THE FBAC OBSERVER
SEPTEMBER, 2003 VOL 17, NO. 9

Fort Bend Astronomy Club, P.O. Box 942, Stafford, TX 77497-0942

WHAT'S HAPPENING IN SEPTEMBER

Tuesday, September 2—The Moon is nearing First Quarter in Scorpius.
Wednesday, September 3—The Moon is just pass First Quarter.
Friday, September 5—One hour before sunset, look for the Moon which is now in the handle of Sagittarius.
Saturday, September 6—Look 45 minutes before sunrise with your binoculars and try to see emerging Jupiter and Regulus, 2.4° apart low in the bright twilight.
Monday, September 8—Using your binoculars, try for Mars rising in the ESE.
Tuesday, September 9— In the early morning before sunrise, Jupiter and Regulus are now 3° apart.
Wednesday, September 10—Look one hour before sunrise high in the east and see that Saturn forms an isosceles triangle with the Twins, Castor and Pollux. This is also full Moon day which occurs at 11:36 a.m. CDT and known as the "Harvest Moon" or "Fruit Moon."
Wednesday, September 14—Jupiter and Regulus are now 4° apart. You have to get up early to see this.
Thursday, September 18—Last Quarter Moon 2:03 p.m. CDT.
Friday, September 19— Mercury is just now peeking over the SE horizon.
FRIDAY, SEPTEMBER 19—FBAC MEETING AUSTIN PARKWAY.
Saturday, September 20—One hour before sunrise, Mercury is brightening rapidly and stays 7° below Jupiter.
Sunday, September 21—Mercury and Jupiter closest approach, 7° this morning and tomorrow morning.
Monday, September 22—Autumnal Equinox at 5:47 a.m. Equinox means equal day and night.
Wednesday, September 24—One hour before sunrise is your last chance to see a very old Moon making a triangle with Mercury and Jupiter. The Moon is about 6° SE of Jupiter.
Thursday, September 25—New Moon occurs at 10:09 a.m. CDT.
Friday, September 26—Mercury is at maximum distance from the Sun, 18° , and 9° from Jupiter. Also use your binoculars and look for a very young Moon and Venus low in the W early before sunrise.
Saturday, September 27—15 minutes after sunset, Spica can bee seen along with the first easy young Moon low in the WSW.
Monday, September 29—Mars ends retrograde 7° east of 3rd magnitude Delta Cap and 3° south east of 4th magnitude Iota Aqu. And on this same date, it is Summer Solstice for Mars' southern hemisphere. It's south polar cap is shrinking rapidly. It's south pole is tipped 25.2° toward the Sun and 20° toward Earth.

From the Belly
of an Airplane: Galaxies
By Dr. Tony Phillips

On April 28th a NASA spacecraft named GALEX left Earth. Its mission: to learn how galaxies are born, how they grow, and how they die.

"GALEX -- short for Galaxy Evolution Explorer -- is like a time machine," says Caltech astronomer Peter Friedman. It can see galaxies as far away as 10 billion light years, which is like looking 10 billion years into the past. The key to the mission is GALEX's ultraviolet (UV) telescope. UV rays are a telltale sign of hot young stars, newly formed, and also of galaxies crashing together. By studying the ultra-violet light emitted by galaxies, Friedman and colleagues hope to trace their evolution spanning billons of years.

This kind of work can't be done from the ground because Earth's atmosphere absorbs the most energetic UV rays. GALEX would have to go to space. To get it there, mission planners turned to Orbital Science Corporation's Pegasus rocket.

"Pegasus rockets are unusual because of the way they're launched … from the belly of an airplane," says GALEX Project Engineer Frank Surber of JPL. It works like this: a modified L-1011 airliner nicknamed *Stargazer* carries the rocket to an altitude of 39,000 feet. The pilot pushes a button and the Pegasus drops free. For 5 seconds it plunges toward Earth, un powered, which gives the *Stargazer* time to get away. Then the rocket ignites its engines and surges skyward. The travel time to space: only 11 minutes.

"The aircraft eliminates the need for a large first stage on the rocket," explains Surber. "Because *Stargazer* can be used for many missions, it becomes a re-useable first stage and makes the launch system cheaper in the long run." (To take advantage of this inexpensive launch system, GALEX designers had to make their spacecraft weigh less than 1000 lbs-the most a Pegasus can carry.)

A Pegasus has three stages--not counting the aircraft. "Its three solid rocket engines are similar to the black powder rockets used by amateurs. The main difference is that the fuel is cast into a solid chunk called a 'grain' … about the consistency of tire rubber. Like black powder rockets, once the grain is lit it burns to completion. There's no turning back." In this case, turning back was not required. The rocket carried GALEX to Earth orbit and deployed the spacecraft flawlessly. On May 22nd, the UV telescope opened its cover and began observing galaxies-" first light" for GALEX and another success story for Pegasus.

