STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

October 2002
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Editor: Jim Frisbie

In This Issue:

STAR STUFF is a monthly publication of the Ford Amateur Astronomy Club, an affiliate club of the Ford Employee Recreation Association.

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

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or email: w8tu@peoplepc.com

Dead line is the 15th of each month for the following month of publication.

Officers:

President	Don Nakic
Vice President	Ken Anderson
Secretary	Don Klaser
Treasurer	Mike Bruno

General Meetings:
The Ford Amateur Astronomy Club holds regular general meeting on the fourth Thursday of each month (except the combined November/December meeting held the first Thursday of December) at 5:00 PM at the Family Service and Learning Center, 18501 Rotunda, Dearborn, MI 48124.

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

Club Information:
Observing schedules and additional Club information is available by calling the Observing Hotline at: (313) 390-5456 or via the Ford Intranet: www.be.ford.com/astro/faac.html
or the public Internet: www.boonhill.net/faac.

Club Membership:
Membership in the Ford Amateur Astronomy Club is open to Ford employees and non-employees. Write or call for an application.
Annual - New Member: $25; Renewal: $ 20 (before Jan 31 of each year)
Lifetime - $ 150

Membership includes:
A subscription to the STAR STUFF newsletter and the quarterly newsletter the REFLECTOR published by the Astronomical League.
Discounts on ASTRONOMY and SKY & TELESCOPE magazines, after-hours access to the observing site and discounts at selected area equipment retailers.

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

SWAP & SHOP

For Sale: 6" Celestron Dobsonian Star Hopper. Like new and always stored in original wrapping $500 or best offer Contact Ed Augustyn (734)-641-8336

For Sale: 2003 Gold C Books are one sale now for $10.00. If you are interested, contact Ken Anderson at 313-845-0641 or via e-mail (kanders2@ford.com).

For Sale: I'm selling Little Joe, aka my Celestar 8" Deluxe, to make room for a new toy. You can get all the details by going to my website and clicking the FOR SALE link. If my web link below isn't up yet, you can view the pdf file from this link: http://www.wideopenwest.com/~djkmiecik/Astronomy/C8_Deluxe_email.pdf.
Please feel free to email any questions you may have.
Thanks, Dan http://www.onyo.net

For Sale: Olympus OM-1 35mm film camera. Light weight, mirror lock up, and changeable focusing screen makes it excellent for astrophotography. With 50mm standard lens and T-Ring adapter $165 or best offer. Contact Jim at 734-453-1422.

MINUTES OF THE SEPTEMBER 26, 2002 FAAC GENERAL MEMBERSHIP MEETING

by Don Klaser

The meeting was called to order @ 5:00pm. New members were introduced and roundtable discussions were held as we all enjoyed pizza & pop. Mike Bruno gave the treasurers report. Comments on the Star Party were positive; Attendance was good for a cloudy night – just over 500 people attended. The date for next years party is Saturday, October 4, 2003. Bruce Polansky, Ed Halash, and Doug Bock spoke on the proposal of establishing a club library. A synopsis of the proposal will be published in October Star Stuff, discussed at an upcoming board meeting and will be voted on by the membership at some point in the near future. President Don talked about upcoming events – Beginners Night on Saturday, October 12 and a field trip. A discussion was held about the possibility of having several observing sites. This idea will be developed in the next couple of months. The technical discussion was postponed; the main program was conducted by Ken Burtin of the Warren Astronomical Society on Eclipses.

TREASURER'S REPORT - 9/26/2002

by Mike Bruno

Balance on hand:	Checking	$ 1,101.35
	Savings	$1,420.13
Included in above	Scholarship	$ 496.13
Cash Available		$2,025.35

A MESSAGE FROM THE PRESIDENT

by Don Nakic

In the last general meeting we had a presenter scheduled to talk about solar eclipses. Before our general meeting, I was curious as to how much more information I will learn that I haven't already heard. After listening to Ken Burtin's talk I realized a lot more.

Ken Burtin, Vice-President of the Warren Astronomical Society, discussed the fundamentals for understanding, forecasting, and viewing solar eclipses. He first walked everyone through the various types and categories of lunar (penumbral, partial, and total) and solar (partial, annular, and total) eclipses, along with the events that cause them. With an emphasis on solar eclipses, Ken explained the beauty of these events occur when the Moon's angular size matches the Sun. This unfortunately doesn't happen every time since there are a lot of variables at play, such as Earth's position in its orbital or ecliptic plane (relative to the Sun) and Moon's position in its orbit around Earth (whose orbit is tipped 5° relative to Earth's orbit). An eclipse can only occur when the Moon passes through Earth's ecliptic plane (derived from eclipse) and the Sun, Moon, and Earth are aligned. As Ken pointed out, "when this alignment occurs you will have a truly spectacular event!"

