



# STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

Volume 15, Number 8

August 2006

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## Deadly Planets

Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here, there's a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine, but a blistering torrent of X-rays and high-energy particles.

*...continued on page 3*

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## Reading into Things - Celestial

### President's Corner

Don Klaser, President, FAAC

Like most of you, I eagerly await the arrival of my monthly astronomy magazine. I give it a quick look through to see what events are in store for the upcoming month. I also check out the center-fold star chart and all-sky map (sorry, Hugh); planet, asteroid and comet locations are shown as well as which constellations will be visible.

Since my first experiences with naked-eye observing as a teenager in my parents' backyard, with a National Geographic star chart, the constellations have been the canvas on which the rest of the universe was seen. I learned that Orion was a great hunter, that the Big Dipper was part of the Big Bear and that Scorpio really looked like a scorpion; but what about the others - was there any logic or order to the placing of these mythological figures?

This question stayed on the back burner until I read a book I had purchased a few years ago called "Star Myths of the Greeks & Romans: A Sourcebook" by Theony Condos, a doctor of classical studies at USC. Her translations of an epitome of Eratosthene's "The Constellations" and a work by Hyginus, the

*...continued on page 2*

# STAR STUFF

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**FORD AMATEUR ASTRONOMY CLUB**  
P.O. Box 7527  
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|                    |               |
|--------------------|---------------|
| PRESIDENT:         | Don Klaser    |
| VICE PRESIDENT:    | Ed Halash     |
| SECRETARY:         | Ken Anderson  |
| TREASURER:         | Gordon Hansen |
| NEWSLETTER EDITOR: | 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](http://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 of the dark skies at Richmond Airport, Unadilla, given prior permission. See the FAAC Yahoo Group\* for more information.

Observing schedules and additional information are available on our website, or via the FAAC Yahoo Group.\*

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) |
| Life Membership:     | \$150 |                         |

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](mailto: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](http://groups.yahoo.com/group/FordAstronomyClub).

## President's Corner *(continued from page 1)*

the Librarian of Augustus, entitled "Poetic Astronomy," provided for me what Paul Harvey used to say - "the rest... of the story."

