FORD AMATEUR ASTRONOMY CLUB
FAAC
Established 1992

STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

Volume 15, Number 4 April 2006

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Inside Stuff

NASA Space Place

Who Wants to be a Daredevil?

Patrick L. Barry and Dr. Tony Phillips

When exploring space, NASA naturally wants to use all the newest and coolest technologies — artificial intelligence, solar sails, onboard super-computers, exotic materials.

But "new" also means unproven and risky, and that could be a problem. Remember HAL in the movie "2001: A Space Odyssey"? The rebellious computer clearly needed some pre-flight testing.

Testing advanced technologies in space is the mission of the New Millennium Program (NMP), created by NASA's Science Mission Directorate in 1995 and run by JPL. Like the daredevil test pilots of the 1950s who would fly the latest jet technology, NMP flies new technologies in space to see if they're ready for prime time. That way, future missions can use the technologies with much less risk.

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"If it's Cloudy, this must be Michigan!"

President's Corner

Don Klaser, President, FAAC

If your calendar looks like mine, the notation of the Vernal Equinox is followed up by handwritten reminders of the Messier Marathon; an added bonus this year was the lunar occultation of the Pleiades. But as sure as the moon is in the seventh house and Jupiter aligns with Mars, the clouds rolled in! And on both weekends, too. As a consolation, I did see some nice images of the moon and Pleiades on the web. The clouds even cut short the solar viewing event we supported at the Detroit Science Center on March 29.

Will we ever catch a break! If so, let's hope we can catch one on Saturday, May 6th - National Astronomy Day. I don't know about you, but for me it is kind of like Opening Day, for astronomy.

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STAR STUFF

APRIL 2006 - VOL. 15 - NO. 4

STAR STUFF is published eleven times each year by the

FORD AMATEUR ASTRONOMY CLUB
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Dearborn MI 48121-7527

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CLUB INFORMATION

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the 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 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 by calling the FAAC Observing Hotline at 313-390-5456, 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***. 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)*

Our club will be actively supporting two of several outings in our area - The Detroit Science Center and Kensington Metro Park. Solar viewing will take place at the nature center at Kensington and out front of the main entrance at the DSC (as opposed to the corner of John R & E. Warren in previous years). Volunteers for both venues are needed, if you can help, please send an e-mail to the Yahoo! group and let us know where you will be going. Then, in the evening, it's off to Island Lake to join John Kirchoff for the first installment of Beginners Night 2006! I want to thank John for heading up this event again this year; it's an important part of our club's public outreach. For the dates of future Beginners Nights please check out the FAAC Calendar of Events 2006 in Star Stuff. Gee, with both daytime and nighttime events, it has the feel of a day-night double header, doesn't it!?

I hope many of you will be able to participate in one or more of these events.

See you there!

Don Klaser

Daredevil… *(continued from page 1)*

Example: In 1999, the program's Deep Space 1 probe tested a system called "AutoNav," short for Autonomous Navigation. AutoNav used artificial intelligence to steer the spacecraft without human intervention. It worked so well that elements of AutoNav were installed on a real mission, Deep Impact, which famously blasted a crater in Comet Tempel 1 on July 4, 2005. Without AutoNav, the projectile would have completely missed the comet.

Some NMP technologies "allow us to do things that we literally could not do before," says Jack Stocky, Chief Technologist for NMP. Dozens of innovative technologies tested by NMP will lead to satellites and space probes that are smaller, lighter, more capable and even cheaper than those of today.

Another example: An NMP test mission called Space Technology 9, which is still in the planning

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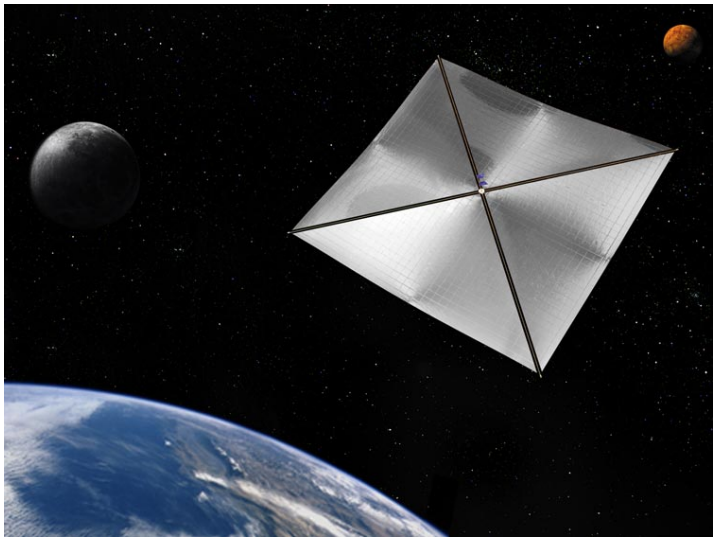
Daredevil… *(continued from page 2)*