There are a number of books, magazines, and computer software packages that tell you when, where, and duration of the next totality event. When peering through this data you will find a natural rhythm in their occurrence. In a period of 18.6 years the same totality event can be seen again, commonly referred to as the Saros cycle. Although the totality event is the same for this case, the location to which you view it changes from cycle to cycle.

When its time to plan a trip to witness that special event you need to be cognoscente of other factors. Ken defined these factors as the event's duration (totality can last as long as seven minutes to as little as 30 seconds), historical weather conditions for the area, all areas that can see the totality (in case one area is prone to bad weather), and security issues with bringing photographic equipment through customs (e.g. ATA Carnet). Also don't plan your whole trip around the solar event. Look for other places to see while you are in the area. Ken uses this time to see other parts of the world.

Once you're at the spot to witness the event, pay close attention to your surroundings. Ken found that you will feel a dramatic change in temperature, you will see birds flying in different directions, you will hear animals howling in the distance, and you will also see waves of light on the ground at the beginning and ending portion of the event (known as shadow dance).

There is so much to learn about solar eclipses. But the best learning comes from witnessing one. "And even then," as Ken so eagerly pointed out, "each one you see is like seeing it for the first time."

OBSERVATIONS

by Greg Burnett

[This article was first published in Star Stuff, *the newsletter of the* Ford Amateur Astronomy Club, *in October, 1997.]*

Dusk settles on a late Summer evening. Familiar backyard colors fade to gray and black. The world of a child expands, surrounded now by shadowy terra incognita. Each movement becomes an exploration, every place a discovery. Gentle floating lights flicker in the heavy air, now here, suddenly over there, moving as if by a fairy's magic. A delicate winking light draws a dotted line in the evening air. Pursuing, jar in hand, tiny fingers reach out to capture the mysterious fairy-light, and hold it as their own for a time. Behind curved glass the captive blinks in plaintive incomprehension. But now we are grown, and we have put away childish things...
Dusk settles on a late Summer evening. The familiar hillside fades to gray and black. Our world expands, to the unknown horizons of the cosmos. As if by magic, distant beacons appear in the heavens, here, over there, too many to count, tracing patterns in the sky older than human memory. We are explorers again. With curved glass finely polished, we capture ageless starlight, possessing it as our own for a moment, and once more we see through the eyes of a child.

PITFALLS IN ASTRO IMAGING

By Jim Frisbie

I have been feeling pretty good about what I call my recent successes in astro imaging. I have had some excellent luck with my Coolpix 950 for lunar and planetary imaging and with my Honeywell Pentax cameras for wide field constellation and milky way photography. That coupled with two months in a row of clear weather and a clear social calendar for expeditions to Lake Hudson during the new moon told me I

was on a roll It was hard to believe that Michigan and my social calendar could offer a third straight month of astrophotography during the new moon. But that is what happened earlier this month October 5. On my prior time at Lake Hudson for the September new moon, my success ratio (good frames to total frames taken) was up from about 5% to over 80%. I was "Riding High"... I finally got this astrophotography thing figured out?....I can see some light at the end of the tunnel!...But is it a train???