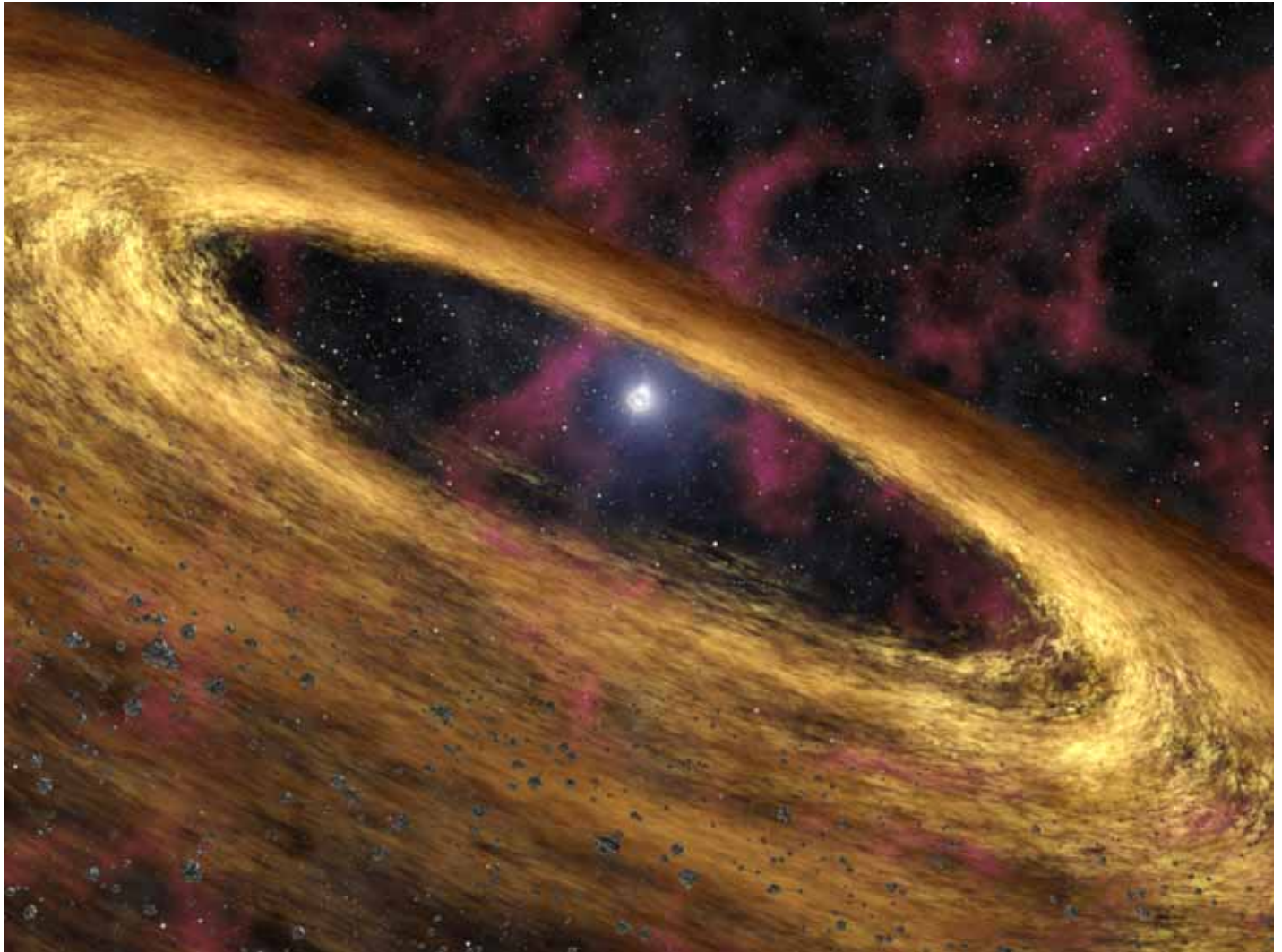
We may all be familiar with the story of Andromeda, the young maiden who was bound in chains by her father Cepheus, to hold her so she could be devoured by the sea monster, Cetus, in punishment for her mother, Cassiopeia's arrogance. But did you know, before this happened, she was rescued by Perseus, son of Zeus and slayer of the Gorgon Medusa, who took her for his bride? I wasn't aware that all the main characters in the myth - Cepheus, Cassiopeia, Andromeda, Perseus and Cetus - are grouped together to tell the story, the only myth so completely displayed in the sky.

Then there's the story of Orion, the great hunter and son of Poseidon. He is found high in the southern sky, and with him are his two dogs, Canis Major and Canis Minor, as he pursues Lepus, Taurus and Aries with Artemis, goddess of the hunt. After boasting that he would slay all the animals on Earth, Artemis sent a giant scorpion to kill Orion to prevent him from doing so. In sympathy, Zeus placed Orion in the sky, and to make sure that the scorpion wouldn't be trouble for Orion, Zeus put Scorpio on the opposite side of the sky. In addition to pursuing animals, Orion was also after the seven daughters of Atlas and Pleione - the Pleiades. The myth states that the sisters were placed in the heavens to protect them from the advances of Orion, and in the sky Orion chases them to this day.

Other stories tell us that the constellation Aquarius represents Ganymede, the cup-bearer of Zeus. In earlier Babylonia lore, this group of stars represented a male figure pouring water from an urn. And the stories of Ursa Major and Ursa Minor both recount the legend of young maidens being pursued by Zeus, who were changed into bears to hide their identities and placed in the sky to protect them. In reading this book, one thing was clear - there were a lot of over-active libidos in the ancient world!

If you're like me, you're curious about the origins of our sky stories, this book will give you a comprehensive understanding from ancient sources, as well as Ms. Condos' summary and commentary.

Don Klaser

Deadly Planets... *(continued from page 1)*

*Artist's concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.*

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it

was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. Last year, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized

*...continued on page 4*



## Deadly Planets... *(continued from page 3)*

by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

More news and images from Spitzer can be found at <http://www.spitzer.caltech.edu/>. In addition, The Space Place Web site features a cartoon talk show episode starring Michelle Thaller, a scientist on Spitzer.

Go to <http://spaceplace.nasa.gov/en/kids/live/> for a great place to introduce kids to infrared and the joys of astronomy.

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

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## July 27 Meeting Minutes

Ken Anderson

Attendees: ~40

Meeting officially started at 5:30 PM with pizza and pop available 15 minutes earlier, in the Hackett conference room of the HFCC Health Careers Building. Don Klaser, President, chaired the meeting and led the introductions, and asked for observations.