phase, may test-fly a solar sail. Solar sails use the slight pressure of sunlight itself, instead of heavy fuels, to propel a spacecraft. Two proposed NASA missions would be possible only with dependable solar sails—L1 Diamond and Solar Polar Imager—both of which would use solar sails to fly spacecraft that would study the Sun.

"The technologies that we validate have future missions that need them," Stocky says. "We try to target [missions] that are about 15 to 20 years out."

A menagerie of other cool NMP technologies includes ion thrusters, hyperspectral imagers, and miniaturized electronics for spacecraft navigation and control. NMP focuses on technologies that have been proven in the laboratory but must be tested in the extreme cold, vacuum, and high radiation environment of space, which can't be fully recreated in the lab.

New NMP missions fly every year and one-half to two years, taking tomorrow's space technology for a daredevil test drive.



Artist's rendering of a four-quadrant solar sail propulsion system, with payload. NASA is designing and developing such concepts, a sub-scale model of which may be tested on a future NMP mission.

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

"A" for "Amateur"

Ed Halash

At a recent board meeting, a question came up about our club name. At issue was the term "Amateur". We have such great talent in our club, maybe "amateur" does not express who we really are. On the other hand, amateur can have a very positive meaning. This thought carried the day.

I have just finished reading the book Deep-Sky Wonders, which contains many excerpts from Walter Scott Houston's articles in Sky and Telescope, which appeared from 1946 until 1994! It is an excellent and nostalgic book to read, by the way.

At the end of the book, the very last entry, Scotty writes an article titled "What Is an Amateur Astronomer?" which I excerpt here:

Fortunately, most amateurs don't bother with the semantics of their title. But it seems appropriate to consider what the name means. For starters I turned to the New English Dictionary. This scholarly work informed me that the word "amateur" is rather new to the English language, having appeared in print sometime after 1700. It is taken from a French word meaning "lover". In the 1700s, to be an amateur simply meant loving a subject. The word was used in bird-watching, lichen counting, painting, and all such sorts of human devotion. The connotations were always favorable.

Shortly after 1800 a derisive use began to appear. And in astronomy the modern division began to form between admiration for the stars and earning a living. The separation between amateur and professional astronomers became wide and deep. In the 1880s, when New York amateur astronomer and newspaper writer Garrett P. Serviss formed an organization called the American Astronomical Society, Simon Newcomb of the Nautical Almanac Office loudly protested that no amateur group should be allowed to carry so lofty a name.

Other professionals were less disapproving. Edward C. Pickering of Harvard recruited amateurs to monitor variable stars, and his efforts led to the formation of the American Association of Variable Star Observers. This and other

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"Amateur"... *(continued from page 3)*

organizations helped raise the status of amateurs. Today the observations of amateurs can redirect efforts at professional observatories around the world. Australia's Robert Evans, observing from his backyard, has alerted professionals to many supernovae, allowing them to gather data on some very unusual stars in a timely fashion.

In 1931 Harvard astronomer Harlow Shapley gave a talk to the Milwaukee Astronomical Society (all 18 members). Afterward, during a discussion that went into the wee small hours, we talked of the role amateur astronomers play. Shapley did not see amateurs as volunteers who only did chores for the professions. He saw them as a vital link between professionals and the public, a link that must exist if observatories hope to survive.

Lewis Epstein had a slightly different assessment of amateurs, one that he outlined in a talk before the Astronomical Society of the Pacific. He sees amateurs as the ones who plant and cultivate the seeds for the next generation of professional physicists, mathematicians, and engineers, as well as astronomers. So it's with a great sense of pride that we, as amateurs, go outside and enjoy the night sky.