I started to flash back to my single days and my boating experiences a few short years ago. I had always wanted to have a boat to enjoy the Michigan waters. Although the budget was a little tight at the time, I managed to scrape together a few dollars to purchase my first SeaRay. I have heard it said that the happiest day for a boater is when he buys his new boat. I have also heard that the happiest day for a boater is when he sells his new boat... I found both to be true. On the maiden voyage in Cass Lake, while 1000yds off shore, we managed to hit a submerged rock which tore up the prop and did $2000 worth of damage to the outdrive. My insurance agent was not quite as happy as I was when he told me it was all covered by insurance on my policy that was only 2 days old. A few boat outings later it was almost like slow motion as I watched my daughters' teenaged girl friend toss the stern line she was holding into the water near the back of the boat. Can you picture in your minds eye how the rope gracefully floated through the air, hit the water and slowly sank to be swallowed up by the same prop that had hit the rock a few weeks earlier. The rope wrapped quickly around the prop with enough strength to stall the V-8 engine and slam the out drive, which had been up, against the hull. It did not do a lot of damage, but it made it very difficult to pull the boat and trailer off the ramp with the outdrive dragging on the pavement. I started keeping track of my boating experiences with the thought of writing a book on pitfalls in boating. But I was "Riding High" after my first trip across Lake Erie in my trusty SeaRay. Tom (one of my single buddies), Pepper, and I left from Elizabeth Park in Trenton early on a foggy Saturday morning in July. By the way, Pepper was Tom's miniature poodle, we used her for bait.... (Not for fish that is)....Fortunately, I had my trusty compass, newly installed Loran receiver (popular before GPS), and ship to shore radio. The weather forecast was clear for the next few days so we headed directly across Lake Erie for Put-In-Bay, Ohio. After the fog cleared we were in open water without sight of land for some time. I was very happy when Perry's Monument came up on the horizon directly off the bow light. We made it across Lake Erie in a little over 1 hour with no significant emotional events. We had a good time at Put-In-Bay, stayed on the boat that evening and had an uneventful trip back to Michigan on Sunday. I was "Riding High"... I finally got this boating thing figured out....I can see some light at the end of the tunnel!...But is it a train???

My trip on the Detroit River a week later was not as much fun... I put in again at Elizabeth Park in Trenton, left the launch area and slowly entered the river. As I pressed the button to power the outdrive down, nothing happened...it stayed up so I really did not have any forward power or steering... Somehow I was able to drift down stream and make it into a backwater area where I worked on the outdrive for several hours to get the outdrive down enough to limp back to Elizabeth Park and home for repairs. Oh yeah, one more thing ... a week or so later I was at a Boat Show in Novi and one of the vendors was volunteering to checkout ship to shore radios for free! So what the heck, I went home got my radio and left it with the vendor. The vendor's call a short time late sent chills up and down my spine when he told me my radio wasn't transmitting. I had used it to listen to the weather service and the coast guard but I had not used it for transmitting. Guess I was pretty lucky to make it across Lake Erie and back... But the crowning blow happened on the maiden voyage of the next season. I had done a lot of maintenance work on the SeaRay and I was anxious for a shake down cruise and to kick off the new boating season. Well, my friend was not as anxious to go boating as I was. And when you trailer your boat you need a friend. It happened when we were loading up to leave. I centered the boat on the trailer and wenched into place while she was in the tow vehicle ready to pull the boat and trailer out of the water. That went O.K. but I got to watch as she cleared the ramp and pulled the tandem axle trailer with boat up onto a guard rail post at the end of the ramp area. That was it for her and the boat! And yes, the happiest day in <u>this</u> boaters life was the day I sold the boat.

Whew! That was a scary flashback... Astro imaging couldn't be like that...or could it?.... Well on October 5th the last new moon, the weather was cooperating, and my social calendar was open. Things looked good for Lake Hudson and an evening of astrophotography. As I kissed my wife goodbye she reminded me that I had not been very "Present", I seemed to have a "Lack of Focus" on Saturday. She detected that I was thinking a little too much about the impending expedition to Lake Hudson and the weather being clear and whatever. If anyone figures out what not being "Present" means, please let me know. Anyway, 6 pm rolled around and I was off to Lake Hudson. My trip there was uneventful. In fact, it was the fastest of several prior trips. I arrived just after sunset in the middle of a crowd... approximately 20 cars had already parked and guys had started to set up for observing and imaging. During the past two new moons, there were only about 4 or 5 cars of amateur astronomers. I found a nice place to park right near the grass and piled out to say hello to a number of FAAC members and other guys occupying the area. By the time I made my social rounds it was pretty dark. I wasn't too concerned because my astro imaging system is pretty easy to set up. In fact, I have set up in the dark many times before. If I do a good polar alignment on the mount, the drift during a 25 minute exposure is undetectable with my current guiding equipment. And pictures with round stars further document the mounts tracking accuracy. In a short time, I had the cameras loaded with film and I was ready. That is when the "fun" started. I focused on a guide star near the celestial equator to check for drift and all seemed okay. Well by then it was almost 9 pm and dark so I started my first exposure of the milky way in Sagittarius. About half way through the exposure, I checked my guide scope and noticed the guide star I selected had moved way off the cross hairs of the illuminated reticle, enough so I knew the image was ruined. I closed the shutter and checked the mount. Everything was tight,

