

# The FBAC Observer

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## INSIDE THIS ISSUE:

Astro Calendar	2
Events	3
Waiting For Cassini	4
Club Info	5
Editorial	5

## The Beggars Of Tinsel Town

July. Hot and muggy. The sidewalk feels like it was ripped from the surface of Venus. We've been here for hours standing on first one foot and then the other, begging people for money. Sometimes they shoot us a scornful, side-wise glance as hands cover pockets from the likes of us. Beggars shouldn't be working here they think to themselves. And what kind of strange instruments do these people possess that they are using as part of their spiel? This is a respectable establishment meant for entertainment not solicitation.

But others respond. When we entreat, they stop. We implore them, saying we are part of a worthwhile endeavor. They are generous and not afraid of our kind. Wonderment fills their eyes as they reach into their pockets and purses, sliding their offerings through the little slots designed to accept the lucre we long for. They are in awe of our machines and desire to place their eyes near the special viewers that can give them a look back in time. We accommodate them with helpful suggestions about what they see. They are enthralled and gush with pride that they are able to be part of such a worthwhile experience. Their young ones are lovingly held up to the special viewers so they can be part of the encounter. They depart from us feeling deeply human, that they have been able to contribute to a meaningful cause such as ours, one that can help a disabled child or comfort a parent.

Evening closes. We are tired and, as we dismantle our equipment, satisfied that our efforts have been well spent. The begging has been effective. Much was collected from these people, the ones who came to be entertained and left part of their treasure with strangers. And we will use it well. We will not retain it. It is not meant for us, the beggars. It is meant for a child who cannot walk. It is meant for an adult who needs a pacemaker. It is meant for research into a crippling genetic disease that afflicts young and old. No, we will not retain the treasure. We will, with glad hearts, give it to an organization that benefits these unfortunates. For we, the beggars, upon using our special viewers, the time machines that open our eyes to the universe, the instruments of attraction that entice those who would be entertained, can see much. We can see the future. A future where limbs have been healed, hearts strengthened, motor skills returned, disease defeated. Our begging will not be in vain.

By Wes Whiddon

Fort Bend Astronomy Club participates annually in Telescopes For Telethon, a charity drive for the Muscular Dystrophy Association. The second weekend drive will be held at Tinsel Town Theater, Beltway 8 and Westpark, on August 21, 2004 from 5-11 PM. Please donate your telescope and your time to this event.

# August 2004 Astro Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Slow day in the night sky but it's the middle of the summer.	2 Jupiter low in the west as twilight begins.	3 Venus visible in morning, rising 3 hours ahead of the sun	4 Orion can be seen to lower right of Venus	5 Neptune in opposition to the sun in Capricornus	6 Look south and up for the black hole center of our galaxy <sup>1</sup>	7 Last quarter moon.
8 Mars passes aphelion—furthest from the sun	9 Crescent moon sits between the Pleiades and Hyades.	10 Waning moon 9 degs above Venus	11 Perseids meteor shower—better than average this year.	12 Crescent moon continues to shrink.	13 The Milky Way shimmers overhead. Uh, maybe I'm thinking of W. Tex.	14 Use your binocs and check for close pairs around Vega.
15 New moon. Pegasus well placed in the east.	16 Check the 1 day old moon an hour and half after sunset.	17 Crescent moon 4 degs to the right of Jupiter.	18 Most beautiful moon of the month this evening.	19 Get to know Cygnus the Swan, sometimes called the Northern Cross	20 Check for Spica ASAP after sunset. <b>FBAC meeting-election of officers</b>	21 Catch Venus and Saturn in the morning sky.
22 Blue-white Deneb may explode in a few million years.	23 First quarter moon.	24 Observe gold blue double, Albireo in Cygnus.	25 Look 3 degs east of Deneb for the North American Nebula <sup>2</sup>	26 Venus, Saturn, and the Gemini twins close in the morning sky.	27 Uranus at opposition.	28 Catch Omicron 1 and 2's companions in the constellation Cygnus.
29 Full moon at 9:22 P.M. CDT.	30 Venus & Saturn 2 degs apart in the morning sky.	31 Find the double designated "61" in Cygnus.				

<sup>1</sup>Or not. This object is not visible with mortal eyes and the largest of telescopes.

<sup>2</sup>If you have a CCD camera, that is.

At the August 20 meeting, FBAC will elect officers. Please be there to make your vote count.

### **Upcoming Events At The George Observatory**

August 11/12, 2004—Perseids Meteor Shower. The observatory needs volunteers to help with telescopes, give talks, and help with crowd control. Scopes will be open until midnight. Park personnel will help with parking.

August 20, 2004—Member's night at the George. Barbara needs scope operators but remember this is FBAC annual officer election meeting.

Astronomy Day—October 23, 2004

### **FBAC Meeting Dates For 2005**

January 21, February 18, March 18, April 15, May 20, June 17, July 15, August 19, September 16, October 21, November 18, December 16. These are all third Fridays of the month.

FBAC meets at 7:30 P.M. at the First Colony Conference Center, 3232 Austin Parkway, Sugar Land, TX,

### **Other Events**

August 7, 2004—Late Arrival observing. Bring your scope, mosquito repelling chemicals, and food for the gators.