-- Walter Scott Houston
1912-1993

As you can see, we can call ourselves "Amateurs" and hold our heads high. I am amazed at the level of knowledge some people in our club have. At the same time, anyone, regardless of their astronomical know-how, is a welcome addition to our club. All they have to do is love the night sky - and pay their dues (you're welcome, Gordon!).

March 23 Meeting Minutes

Ken Anderson

Attendance: 29+ attendees
Don Klaser, President, started the meeting at 5:30 PM and led the introduction. Dave Bailey is a new member, from Seven Ponds, Oakland, and Warren Astronomy clubs. Jon Blum reported observing in Maui. Pat and George Korody celebrated their 50th wedding anniversary at the Winter Star Party, and Don had a champagne toast for them honoring this special occasion at the FAAC dinner. Bob MacFarland and Gordon Hansen also went to the Winter Star Party in Florida and observed Saturn directly overhead with clear skies. They also observed Omega Centauri, the Jewel Box, the Southern Cross, and down to -70 deg. The Webelow scouts enjoyed the planetarium. Dennis Salliotte and Gordon Hansen went to Lake Erie, and reminded that you must have a Permit and call before 4PM to stay after hours. Steve Harvath had first light with his telescope taking astrophotographs, with lots of one-on-one training from Tony Licata. Gordon, Ed Halash, Milton French, and Ken went to Island Lake observing the Leo galaxies among many other objects. Ed Halash wanted to remind everyone that Richmond Airfield requires 24 hour sign up (on the message board, etc), and that there is absolutely no penalty for deciding not to go. Finally, Tom Jackowski had a question about cleaning the primary lens of his reflector telescope and is seeking advice.

Dale Partin, from the Warren Astronomical Society, gave the main presentation entitled, "Measuring the Distance to the Sun the Ancient Way". He owns 8-inch, 11-inch, and APO telescopes. He opened the presentation with a question: How would you measure the mass of Jupiter? First he replicated astronomical experiments/measurements which the ancient Greeks performed, such as measuring the size of the Earth, the distance to the Moon, and the distance to the Sun. He was able to plot sine curves and determine orbital period of the 4 moons: Io 42.43, Europa 85.11, Ganymede 171.27, and Callistro 398.85 hours. Io and Europa, as well as Europa and Ganymede were in 2x resonance by his calculations. The angle from Jupiter is easily measured, and if he knew the orbital radii he could calculate the mass of Jupiter using Kepler's 3rd law.

Next he read "A Short History of Astronomy" which was written in 1898 about all the historical astronomical measurements and he decided to replicate them for fun. The procedure the Greeks used was to measure the size of the Earth, then distance to the Moon, and finally distance to the Sun. They assumed perfect spherical orbits, since the heavens were believed to be perfect. He went through his meticulous procedures and calculations for obtaining these measurements.

Size of the Earth: Eratosthenes (276-196BC) noticed in Egypt that the sun was vertical at noon during the summer solstice, since the well cast no internal shadow. An exact year later in a different location, Alexandria, he measured a shadow angle

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

At 7 degrees, and knowing the known ground distance traveled, he calculated the Earth's diameter to be 700 stadia (20% error to the known present value). Dale replicated by using a perpendicular rod of known 93.9 mm height and measured the shadow length, and used trigonometry to determine the angle.

Distance to the Moon: First one needs to determine the size of the moon relative to the Earth, and this is done using Earth shadow movement times during a lunar eclipse.

Dale measured the Earth's shadow diameter = 2.71 lunar diameters = Rm/Re. Since solar eclipses occur which moon just covering the sun, this creates a shadow cone angle with ratio N=(sun dist/moon dist) which Dale estimated at 400 (vs. the Greeks 20 estimate).

Next determine absolute size and distance of the Moon using the angular size of the moon. Dale calculated this to be 384,400 Km (1.2% error). One comment is that angular size changes 13% between perihelion and aphelion.

Distance to the Sun: Half-moon phase creates an exact right triangle between the Sun and Earth. However due to the sun's distance makes the Earth - Sun angle nearly 90 degrees (creating huge trigonometry errors for very small angle errors). Aristarchus measured this angle at 87 degrees, or sun 20 times distant than the moon. Dale measured 89.9 degrees (89.88 deg +/- 0.006 deg) at 50% phase at 9:03 hrs (+/-0.2 hrs) using Right Angle and Declination on his telescope to measure the angle, calculated the Sun to be 181 million km, or 112 million miles (this is 21% error from reality of 93 million miles = 1 AU).