Gordon Hansen made a slideshow presentation of the Outreach award packet, which we viewed. Ken and Milton French observed the moon occultation of M45 Pleiades from Wixom & Dearborn (Ken listed details on the Yahoo message board, which will make you want to get 25x100 binoculars). Milton and son Cal went to Richmond Airfield and observed M57 and many globular clusters. Chuck Jones requested the SIG Group to have a class on how to process images, since he has been collecting data for images for about 1.5 years, the latest being M51 Whirlpool. Tony Licatta was at Gladwin and made an image of Sagittarius. Bob MacFarland, Doug Baurer, and

Ken Anderson conducted Solar Observing at the Ford PDC Car Show and raised about \$50 for MS. One member showed Saturn and Jupiter to his 5-year-old son for the first time. About 15-20 FAAC members brought their telescopes (and solar filters) to the DSO at Meadowbrook. Ken Anderson got to show Galileo sunspots in H alpha and white light filters, which he replied "You know I became blind in both eyes because of looking at sunspots (unfiltered)".

We all had the opportunity to listen to most of Holst's "The Planets" with background movies of the planets and their moons, 2001 Space Odyssey, Star Trek, and Star Wars. The real planet Jupiter became visible while the song named after it was played. They invited us back next year for a similar event! Attendees included Don and Jan (soon to be) Klaser, Bob and Holly MacFarland, Ken Anderson, Steve Harvath, Doug Baurer, Diane Worth, and many others.

This month's Technical Talk was worthy of being a main presentation, "Space, Time, and Relativity", by Gary Strumolo.

The official main presentation was "Distance and Scale of the Solar System and Milky Way", by Mike Bruno assisted by his son Michael who passed out blue marbles representing the Earth, plus all the other planet models when it was their time. Mike used many analogies if the Milky Way was the size of North America centered on Kansas City, then the sun would be 10 miles above Buffalo, NY.

Proxima Centauri is really 4.22 light years away, but if the Sun were an 8-ft. diameter weather balloon (Mike only blew up the balloon to 5 feet) then Proxima Centauri would be a basketball, 28,000 miles away.

The solar system was the most interesting, if the sun was scaled to be a 5-ft. weather balloon (109 marble diameters) you could fit 333,000 Earth sized marbles inside. One AU (93,000,000 miles) would be scaled down to 550 ft away from our Earth marble. Mercury would be a small peppercorn, 215 feet away from the Sun. Venus would also be a marble 400 ft away. Earth's marble would be 550 ft away from the Sun. Mars would be a BB, 838 feet away from the sun. Incidentally, Mike had a smaller orbital (but same diameter) scale system of the inner terrestrial

*...continued on page 5*

## Meeting Minutes... *(continued from page 4)*

planets which was small enough to pass around. The asteroid belt's total mass is less than that of our moon, and Ceres (the largest asteroid) accounts for 25%. Jupiter has a diameter 11x larger than the marble Earth, which would be 6.3" diameter a half mile from the weather balloon Sun. Saturn is 9.5 times larger than the Earth, with the rings being approximately one foot in diameter, 1 mile away from the Sun. Uranus and Neptune would both be 2.25" racketballs 2 and 3 miles respectively away from the weather balloon sun. Pluto has a diameter only 18% that of Earth's.

Using our Earth marble scale, Pluto would be a 0.1" BB 4 miles away from the weather balloon sun. In real life, the Pluto is 3.5 billion miles away from the Sun, which would appear only 0.013 degrees in diameter but still be at -18.5 magnitude. We see the sun at -26 magnitude here on Earth.

Halley's Comet, of 1910 and 1986 fame will be at its farthest point or aphelion in 2024 moving at only 1 km/sec. Its next approach will be 2042, but its next close approach to Earth will be 2062. Voyager is the furthest man-made object at 100 AU, past the heliopause, or bow shock of our sun. About 10 years from now it should be beyond the solar wind (free of our sun's influence).

Don Klaser began to cover the club business. The July newsletter was posted in Yahoo the week before the club meeting. Ken Anderson gave the secretary report, and his June minutes were approved/accepted without correction.