For adults, find out more about the GALEX mission at http://www.galex.caltech.edu/ ... Kids can read and see a video about Pegasus at http://spaceplace.nasa.gov/galex/pegasus.html.

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

See associated article on previous page …

Book Review

"The Life and Death of Planet Earth: How the New Science of Astrobiology Charts the Ultimate

Fate of Our World" … by authors Peter Ward and Donald Brownlee

Initial review from Publishers Weekly

According to the authors—who argued in their previous book, "Rare Earth", that the complex life found on earth is probably unique in the vast expanses of the universe—our planet has a pretty bleak future ahead of it, one that is a mirror image of its past. Ward and Brownlee, a geologist and an astronomer respectively, claim that human civilization has flowered during an 11,000-year warm interlude in a recurring cycle of ice ages. In their view, "global warming," while possibly harmful in the short term, may help postpone the return of the ice. But not too many thousand years from now, skyscraper-high glaciers will again grind across North America as far south as New York City, and civilization will be driven toward the equator to survive, if not into space. Further into the future, the authors argue, the complex give and take between carbon trapped in rocks, water and oxygen in the sea, and carbon dioxide in the atmosphere—the latter playing the most important role in climatic change—will eventually turn earth into a barren sibling of Mars. While the authors don't make an airtight case for their claims about how our planet's climate and geology will begin to rewind, they do deftly bring together findings from many disparate areas of science in a book that science buffs will find hard to put down. 15 black and white illustrations.

EAST DOME SCHEDULING
KEITH RIVICH

The FBAC owns and operates an 18", fork mounted newtonian telescope which is housed at the George Observatory in Brazos Bend State Park. As part of our agreement with the Observatory we are responsible for supplying volunteers during nights of public use, which includes all Saturday nights and some Fridays. In return we are allowed full access to the scope for personal use. Included with the scope are a full set of Televue eyepieces and filters, several sets of star-charts and reference books, a computer with charting programs and a CCD camera. To have access to this equipment you MUST go through a short training program AND volunteer at least once each quarter. The training can take place on the same night that you volunteer.

During the dark-moon period, which runs from several days prior to third-quarter moon to several days past new-moon, use of the scope is scheduled due to demand. At all other times the scope is available on a first come basis. If you volunteer for a public night, even during the dark-moon period, then the scope is yours for the remainder of the night. To schedule a dark moon night I must be contacted no later then the full-moon prior to the next observing runs. Each month I will publish the current East-dome volunteer schedule, observing schedule, and research team schedule.

SEPTEMBER SATURDAY NIGHT SCHEDULE

SEPT 6	**WILLIAMSON / OPEN / OPEN**
SEPT 13	**WILLIAMSON / OPEN / OPEN**
SEPT 20	**DILLON / OPEN / OPEN**
SEPT 27	**OPEN / OPEN / OPEN**

See http://users3.ev1.net/~keithrivich/astronomy/eastdome/calender.html for updates

DARK MOON OBSERVING SCHEDULE

This part of the schedule will be continually updated and posted at http://users3.ev1.net/~keithrivich/astronomy/eastdome/calender.html For more information on how to schedule dark-moon nights call me at any of the numbers posted below.

Also available are the clubs 8" dobsonian reflector and the Solaris scope (for viewing sun w/ H Alpha filter).

The clubs Meade 8" and 10" LX-200 loaner scopes are available for use. For an update on availability please call me or go to

http://users3.ev1.net/~keithrivich/astronomy/eastdome/page3.html

For more information or to sign up as a volunteer please contact me at: HM 281-468-8491 or WK 713-771-6944 or e-mail at icgalaxies@cs.com

August 15, 2003 minutes

Vice President Derek Newton ran the meeting as our president Wes Whiddon was unable to attend.

Larry Mitchell gave the novice program, about his recent trip to Hawaii to volcano-watch with ... uh ... that famous guy in Hawaii renowned for his visual observational astronomy skills.

Steve Goldberg gave the telescopes for telethon update. Our 2nd night got rained out; however, we successfully raised $1600, of which $1000 came from a single anonymous corporate sponsor. A muscular dystrophy association representative was on hand at the meeting to receive our check.

Megan Delgado is going off to college in Santa Barbara, California, and will be majoring in history and psychology.

Larry Mitchell also presented the main program, which was all about planetary nebulas, their types, and how to observe the difficult ones. I never knew there could be so many...