As for the mass of Jupiter, this was beyond the capability of the Greeks. Dale used Kepler's 3rd law to determine the Period Jupiter = 11.9 Period Earth. Radius of Jupiter = 9.43 x 10**8 Km (21% error). Dale even calculated the radius of each of Jupiter's moons. This radius was used to determine arc min to km to mass in Kg. The mass of Jupiter was calculated at 3.47-3.80 x 10**24 Kg. The average mass of Jupiter was calculated to be 3.36x10**24 (77% too large).

Dale Partin is one very dedicated amateur astronomer who lives and follows in the footsteps of the ancient astronomers, and we thank him for sharing his journey with us.

After the main presentation, Ken Anderson gave the secretary report, minutes were approved with one addition from Gary Stahl. Gary is seeking submissions for the club library, especially the imaging CD library, so please provide your digital images along with your name and details. E-mail to web sites, use links.

Gordon Hansen gave the treasurer's report, and we had $6,700 total in the bank, of which $1400 is committed to GLAAC, equipment, and the scholarship. Next, Don Klaser moved to the projects/committees/events portion of the meeting:

Astronomy Day, Saturday May 6, 2006. Gordon Hansen is seeking volunteers to sign up on the message board for the 3 various sites:

1) Detroit Science Center 10-3PM (unload/setup 9AM) – Solar Observing (Ken Anderson, Steve Harvath both with Coronado Solar Max 40), "Journey through Space" Exhibit, and Planetarium show.

2) Kensington Metropark Nature Center 1-5PM – Solar Observing (George Korody with Coronado PST)

3) Island Lake Beginner Night after dusk (John Kirchoff).

(Astro/Sky Imaging Contest sponsored by Detroit Science Center (contact John Schroer) is open to anyone in Beginner or Advanced categories, and all hard copy display photos must be received before Saturday April 29, 2006 so visitors can start voting for their favorites through May 14th. Winner receives a Nagler eyepiece as top prize).

Don Klaser mentioned applying for a $2500 award for Astronomy Magazine Outreach Program. The application is due July 13, 2006. Dale Ochalek and John Schroer volunteered to lead this committee to gather letters of thanks, photos, and public outreach documentation, and complete the application and submit before the deadline.

At the April 13th Astro Imaging SIG meeting, at 5:30PM, the topic is "Ask the Photographer", so be ready with your questions.

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Minutes... *(continued from page 5)*

Jim Frisbie and Diane Worth scheduled the FAAC Dinner Party for April 8th at 6PM at Station 885and have 55 reservations (58 people max).

Bob MacFarland gave an update for the two GLAAC events:June 2-3, 2006 Kensington Summer Star Gazing/Observer Night, with Sky Tours & Public Invited, Beginner Night & Sky Orientation, Concessions/Rest Rooms/Sales Tables open, but no Presentations, No Shows (i.e. Mini Star Party)

September 29-30, 2006 10th Annual Astronomy on the Beach, with NASA guest Speaker – TBD, Other Presentations/Shows, plus all other activities listed in 6a above.

Bad Astronomy by Phil Plate was attended by several FAAC members, included topics such as Mars Attacks-Martians, UFO. Plate will be invited to be at DSC next year, was on Myth Busters.

Gordon Hansen mentioned FAAC scholarship has no applications and the 30 March deadline is approaching. If we receive no applications, we may open it up to HFCC, to be discussed at next meeting.

Don Klaser mentioned there is a FERA Triathlon swap meet on April 22nd.

HFCC Science Building Planetarium Presentations have resumed for "Spring Sky" on Tuesdays with doors opening at 7:15PM, and presentations starting either when all seats are full or NLT 7:30 PM when doors are locked. Mike Bruno and Don Sommers are FAAC club volunteers giving the ad-lib "Spring Sky" presentations.

April 8th is Lyon Oaks 7-11PM astronomy event in Wixom off of Pontiac Trail. Contact Tom Blazak on web site if interested.