balanced, and all seemed fine. It must have been a fluke!... I had to terminate my next exposure early because of continued drift and headlights from cars leaving the parking area sweeping across my cameras field of view. I guess I was lucky during the new moon in September because I had a 6 hour star trail exposure run without interruption from headlights. By then it was 10:30pm and dew was falling very heavily. My Kendrick dew heater was keeping up with the cameras fine but the guide scope was a little foggy. Not enough to cause a problem, but noticeable. Many of the guys without dew zappers were packing up for home. I had struck up a conversation with the guy parked next to me. He was having trouble with his telrad fogging up and was starting his car every 20 or 30 minutes for defogging purposes. While talking with my next door neighbor, he asked me about how I compensate of daylight savings time when I set up my German Equatorial Mount.. And I opened my mouth to tell him that you subtract one hour during daylight savings time from the clock setting on the mount. That is when I discovered why my mount was drifting.... I had forgotten to compensate for daylight savings time! I did another polar alignment using local time adjusted for daylight savings time and the mount started tracking accurately. When the passing headlights quieted down in the parking lot, I started my third exposure. Well guess what, a new menace appeared in the sky. I terminated my exposure again. This time it was a green laser sweeping over my cameras field of view. One of the other amateur astronomers in the area was using a high powered green laser to point out interesting objects in the night sky. At first I was not a happy camper! Somebody out there fooling around with the laser sweeping it across the sky, ruining my images! But then I thought, gee, he has as much right to be there as I did and if green laser pointers made him happy, so be it. (It was kind of cool, it had a pretty tight pattern over a mile away!) O.K. so now it is between 12:30 and 1am Sunday morning and only the die hards were left in the area. I gave up on the cameras and decided to take a few exposures through the 500mm guide scope. The framing of Andromeda, the Pleiades, and the North American Nebula should be just about perfect on 35 mm film. I moved my Kendrick dew strap from the cameras and wrapped it multiple times around the objective of the guide scope now turned telephoto lens. After a short time, the dew was gone, my mount was tracking and I was ready!... At least so I thought I was ready. I decided to start with the Pleiades. I carefully framed and focused the cluster and got ready to take the exposure. I was using an off axis guider to check my tracking. Unfortunately, I could not find a guide star in the illuminated reticle. So I decided, the dew is under control, the mount is tracking, the frame is focused and ready. So am I! So I punched the Radio Shack digital timer that I use to tell me when to stop the exposure and I walked away to chat with the remaining die hards who were hearty enough to hang around. As the timer got close to signaling the end of my "first good exposure" of the session it was like watching a pot of water boil....2 minutes to go, then only one minute to go, then the BEEP! BEEP! BEEP!. So I turned the timer off and stepped over to the camera platform and went to release the shutter cable. It was only then that I discovered that in my haste to get the exposure running, I had punched the timer but not the camera cable release. So the shutter did not open and no picture was taken. At 1:30am I packed up, said my good byes to the remaining two guys and headed home with Zip! Zero! Zilch! in the way of exposures to show for the evenings work.

Just a few points of clarification: - **No**, I am not getting rid of my wife even if she was right about my "lack of focus" (not the photographic kind) - **No**, I am not about to sell my camera equipment in search of the happiest day in the life of an astro imager.

And – **Yes**, even if I had 0% yield in my astro imaging on October 5th, Lake Hudson "I shall return!"

PROPOSAL FOR LIBRARY

by Ed Halash & Dale Ochalek

It has been requested that a proposal be submitted for a library collection, for the Ford Amateur Astronomy Club (FAAC). Herein is the content of the proposal.

Purpose and Rationale: Members may have an interest in both donating toward and having access to a club library. A club library would allow FAAC members to share resources with the other members. The intent of the club, in establishing a library, is to provide a well-rounded, convenient resource of reference materials, thereby enhancing the learning opportunities for members. A library will support the community experience we share as club members, reduce personal expense, and increase our access to desired materials.

Library Content: Books, videos, and other reference material of interest both to the beginning and more advanced amateur astronomers of the FAAC. Specifics of inventory content would be based mainly on material donations. Additional materials would be attained by direct club purchases with the approval of the majority of club members present at any particular club meeting. A Library Content Committee would oversee book inventory content, and advise on future procurement of materials.

Suggestions: Suggestions for relevant content from the membership at large would be entertained via new business or other meeting agenda item, and adopted per club consensus - expectedly within reasonable budgetary constraints and suitable to address subject matter needs.