Terry Hiserodt, our treasurer, reported that the club checking account contains approximately $1500. Note, on Sept 1 we will switch to the new Sept-to-Sept club dues system. Come prepared to pay at the next meeting. Terry will tell you what you owe!

Bill Dillon reported that the A-team discovered 7 asteroids in the previous month.

Keith Rivich reminded everyone that the observatory will be open for "Mars Mania" August 27 and 28, 9PM-midnight. The place will be a madhouse and we can certainly use all the volunteers we can get. The club will have a hopefully more sedate Mars party on Sunday, August 31, in the late arrival area of Brazos Bend State Park.

Club elections were held at this meeting. Joe Dellinger stays on as secretary by unanimous acclamation. (Proposed by himself, seconded by Leonard Patillo.) [The secretary records and types these notes, and looks after the club banner.]

Terry Hiserodt proposed himself as staying on as treasurer, provided someone else would take over as head of the east dome committee. Joe Dellinger, guilty that he got away with the easiest office job, said he'd do that. Leonard Patillo seconded, and Terry was re-elected by unanimous and breathless acclamation (everyone being thrilled that they'd escaped

possibly getting stuck with that onerous job themselves...). [The treasurer takes the money, pays the bills, does the taxes and legal forms, and keeps up the membership lists... the most time-consuming officer job.]

After a long studied silence during which everyone tried to stay very still as Derek exorted them to volunteer to take over his job, Cynthia Gustava finally broke down and nominated herself to be the new vice president. She was IMMEDIATELY voted in by unanimous acclamation. To keep things legal, Joe Dellinger quietly seconded as the shouting was going on. [The vice president runs the meetings in the president's absence (such as that night) and lines up meeting speakers. The 2nd-hardest officer job.]

Dennis Borgman nominated Derek Newton to move on up to be president. Jane Lambert seconded. Derek was voted in unanimously and the perilous ritual of club elections day (dangerous to be there, and even more dangerous to NOT be there) was successfully navigated, yet again.
Joe Delliner

ANNOUNCEMENTS

The results of the FBAC officer elections are as follows:
Derek Newton is now the President.
Cynthia Gustava in the Vice-President.
Terry Hiserodt remains club Treasurer
Joe Dellinger will stay for one more term as Secretary.

Now I have an announcement.
For over 8 years I, Leonard Pattillo have been the newsletter editor. But it's now time for me to step down and let someone else have some fun. I have thought long and hard about this and made my decision on my medical problems that now occupy most of my thoughts. For those of you that have not heard, I have had 2 malignant tumors remove from my bladder. I am undergoing mild chemo therapy and the prognosis is very good. However I go once a week for treatment and the side effects are not real invasive, they just make me drowsy for a couple of days. I did not intend to burden the membership with this, but I know that I have a lot of friends in our club, and I just wanted to let them know what is going on.
Thanks to all from the bottom of my heart and I will be around.
Leonard P.
PS: Wes Whiddon is going to be the new newsletter editor. He will do a great job.

FBAC OFFICERS & OTHER CLUB MEETINGS

FORT BEND ASTRONOMY CLUB

The next meeting will be Friday, September 19 at our regular meeting place, 3232 Austin Parkway. The time is 7:15 p.m. Dues are $30/ year for the first member of a household, $5 for each additional member at the same address, $15 for students.

HOUSTON ASTRONOMICAL SOCIETY

The HAS meets the first Friday of the month in room 117 of the University Of Houston Research building. The Novice program begins at 7:00 and the main meeting at 8:00.

JOHNSON SPACE CENTER ASTRONOMICAL SOCIETY

Refer to the JSCAS web site for meeting sites. There is a link on the FBAC web site.

NORTH HOUSTON ASTRONOMY CLUB

The North Houston Astronomy Club meets on the 4th Friday of the month at Kingwood College. The meeting starts at 6:45 p.m. and the main meeting begins at 7:30 p.m.

FBAC OFFICERS AND PHONE NUMBERS

President: Derek Newton	313-1765	Newsletter Editor: Wes Whiddon	
Vice-Pres: Cynthia Gustava	239-3644	Librarian: Alec Cruz	713-702-9069
Treasurer: Terry Hiserodt	495-4012	George Observatory	242-3055
Secretary: Joe Dellinger	531-5417	Membership Chairman:	
Alcor: Tracy Knauss	(409)-798-7917	Refreshments: Jack McKaye, Jayne Lambert	
East Dome Cord. Keith Rivich	(K2)468-8491	FBAC loaner scopes: Keith Rivich	468-8491

All phone numbers A/C 281 unless otherwise indicated.

FBAC HOME PAGE: http://www.fbac.org

THE SECRETARIES REPORT APPEARS ELSEWHERE IN THE NEWSLETTER