 to find out if anyone is going out to the sites on any particular night. Ford Amateur Astronomy Club Star Stuff Newsletter P.O. Box 7527 Dearborn MI 48121-7527