Resources: Materials to be furnished through member donation, and through club-approved purchases.

Procurement: A library content committee would be formed and deployed to review library inventory content and requirements. Proposed purchases would be submitted to the general membership for approval.

Management and Use: Club librarian would oversee the inventory status, and record the check-in and checkout of material. Checkout would be on a monthly, meeting-to-meeting basis. An updated listing of library inventory would be distributed for member review at meetings, and posted on the club website.

Lending Policies: Members in good standing would be able to sign out a pre-determined maximum amount of material (such

as two items) at each interval or cycle (meeting). In support of timely returns, a check-in of materials due, and assessment of any fines / penalties, would be performed by the librarian at each meeting, as required.

Penalties: Members not returning materials when due would be subject to pre-determined penalties, including, but not limited to, fines, revocation of library privileges, or other penalties, as prescribed by the club provisions for such circumstances. Lateness with reasonable explanation would be reviewed and possibly excused by the librarian.

Damages or Loss: Borrowing member would be responsible for remuneration at market value for loss of, or damage to, material checked out under his or her name.

Housing and security: Library materials would be kept in convenient storage, under lock and key, at or near the meeting site, and would be available only through the club librarian, who would retain the key.

Librarian: A new club office, that of Librarian, would be created, the holder of which would answer to the club, as other officers do, for performance of office duties. Duties would including inventory control, data base updates, security, and checkout procedures and tracking. Filling of the librarian position could take place in a special election initially, if necessary, such as by nomination, subject to club vote, and then at regular election times thereafter.

Library Content Committee: Committee would be formed consisting of several member volunteers to oversee inventory content, and request procurement of additional materials.

Contributions: Materials donated to the library can be considered on loan from a member's collection, or as a donation outright. The club, in terms of lending policies, would treat these equally. The donor, through arrangement with the librarian, can retract donated content.

Remunerations and reparations: Material donations could be rewarded via special considerations, to be determined by the club. Loss of or damage to an "on-loan" item would be reimbursable by the club to the lender at a value agreed at the time of donation.

Inventory control and tracking: A database or listing of books would be created upon library inception, and maintained for accuracy and timeliness by the club librarian. The librarian would perform periodic inventory checks as well, at pre-determined intervals.

Disbursement: Disbursement of materials at the time of library termination, or when items are to be removed from the library, should this occur, would be carried out as follows: first, items will be offered to the original donors respectively, where feasible; second, items will be sold to interested club members at the highest price offered; third, items will be dispersed to members in an open lottery or to charitable organizations, or as otherwise determined suitable by the club.

Policy/procedure review and revision: Library policies and procedures are subject to review and revision as deemed necessary by club consensus.

RIDDLE OF THE MONTH

Submitted by Pat Korody

Which satellite has a satellite?

NASA's Space Place

The following letter is from Nancy Leon of the Jet Propulsion Laboratory at the California Institute of Technology.

Dear FAAC Members

I wanted to be sure that you were aware of our Space Place toll-free recorded monthly message -- and that you and your club could participate if you wished to do so . . .

We now offer a three minute answer to a space-related question as a part of the Space Place effort. Dr. Marc Rayman, Deep Space 1 Manager (and an amateur astronomer himself), answers a question about space or space exploration that we received from one of the organizations we work with. In the past, these have been our museum partners, but we would like to open it up to our astro clubs as well.

After all, with all of the public star parties that you do, you have a real feel for the questions that the public wants to know. You can listen to the message by dialing (866) 575-6178 -- yes, that's toll-free! You will see that the first thing that Dr. Marc does is credit the partner who submitted the question.

If you would like to participate, please e-mail me SEVERAL questions that you have heard about space or space exploration -- that way, Dr. Marc can choose the one that he feels he can do justice to in 3 minutes. Please note that misconception questions are just fine too -- and I am sure that you have received lots of those!

I will let you know what question Dr. Marc has chosen and in what month it will be on the air.

It is always a pleasure to work with you and your club. And this recorded message should be just one more way we can work together to foster the public's interest in space.