Reminder, the club is seeking a perfect, near perfect attendee, or future near perfect attendee volunteer to pick up the pop for meetings (Ken will gladly do it until someone volunteers). For the last 4 months perfect attendees consisted of the club officers, Harold Thomason, Milton French; and near perfect attendees consisted of Tom Jakowski, Preston Crofts, Dennis Salotte, Bob MacFarland, Steve Harvath, Doug Bauer, Jon Blum, Steve Flessa, Don Summers, Gary Stahl, and Tony Licata.

Gordon Hansen gave the treasurer's report (details in this newsletter).

Bob MacFarland and Ed Halash reported the July 8th Sandhill Soaring/FAAC/Richmond Airfield

Picnic had a P26 Yankee Airforce and Learjet flyover. They also had the Detroit Freedom Festival Fireworks and laser light show. Doug Baurer rode a glider (~\$60). George Korody, Don & Jan, and 20 other FAAC members were present. About 100-150 people in total participated. Solar telescopes, nighttime observing of Moon, Jupiter, Saturn, and other bright objects.

The next SIG meeting is to be Aug 10.

For the next FAAC club meeting, Aug 24, we will be back in our regular HFCC Rosenau conference room; Jon Blum will present "Land of Midnight Twilight," a technical talk, and Alan Kaplan will give the main presentation "Stellar Evolution."

We met the July 15th entry deadline for the \$2500 Astronomy Magazine Outreach Program Award, with some great help from Gordon Hansen's daughter. Dale Ochalek and the Board would like to thank all those members who provided supporting documents, letters of thanks, photos, and public outreach documentation.

Bob MacFarland gave reminder for next GLAAC event September 29-30, 2006 10th Annual Astronomy on the Beach, and listed the events and features, including NASA guest speaker, Dr. Andrew Feustel "How Do You Learn to Live and Work in Space," Sky Tours, Public Invited Beginner Night and Sky Orientation (reservations recommended if you request one-on-one help), with Sales Tables, and park concessions / rest rooms open.

Don Klaser reminded us of the FERA summer discount ticket promotion for The Henry Ford, Cedar Point, Kings Island, and the Michigan Renaissance.

The next Board meeting 8/3/2006 will discuss printing more business cards and address the FAAC hotline phone number, which we lost.

Diane Worth had a FAAC fashion show with Board members displaying the new logo on jackets, sweatshirts, dress and casual shirts, plus bags and a blanket. Diane decided the official club shirt would be black which showed off the silver and light blue lettering the best. Gordon took individual orders, but will also be ordering up to 10 additional black shirts. The meeting was adjourned around 8:00 PM. Mike Bruno continued afterwards with a to-scale solar system model outside.

## Meeting Agenda - Aug. 24 (5:30 pm)

**Opening/Introductions/Member Observing**

**New Members & Guests** – Diane Worth

**Tech Talk: Land of Midnight Twilight** - Jon Blum

**Presentation: Stellar Evolution** - Alan Kaplan

**Club Business / Secretary/ Treasurer Report**

**Club Projects / Committees / Member support**

- Club Apparel Program - Diane Worth
- FAAC Hotline - Don Klaser
- Astro-Imaging SIG – Jim Frisbie
- GLAAC Update – Bob MacFarland
- Beginner's Night - All
- Sally Ride Science Festival - Don Klaser
- Walk-ins

## Treasurer's Report

Gordon Hansen

### Bank Accounts

|                            |           |                 |
|----------------------------|-----------|-----------------|
| Checking                   | \$        | 829.33          |
| Savings                    | \$        | 3,023.12        |
|                            |           | -----           |
| <b>TOTAL Bank Accounts</b> | <b>\$</b> | <b>3,852.45</b> |

### Cash Accounts

|                            |           |              |
|----------------------------|-----------|--------------|
| Cash Account               | \$        | 88.78        |
|                            |           | -----        |
| <b>TOTAL Cash Accounts</b> | <b>\$</b> | <b>88.78</b> |

### Asset Accounts

|                             |           |                 |
|-----------------------------|-----------|-----------------|
| GLAAC                       | \$        | 2,126.45        |
| Projector                   | \$        | 621.38          |
| Scholarship                 | \$        | 188.05          |
|                             |           | -----           |
| <b>TOTAL Asset Accounts</b> | <b>\$</b> | <b>2,935.88</b> |
|                             |           | -----           |
| <b>OVERALL TOTAL</b>        | <b>\$</b> | <b>6,877.11</b> |