Dick Harris donated 1950 Star Atlas with 15x20 charts to our FAAC library.

Bill Bears says the 5th Annual Cadillac Star Party is May 24-29th, sponsored by Warren & Seven Ponds. RSVP to him directly for Camper/Tent site. John Schroer asks How many stars can you see? Yesterday till April 29. Glow Brightness 9 magnitude. Bob Fitzgerald to be at Crestwood Planetarium Wednesday (3/29/06) for the Eclipse.

Ken Anderson mentioned that one of his West Point "80" Aerospace Specialty/Infantry Officer Basic Course/Officer Rotary Wing Flight School classmates Col. Jeff Williams will depart on Soyuz Rocket Expedition 13, on March 28th bound for the International Space Station, for six months. View the ISS crew on the NASA satellite/cable channel. Both Ken and Jeff had an aerodynamics instructor, Jim Adamson, who later also was selected for the astronaut program and went on two Space Shuttle missions. Bob MacFarland asked Ken to ask Jeff Williams to be a future guest speaker at GLAAC.

The meeting adjourned at around 7:30 PM.

FAAC Calendar of Events 2006

May

6 - Astronomy Day - The New Detroit Science Center / Beginner's Night - Island Lake Recreational Area

June

2 & 3 – Spring Star Gaze - GLAAC (Observing Only)

July

1 - Beginner's Night - Island Lake Recreational Area

TBD - Summer FAAC / Sand Hill Soaring Club Combined Picnic

August

5 - Beginner's Night - Island Lake Recreational Area

September

22-24 - Great Lakes Star Gaze - Gladwin

29-30 - Astronomy on the Beach - GLAAC (w/Presentations)

October

28 - Beginner's Night - Island Lake (proposed)

Meeting Agenda – April 27

(5:30 pm)

Opening/Introductions/Member Observing

New Members & Guests – Diane Worth

TechTalk - Takahashi 150 - Steven Harvath

Main Presentation - Comets: My Personal Obsession - Mark Deprest

Club Business / Secretary**/** Treasurer Report

Club Projects / Committees / Member support

- Astronomy Day/Imaging Contest - Don Klaser / John Schroer
- Dinner Party Recap - Diane Worth & Jim Frisbie
- Astro-Imaging SIG – Jim Frisbie
- GLAAC Update – Bob MacFarland
- Scholarship Committee - Gordon Hansen
- Walk-ins

Sky Calendar

Jim Frisbie

April

●	27	Th	New moon 3:44 PM

May

	2	Tu	7:00 a.m. Mars 4 degrees south of Moon
	4	Th	5:00 a.m. Saturn 4 degrees south of Moon 11:00 a.m. Jupiter at opposition
◐	5	Fr	1:00 a.m. Peak of n-Aquarid Meteor Shower
	6	Sa	International Astronomy Day
	7	Su	3:00 a.m. Moon at apogee
	12	Fr	12:00 Noon Jupiter 5 degrees north of Moon
○	13	Sa	2:51 a.m.– Full Moon
	17	We	Moon 0.2 degrees south of Antares-AM
	18	Th	4:00 p.m. Mercury in superior conjunction
◑	20	Sa	5:20 a.m. Last Quarter Moon
	21	Su	Mercury at perihelion (closest to Sun)
	22	Mo	11:00 a.m. Moon at perigee
	24	Th	4:00 a.m. Venus 4 degrees south of Moon
	25	Fr	1:00 a.m. Mars 5 degrees south of Star Pollux
●	27	Su	1:26 a.m. New Moon
	30	We	11:00 p.m. Mars 3 degrees south of Moon

All times in Eastern Daylight Time.
This information was obtained from the Henry J. Buhl, Jr. Planetarium in Pittsburg, PA.

Treasurer's Report

Gordon Hansen

Bank Accounts		
Checking	$	801.23
Savings	$	4893.49

TOTAL Bank Accounts	**$**	**5694.72**
Cash Accounts		
Cash Account	$	100.20

TOTAL Cash Accounts	**$**	100.20
Asset Accounts		
GLAAC	$	626.45
Projector	$	543.97
Scholarship	$	354.60

TOTAL Asset Accounts	**$**	**1525.02**

OVERALL TOTAL	**$**	**7319.94**

Astro Imaging SIG

Jim Frisbie

The next meeting of the Astro Imaging S.I.G. is Thursday, May 11, 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. If you drive up to the Faculty parking lot gate, it should open, allowing you to park close to the building.