All the very best,

Nancy

A REMINDER! *Election of FAAC officers for 2003 will be held at the meeting on the January 23, 2003. Please think about who you would like to nominate for office next year.*

FROM BROBDINGNAG TO LILLIPUT: MY TRAVELS THROUGH 30 YEARS OF THE SPACE PROGRAM

By Diane K. Fisher

In the early 70s, as minor character in the Apollo Program, I worked in the Vehicle Assembly Building at KSC. Stepping into the VAB, I felt like the incredible shrinking woman. The space inside accommodated six 45-story office towers with vast open spaces to spare. In the vertical spaces between the office towers, the 363-foot high Saturn Vs were assembled.

From my third floor office in one tower, I often delivered documents to higher floors in other towers. Between riding the stomach-dropping glass elevators and dashing across to other towers on narrow, open catwalks at the 28th or 44th floor levels, I soon overcame my fear of heights.

On these excursions, I would see the Saturn Vs come together in the 500-foot high bays. After hundreds of engineers and technicians had toiled around the clock for months, the morning of high-bay rollout would arrive. Slowly, the Crawler Transporter would bear forth the Mobile Launch Platform and the majestic Saturn V rocket. The morning sun reflecting off its gleaming white form would take my breath away.

The last Apollo mission was 30 years ago. As the Apollo program ended, some thought human missions to the Moon, Mars, and beyond would continue apace. Though they didn't continue, the Apollo program remains a single, large step in our technological evolution as a species. It is a great tribute to the intelligence, ingenuity, and dedication of the people responsible for the Apollo missions that they were so successful and the disasters so few. NASA's program today continues to build on the technological and managerial legacy bequeathed us by Apollo.

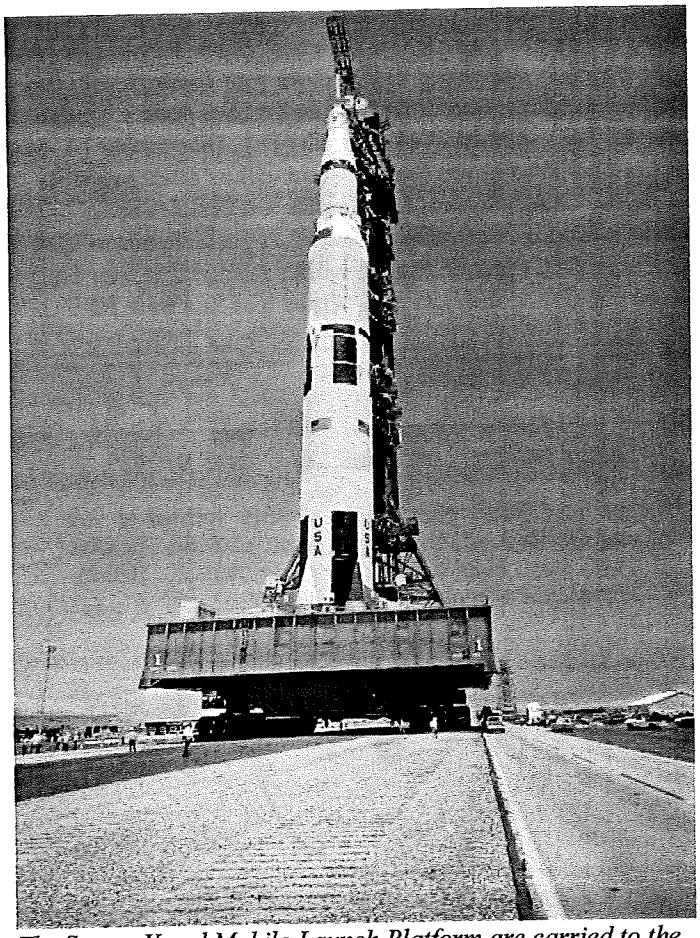
And just where are we now? Among its other tasks, the International Space Station is teaching people to live in space for long periods. Robotic space missions are studying issues like land use and global warming and discovering the wonders of the universe, its history, and our place in it. With humanity's many other pressing needs, such quests must be done efficiently.

Part of NASA's mission is to develop the technologies to do cost-effectively what has never been done before at all. NASA's New Millennium Program develops and validates new technologies for space. Missions such as Deep Space 1 and Earth Observing 1 carry and test multiple new technologies (such as ion propulsion and advanced imaging instruments) previously untried in space. And, unlike the Saturn V, the ultimate gas-guzzling muscle car of the 70s, the new technologies must be the "zero emission" vehicles of the 21st century-small, efficient, and capable beyond anything done before.