## FAAC Calendar of Events 2006

Bob MacFarland

**September** 2 - Beginner's Night - Island Lake  
Recreational Area

**September** 22-24 - Great Lakes Star Gaze – Gladwin  
29-30 - Astronomy on the Beach - GLAAC

**October** 28 - Beginner's Night - Island Lake

## Items for Sale

**Meade 10" LXD55 Schmidt Newtonian** telescope Autostar guided, German Equatorial mount, "T"- adapter, Super Plossl 26-mm eyepiece, 1.25" and 2" eyepiece holders, battery pack for 8 "D" cell batteries, 25ft. 110v. power cord. Bought in 2002 for \$1200, will sell for \$1000, or possibly trade for another scope.

E-mail inquiries to: eddyelectro@talkamerica.net

**Coulter 10" Dobsonian** telescope. \$400.  
Contact Bob Stonik, 313-361-4954.

**8" LX200 "Classic" F/10**, low hours, great shape. 2nd owner, new in 2001. Includes all std. plus optional - Scopestuff long Dec. cord, Scopestuff collimation knobs installed, Meade 1812 power adapter, Meade heavy duty Cordura soft case, Kendrick Dew Strap, Homemade counter weight and rail, dew shield, and scope transporter, Telrad base. On display at Rider's Livonia. \$1400.00 OBO

Call Jim: 313-386-6944 day, 313-928-9042 eve.

**Celestron Orange Tube 8"** (mid-1970s) Very good condition, no scratches, w/camera mount, tripod. RA bearings, slo-mo Dec fine. Corrector plate needs cleaning; needs a visual back and diagonal.

Contact Dr. Nicolle Zellner, Albion College  
nzellner@albion.edu

**Meade ETX Spotting Scope** 5-inch, Paragon Plus tripod, 26mm Super Plössl, 9.5mm Orion Epic, 13mm Orion Superwide Lanthanum. Nearly new, must sell. Could sell individually.

Contact Jack Fournier, 248-219-6222

## Sky Calendar

Jim Frisbie

### August

|    |    |  |
|----|----|--|
| 21 | Mo | Moon passes 3 degrees north of Venus-AM                    |
| 22 | Tu | Moon, Mercury, Venus and Saturn within a 7.5 degrees, dawn |
| 23 | We | New moon 3:10 PM   |
| 26 | Sa | Saturn in .5 degree from Venus at dawn                     |
| 29 | Tu | Moon passes 5 degrees south of Jupiter-PM                  |
| 31 | Th | Moon 1.3 degrees south of Spica 10:45 PM                   |
| 31 | Th | First Quarter moon 6:56 PM                                 |

### September

|    |    |  |
|----|----|--|
| 2  | Sa | Moon passes 5 degrees south of Jupiter-PM  |
| 5  | Tu | Venus 0.8 degree north of Regulus-AM       |
| 7  | Th | Full moon 2:42 PM                          |
| 14 | Th | Last Quarter moon 7:15 AM                  |
| 15 | Fr | Mercury passes 0.2 degree south of Mars-PM |
| 18 | Mo | Moon passes 2 degrees north of Saturn-AM   |
| 22 | Fr | New moon 7:45 AM                           |
| 23 | Sa | Autumnal Equinox 12:03 AM                  |
| 26 | Tu | Moon passes 5 degrees south of Jupiter-PM  |
| 30 | Sa | First Quarter moon 7:04 AM                 |

*All times in Eastern Daylight Time.*

This information was obtained from the Henry J. Buhl, Jr. Planetarium in Pittsburgh, PA.

## Astro Imaging SIG, New Lead...

Jim Frisbie

The next meeting of the Astro Imaging SIG is Thursday, September 14, 5:30pm, Roseneau Rooms A-B, at Henry Ford Community College in Dearborn, in the Administrative Services & Conference Bldg. (same as the FAAC General Meeting).

All Club members and their guests are invited. The topic for the meeting is TBA prior to the meeting. If you drive up to the Faculty parking lot gate, it should open, allowing you to park close to the building.

Also note, **effective October 1, 2006**, I will be retiring as leader of the Astro Imaging SIG. It has been a pleasure to have served. Please think about a replacement for me, in this important role as lead for the SIG.