Welcome New Members

Gordon Hansen

The FAAC welcomes new members Eddie Bostick, Nick Ryan, and John Wrosch.

Ford Amateur Astronomy Club

Beginner's Nights - at Island Lake

These Dates:

May 6 (**Astronomy Day**), June 2/3*, July 1, August 5, Sept 2
from 7:00pm to Midnight

(Arriving at 7pm will allow you to get help, or set up, during daylight)

* June 2/3 date at **Kensington Park** as part of the Spring Stargaze

Do you have a new telescope that you would like to learn to use? Do you want to see samples of what the night sky has to offer (weather permitting)? Consider coming out to Island Lake Recreation Area on Beginner's Night. These nights are dedicated to providing equipment and observing assistance to new astronomers.

(The events will take place on the date indicated regardless of sky conditions, cloudy or clear. If it is raining, that event will be cancelled.)

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

For more details on this event, contact John Kirchhoff, c/o Rider's Hobby Shop of Livonia, 734-425-9720, or email riderslivonia@aol.com

The Ford Amateur Astronomy Club observes at 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 if you plan to observe after 10pm. Call 1-313-390-5456 to find out if anyone is going out on any particular night.

Book Review: "The Bible and Astronomy"

Greg Miller

At first glance, "The Bible and Astronomy: The Maji and the Star in the Gospel" by Father Gustav Teres, is a solid 327 pages (in small font text - some readers will no doubt need reading glasses), but upon review, worth every bit the purchase price, and perhaps more than its weight in gold. This book is the culmination of many years of thorough research. The text flows well, is easily understandable, mostly, and is quite interesting and thought-provoking.

(Author's Note: This review will be achieved by highlighting parts of the book that are judged as most important. Although I am not knowledgeable enough to provide expert commentary, I do think the book is an exhaustive, factual look at what is written in the Gospel of Matthew and how this relates to astronomical events that occurred around the birth of Jesus. It is highly recommended that you read the book yourself, if so inclined, and reach your own conclusions. Note, too, that there have been several book reviews written by astronomers and theologians since this book was written. It would be worthwhile to seek out those reviews, for more expert commentary.)

About the book's author - Gustav Teres is a Jesuit Priest that works for the Vatican Observatory. Father Teres was born in Hungary 1931, graduated from the St. Georgen College and Frankfurt-Main. He served on the faculty of Mathematics and Natural Sciences of the University of Oslo, Norway, and he has a licentiate in Philosophy, Biblical Exegesis and Astronomy. Since 1984 he is an Adjunct Astronomer of the Vatican Observatory.

The book was first written in Hungarian, became a best seller in Hungary, and, by popular demand, was later translated into English. The book is intended for those looking to resolve apparent