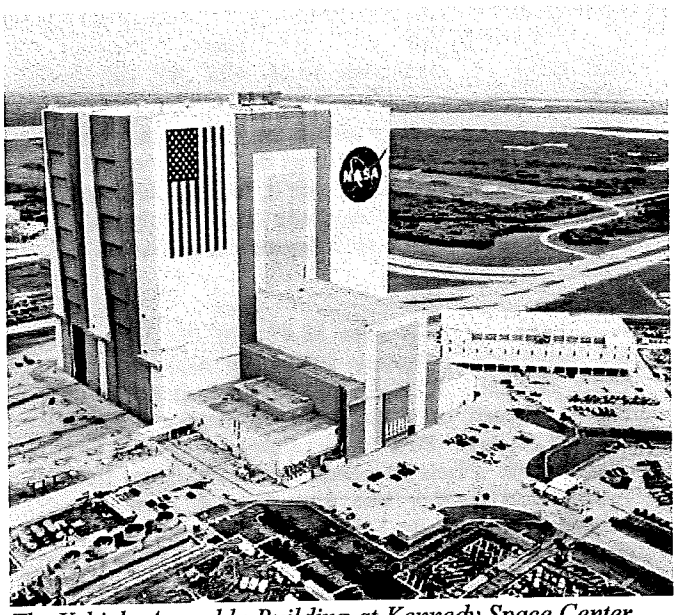
Many of the New Millennium technologies are described for adults at nmp.nasa.gov and for children at The Space Place, spaceplace.nasa.gov.

Diane K. Fisher is the developer and writer for The Space Place web site.

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



The Saturn V and Mobile Launch Platform are carried to the launch pad on the Crawler Transporter. Notice the tiny humans below the platform.



The Vehicle Assembly Building at Kennedy Space Center, completed in 1965 for the Apollo Moon Program.

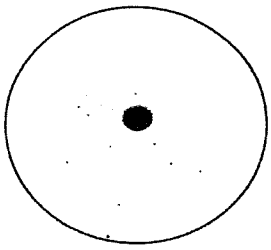
OBSERVING CHALLENGE

In this section is a list of astronomical objects that can be viewed during the Fall Season. If you are interested in viewing any one of these objects and would like to share your findings with the FAAC club, please document time and date of your observation(s), method(s) of observing (e.g. binoculars, telescope), and what you found. Time will be made available during the FAAC General Meeting for a select number of discussions on these objects. If you don't get a chance to view these objects this month, the list will be reprinted in Star Stuff for the remainder of this season. Good luck and have fun!

The Fall Group

	RA	Dec
NGC 6760	19h 11m 12s	+01° 01' 48"

9.0 magnitude globular in Aquila located 3 1/2 degrees west and 2 degrees south of Delta Aquilae. Pale gray consistently across globular. Grainy appearance of globular very evident.



NGC6760 13.1" telescope @ 167x
Drawing by Amelia Goldberg

	RA	Dec
Beta Cygni (Albireo)	19h 30m 43.3s	+27° 57' 34.8"

Beautiful double star. Primary is gold and secondary is blue.

	RA	Dec
NGC 6853 M27	19h 59m 36.3s	+22° 43' 16"

7.6 magnitude planetary nebula in Vulpecula. Very bright and large. Also known as the "Dumbbell" due to its hourglass shape. To locate it, follow a line from Beta Cygni to the 4.5 magnitude star 13 Vulpeculae and continue the line about 2 degrees farther to M27.

	RA	Dec
NGC 7293	22h 29m 38.4"	-20° 50' 13"

6.5 magnitude planetary nebula in Aquarius, the Helix Nebula. It is located 10 degrees south of Sigma Aquarii or a little over 1 degree west of Upsilon Aquarii. To locate it, draw an imaginary line from Alpha Piscis Austrini (Fomalhaut) to Beta Aquarii and another line from Upsilon Aquarii to intersect the first line. Look about 1 degree north of the intersection of the two lines. Use binoculars or finderscope to locate this large, low surface brightness object. Low power gives more contrast. Very dim in scope until OIII (Oxygen 3) filter used. Some stars within the nebula.

ASTRONOMICAL IMAGING (S.I.G.) – UPDATE

Meetings of the Astronomical Imaging Special Interest Group (S.I.G.) will start in several weeks as soon as an appropriate meeting place can be obtained. We will have a short discussion period at the General Membership Meeting on Thursday, October 24, and would like any input you may have, including the most convenient day and time for the meetings for you. If you are interested in participating in the S.I.G. contact George Korody at (248) 349-1930 or E-mail gkorody@comcast.net.