## Thank You

I would like to extend my heartfelt thanks to the club for your thoughts and prayers extended to me and my family, for the passing of my father on August 12<sup>th</sup> of this year. Karen and I were very fortunate to have Pops live with us in Hudson over the last 14 months and we will miss his smile and good humor.

Sincerely,  
John Kirchhoff

## New Logo, Wearables

Dale Ochalek

The FAAC is updating the logo, thanks to much hard work by Diane Worth. Diane has been leading the effort to provide new FAAC "wearables," one result of which, is the logo.

The new line of apparel, by the way, including shirts, hats, etc., and featuring the logo, are to be purchasable through the club, at the FAAC general meetings. More information will be available at the meetings, or via Diane, or Gordon Hansen.

We've already put the snazzy new logo on the heading of Star Stuff, although the clothing versions, with silver threading, are even snazzier.







# GLSG4

The Fourth Annual

## Great Lake Star Gaze

September 22<sup>th</sup> – 24<sup>nd</sup>, 2006

“A Star Party with Dark Skies”

Held at River Valley RV Park, Gladwin, MI

\*\*\*\*\***(NOTE: HURRY! Late reg. fee of \$15 added after September 1!)**\*\*\*\*\*

Location and dark sky are the main attractions of this star party. Gladwin's central location provides excellent observing without traveling hours into Northern Michigan. Limiting magnitudes are estimated to be around 6.5 at zenith with some minor light domes from the cities of Mt. Pleasant and Midland, some 30 miles away. This is a star party for the astronomer who loves to observe and mingle with other astronomers. Some practical and interesting talks are scheduled to enhance your weekend experience.

### GETTING TO RIVER VALLEY RV PARK:

2165 South Bailey Lake Ave., Gladwin, Mi 48624

#### From US-10

Travel 11 Mi. N. from Loomis Exit.

#### From US-27

Travel 6-1/2 Mi. E. from Lake George Exit.

From M-61 travel 2-1/2 Mi. S. on Bailey Lake Ave. (Midway between Gladwin and Harrison).

### WHAT IS INCLUDED WITH REGISTRATION?

- Assigned tent camping on the observing hill.
- Participation in presentations and observing.
- Hot coffee/chocolate in welcome tent.
- One ticket for door prize raffle per registration
- Clean hot shower/restroom facilities.

### TRAVEL TRAILER FEES:

- Full hook-up sites for travel trailers are available, but you will need to register with River Valley RV Park in addition to completing our registration.
- Full hook-up sites run \$25-\$27 per night **plus** our star party registration fee.
- **River Valley RV Park, Phone: (989) 386-7844** Website: <http://www.rivervalleyrv.com>

**Registration: Bill Albe (989) 835-4142 e-mail: [billalbe@chartermi.net](mailto:billalbe@chartermi.net)**

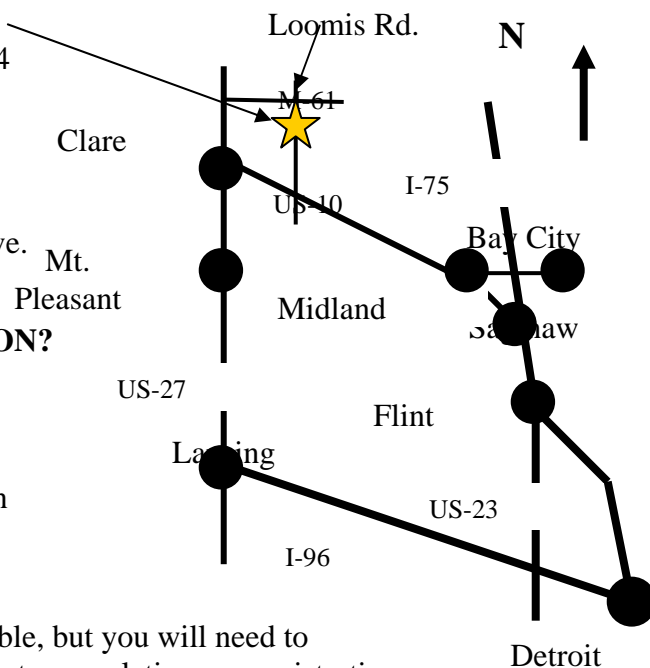
\*Single \$15 or \$25 (1 or 2 nights) \*\*\*\*\* \*\*Add \$15 Late Fee after Sept. 1 \*\*\*\*\*