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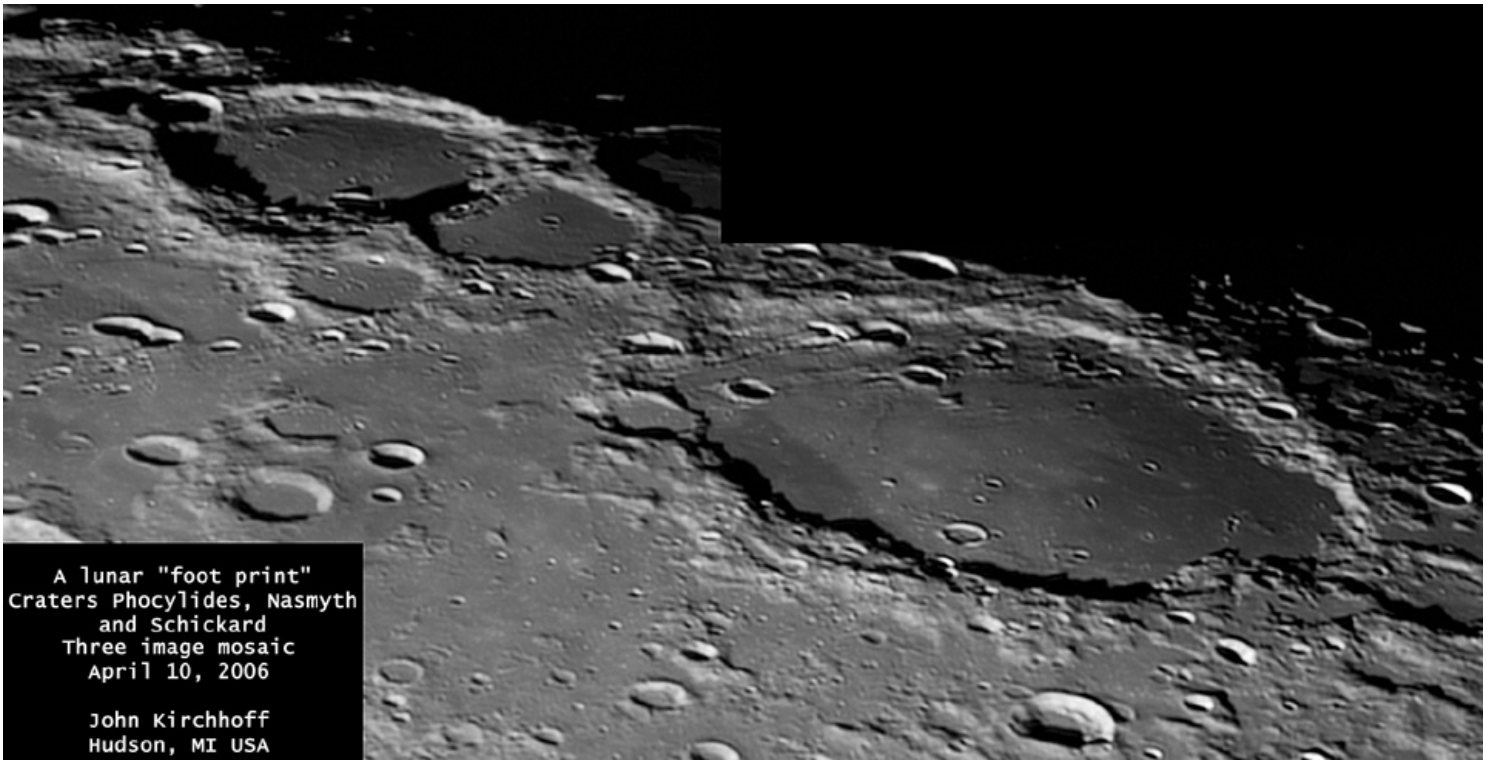
Lunar Footprint

John Kirchhoff



Book Review... *(continued from page 9)*

contradictions between matters of science, and faith. It attempts to address the boundary of scientific research, and the beginning of faith - and whether one can come to an understanding of the meanings and usages of the ancient prophets, which might equal our understanding of the language of mathematics.

There are numerous pictures and illustrations provided in the book, including astronomical figures that describe what the Maji (the Three Wise Men) may have seen in the sky, at the time of the birth of Christ. Maps of the area at that time, pictures of ancient artifacts, and the other illustrations, help provide a look at what was visible, and perhaps evident and believable then.

This quest of Maji is an example to us, 2000+ years later, to overcome all difficulties in finding Him for whom they were looking for in Bethlehem.

If you're looking for a short and quick answer, read the General Outline, pages XIII through XVI. In fact, read this section carefully first, before reading the rest of the book. This provides a summary of the events surrounding the prophecies and the birth of Christ. It states, among many other things, that Herod died in 4 BC; the assumption by most researchers today is that Christ was born in 7 BC.

This could explain the census, the killing of two year old and under males, the planetary alignment of Jupiter and Saturn in Pisces and their western standstill, the beginning of the era of Pisces (when the astronomical point of the vernal equinox moved from the constellation of Aries into Pisces), as well as exactly who the Maji were.

It ties together the visit of the Maji of the Divine Christ Child that is plausible given all of the astronomical and cultural facts and evidence of what took place in that era. The Maji were not just ordinary astrologers just to cast a birth horoscope for the awaited king.

These Maji were learned Babylonian astronomers and priests or "wise men." Further, Matthew relates a natural phenomenon, that is, he is speaking of an actual star and not only of a miraculous event.