FAAC
October 24, 2002
General Membership Meeting
5:00 pm to 6:30 pm
Agenda

- Introductions	Don Nakic	20 min
- Reports: Treasurer's Secretary's	Mike Bruno Don Klaser	5 min
- Old/New Business	Don Nakic	10 min
- Upcoming Events	Don Nakic	10 min
- Star Magnitudes	Greg Burnett	15 min
- SCT Cleaning	Jeff Thursh	30 min

ASTRONOMICAL CALENDAR 2002

October

October 21 Full Moon 3:20 am *(Hunter's Moon)*

October 24 Moon left of red Aldebaran (10 pm)

October 25 Moon near Saturn (10 pm to dawn)

October 27 Daylight Saving Time ends.
Moon near Gemini Twins (11 pm to dawn)

October 29 Last Quarter 12:28 am
Moon near Jupiter, with Regulus 14° lower left of Jupiter (Oct 29 & 30 dawn)

November

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

November 2	Dim Mars 5.5° below Moon (dawn)
November 3	Spica 6° lower right of Moon (dawn)
November 4	New Moon 3:34 pm
November 6	Crescent Moon low in SW (dusk)
November 10	Venus begins to reappear in morning sky low in ESE before sunrise; rapidly climbs higher in the sky in following weeks. It appears as a crescent in a telescope.
November 11	First Quarter 3:52 pm
November 18	Leonid Meteor Shower peaks toward dawn of Nov 19. However, bright moon spoils view.
November 19	Full Moon 8:34 pm *(Beaver Moon)* Penumbral Lunar Eclipse. Moon passes through pale outer portion of Earth's shadow. Look for slight shading on Moon's upper-left side around 8:46 pm.
November 20	Moon near Aldebaran (7 pm)
November 21	Moon near Saturn (8 pm to dawn)
November 22	Dim Mars 3° left of Spica, with Venus 7° lower left of Spica low in ESE at dawn. Venus draws closer to Mars rest of month.
November 23	Moon near Gemini Twins (9 pm to dawn)
November 25	Moon near Jupiter (11 pm to dawn)
November 27	Last Quarter 10:46 am Moon near Regulus (12 am to dawn)

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

FAAC CALENDAR

Activity	Date	Time	Contact
- General Meeting	Oct 24	5 pm	
- FAAC Board Mtg	Nov 14	5 pm	
- General Meeting	Dec 5	5 pm	
- Lake Erie Ice Days	-	-	-

NEW MEMBER WELCOME!

FAAC would like to take this opportunity to welcome all those new members who joined in 2002:

- Jim Allen
- John Badham
- Joseph Barone Jr.
- Mike Bonner
- Dave Corkery
- Frans Driesen
- Barbra Flack
- Joe Francis
- Paul Harris
- Jim Heraty
- Michael James Hopkins
- Harry & Anna Scott Juday
- Harry & Ada Kindt
- John & Laura Legrandeur
- Dennis Lambert
- Tony Lacata
- Dennis Lipski
- Jim Moscheck
- Mike Nowak
- Jeffery Perkins
- Nick Peltranovic
- Myra D. Prueter
- Gene Purdum
- Jim Redmer
- Tim Salusky
- John A. Schroer IV
- Abhijit Sengupta
- Victor Singh
- Todd K. Sisher
- Craig O. Smith
- John Torok
- Jeff Thursh
- Dan Welbaum
- Mike Wing
- Tom Witlen

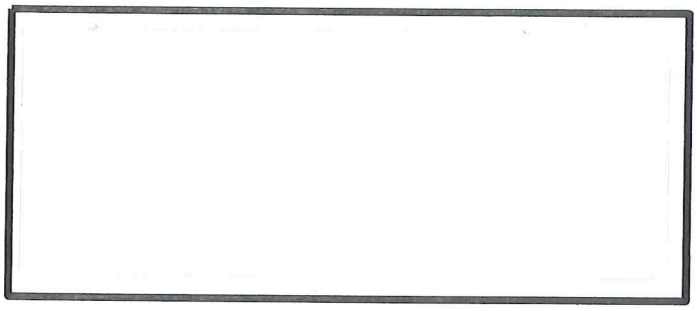
Please let me know if I have missed anyone!

RIDDLE OF THE MONTH ...Answer

The Earth.

The earth is a satellite of the sun and the moon is a satellite of the earth.

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



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