\*Family \$25 or \$35 (1 or 2 nights) \*\*\*\*\*

\*Checks payable to Sunset Astronomical Society - 4300 Washington, Midland, MI 48642-3581

For complete event info & Reg. form - see S A S Website:

<http://www.boonhill.net/sunset/index.htm>







## Kensington Metropark Tenth Annual Astronomy at the Beach Sept 29<sup>th</sup> & 30<sup>th</sup>

*Great Lakes Association of Astronomy Clubs  
(Time: 5:00 pm to Midnight rain or shine)*

<http://www-personal.umich.edu/~dgs/kensington/>



### Explore Your Universe

*View Dozens of Exciting Objects through Our Telescopes and Binoculars*

### **Special Guest Speaker**

*Michigan Native and NASA Astronaut Dr. Andrew Feustel  
"How Do You Learn To Live and Work In Space?"*

*"Space Exploration and Astronaut Training Activities"*

*Sponsored by:*

- *Ford Amateur Astronomy Club*
- *Warren Astronomical Society*
- *Eastern Michigan University Astronomy Club*
- *University Lowbrow Astronomers*
- *Oakland Astronomy Club*
- *Seven Ponds Astronomy Club*
- *Sunset Astronomical Society*
- *Amateur Astronomers of Jackson*



[www.detroitsciencecenter.org](http://www.detroitsciencecenter.org)



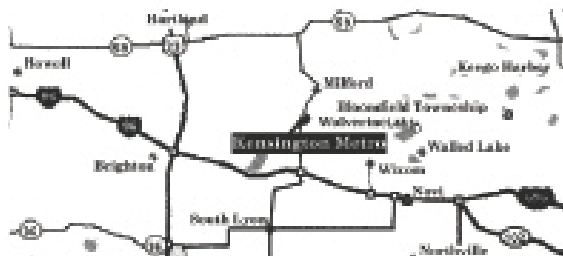
Hobby Shop of Livonia  
[www.riders.com](http://www.riders.com)

Visit the GLAAC web page at: <http://www.boonhill.net/glaac/>

### See the Skies through our Equipment or Bring your Own!

Fun for families, students, teachers & scouts!!! Learn about astronomy first hand.

- *Comet Making Demonstration!*
  - *View Sun Spots*
  - *Tour the Constellations*
  - *How to Choose & Use Telescopes*
  - *Bring a Chair or Blanket*
  - *How Cold Is Space?*
  - *See Digital Imaging*
  - *Take a Sky Tour Treasure Hunt*
  - *Food and Beverages*
- (available for purchase)*



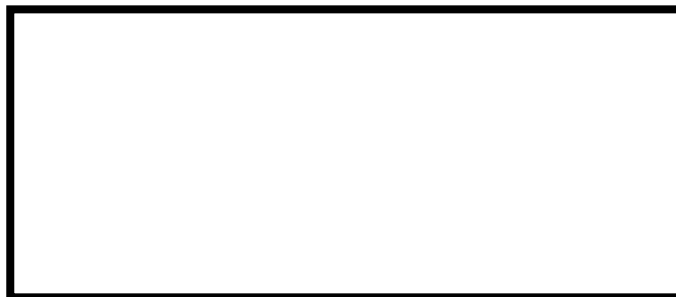
Kensington Metropark I-96 at Kent Lake Road Exit  
Exit 153 North, then go North to *Martindale Beach*.  
Phone 1-800-477-3178

This Event is FREE!

**\$4.00 Park Vehicle Pass Required**

*Revised 7/12/2006*

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



# RIDER'S<sup>®</sup>

## HOBBY SHOPS

|   |   |   |
|---|---|---|
| <b>Store Hours:</b><br>M-F 11am-8pm<br>SAT 10am-6pm<br>SUN Noon-5pm | <b>Gen. Manager:</b> John Kirchhoff<br><b>Website:</b><br><a href="http://www.riders.com">http://www.riders.com</a> | 30991 Five Mile Road<br>Livonia MI 48154<br>Tele: (734) 425-9720<br>FAX: (734) 425-2029 |
|---|---|---|

**Now shipping! See it in person!**

### **Celestron Sky Scout**

**Star and Planet Locator**

**Over 6000-object database!**

**\$399.99**