Also, it is stated that several astronomers have refuted the hypotheses that either a nova or comet could be responsible for the star of Bethlehem. Only the conjunction of Jupiter and Saturn in Pisces is taken as the most probable hypothesis.

Without the knowledge of cultural history, it is hardly possible to understand and evaluate the scientific progress of our age. The Heavens and the Bible are two subjects that are endless and never boring. According to the Scripture, our universe begins with the words of the Creator, "Let there be light!" What we want to know, today, is what light is and how it came into being.

We compare scientific theories and what the Bible says about the beginning and end of the universe. Some scientists say that man should not believe in anything else but physical theorems. Others say that science as a whole is uncertain and only the Bible is infallible. Who is right? Does anybody understand the language of the Prophets and the language of Mathematics equally well?

Believers and nonbelievers will agree that the most epoch-making event in the history of mankind is the birth of Jesus Christ. Could it be possible that a few Maji from the East found where and when Christ was born just by studying the positions of the stars? Why did the apostle Matthew think that those Wise Men had found the Messiah in Bethlehem by observing the motions of the stars?

As you might imagine, the Vatican Observatory gets letters from all over the world: India, China and even Japan, asking: What exactly was the Star of Bethlehem? Is there a scientifically-verified explanation for the Star's existence?

About 35 years ago Father Patrick J. Treanor, S.J., former director of the Vatican Observatory answered the above question in Observatore Romano, January 6, 1971:

"... it is impossible to correctly interpret the original text if we fail to take into consideration the evidence drawn from literature, theology, cultural history and astronomy."

In Father Treanor's paper, he outlines only the astronomical arguments which could convince astronomers of the authenticity of the chapter by Matthew about the authenticity of the star of Bethlehem. However, he states that these

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Book Review... *(continued from page 10)*

arguments are worth serious consideration by Biblicists as well.

Father Treanor, supported by his fellow Jesuits, showed that the star of Bethlehem was most likely Jupiter in 7 BC when it was in conjunction with Saturn for three months.

Gustav Teres, engaged in 25 years of research, is just as convincing of the value of the astronomical arguments concerning Matthew's account. Much of the research was done using the libraries of the Vatican Observatory and the Biblical Institute of Rome.

It was in the 4th century that bishops of the Church in the East and West decided to celebrate the birth of Christ on December 25. This was the date of the "Unconquered Son," a festival celebrated by the Greek-Roman empire of the victory of light over darkness. This was about the time after the winter solstice when it became apparent that the daylight was increasing. The traditional popular festival was thus endowed with a new meaning, the celebration of Christ's birth, who had declared: "I am the light of the world".

January 6, the Feast the Epiphany, was to continue to commemorate the visit of the Maji. The opening liturgical prayer for this date is "Almighty, Eternal God, you revealed your Son to the nations by the guidance of a star. Lead us to your glory in heaven by the light of faith."

Finally, don't let this book be the end of your study and quest to know more about the Star of Bethlehem, although it is an excellent summary of the Star.

There are pages of references at the end of the book. I highly recommend researching those references as well. Don't forget, most of all, to read Matthew's Chapter 2 account in the Bible.

(*Author's Note: This writer did not read the entire book from cover to cover; rather, highlights of the book were selected, to hopefully arrive at quick and simple conclusions. It is recommended here that those interested obtain their own copy for continual reference; one cannot absorb all the rich information in one reading. The purchase, for one so inclined, would definitely be money well spent.*)

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.

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

Wanted: Autostar II hand-paddle controller for LX-200 GPS.

Contact Dale Ochalek – dake00k@yahoo.com, 313-206-2926

Astronomy Day - May 6, 2006

Dale Ochalek

Don't forget- May 6, International Astronomy Day. The FAAC invites the public to take advantage of, and members to participate in, both daytime and nighttime activities.

The New Detroit Science Center is hosting Astronomy Day activities, 10am-3pm, including "Journey through Space" Exhibit, and Planetarium show, along with outdoor solar viewing, featuring H alpha-filtered telescopes for solar views (FAAC).

George Korody will offer views through his Coronado PST at Kensington Metropark Nature Center, 1-5PM. Also, the Island Lakes observing site will feature evening star-gazing, in combination with a Beginner's Night. Call our Observing Hotline at 313-390-5456, or the DSC, 313-577-8400, for further information, if needed.

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