August 21—Telescopes For Telethon, 5-11 P.M., Tinsel Town Theater, Beltway 8 and Westpark. Please volunteer for this event.

October 22, 2004—All clubs meeting prior to Astronomy Day. Meeting place to be announced.

## **Waiting for Cassini's "Safe Arrival" Call** by Diane K. Fisher

The evening of June 30, 2004, was nail-biting time at Cassini Mission Control. After a seven-year journey that included gravity assist flybys of Venus, Earth, and Jupiter, Cassini had finally arrived at Saturn. A 96-minute burn of its main engine would slow it down enough to be captured into orbit by Saturn's powerful gravitational field. Too short a burn and Cassini would keep going toward the outer reaches of the solar system. Too long a burn and the orbit would be too close and fuel reserves exhausted.

According to Dave Doody, a Cassini Mission Controller at the Jet Propulsion Laboratory (JPL) in Pasadena, California, there was a good chance the Earth-bound Cassini crew would have to wait hours to learn whether or not the burn was successful. Of the three spacecraft-tracking Deep Space Network (DSN) complexes around the globe, the complex in Canberra, Australia, was in line to receive Cassini's signal shortly after the beginning of the burn. However, winds of up to 90 kilometers per hour had been forecast. In such winds, the DSN's huge dish antennas must be locked into position pointed straight up and cannot be used to track a tiny spacecraft a billion miles away as Earth turns on its axis. "The winds never came," notes Doody.

The DSN complex at Goldstone, California, was tracking the carrier signal from Cassini's low-gain antenna (LGA) when the telltale Doppler shift in the LGA signal was seen, indicating the sudden deceleration of the spacecraft from the successful ignition of the main engine. Soon thereafter, however, Goldstone rotated out of range and Canberra took the watch.

After completion of the burn, Cassini was programmed to make a 20-second "call home" using its high-gain antenna (HGA). Although this HGA signal would contain detailed data on the health of the spacecraft, mission controllers would consider it a bonus if any of that data were actually captured. Mostly, they just wanted to see the increase in signal strength to show the HGA was pointed toward Earth and be able to determine the spacecraft's speed from the Doppler data. If possible, they also wanted to try to lock onto the signal with DSN's closed-loop receiver, a necessary step for extracting engineering data.

Normally it takes around one minute to establish a lock on the HGA signal once a DSN station rotates into range. Having only 20 second's worth of signal to work with, the DSN not only established a lock within just a few seconds, but extracted a considerable amount of telemetry during the remaining seconds. "The DSN people bent over backwards to get a lock on that telemetry signal. And they weren't just depending on the technology. They really know how to get flawless performance out of it. They were awesome," remarks Doody.

**Find out more about the DSN from JPL's popular training document for mission controllers, *Basics of Space Flight* ([www.jpl.nasa.gov/basics](http://www.jpl.nasa.gov/basics)) and the DSN website at [deepspace.jpl.nasa.gov/dsn](http://deepspace.jpl.nasa.gov/dsn).**

**For details of the Cassini Saturn orbit insertion, see [www.jpl.nasa.gov/basics/soi](http://www.jpl.nasa.gov/basics/soi). Kids can check out The Space Place at [spaceplace.nasa.gov/en/kids/dsn\\_fact1.shtml](http://spaceplace.nasa.gov/en/kids/dsn_fact1.shtml) to learn about the amazing ability of the DSN antennas to detect the tiniest spacecraft signals.**

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***Contributed by Cynthia Gustava***

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*Dedicated to the acquisition and dissemination of information pertaining to the science of astronomy*

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**We're On The Web**  
**[Http://www.fbac.org](http://www.fbac.org)**



You are invited to submit your opinions for inclusion on this page. Please be thoughtful and respectful of others in your comments. Rants will not be published. All articles should be 450 words or less and are subject to editing for clarity and length before publication. Please submit in Word format to:  
 stargazer411@earthlink.net

**The Fort Bend Astronomy Club** meets on the third Friday of every month except for those months when special meetings are called. The next regular meeting will be at 7:30 PM on August 20, 2004 at the First Colony Conference Center, 3232 Austin Parkway, Sugar Land, TX. Dues are \$30/year for the first member, \$5 per additional household member. Student dues are \$15/year.

The **Houston Astronomical Society** meets the first Friday of the month in room 117 of the University of Houston Research Building. The novice program begins at 7:00 PM and main meeting at 8:00 PM.

For the **Johnson Space Center Club**, refer to the JSCAS web site for meeting times and sites. There is a link on the FBAC web site.

**North Houston Astronomy Club** meets on the 4th Friday of the month at Kingwood College. The meeting starts at 6:45 PM, main meeting at 7:30 PM.

Life is a bumpy road. And I've encountered some major ones in the last three months. Medical problems with my aging mother, job demands, and other events have caused my participation in FBAC activities to come to a virtual standstill. I can only apologize for the non-publication of the newsletter in a two month period. But the road is beginning to smooth out a little so I'm hoping to get back in the groove.

But I'm still struggling with a problem. I need help with this project. As I've said before, I am unable to produce the newsletter by myself. Some of you volunteered to write articles, have done so, and I appreciate it. But, maybe because I didn't push each month or for other reasons, submissions have not been forthcoming lately.

So, here's how I would like to structure things. If you are willing to be a writer who submits articles, please let me know. If you agree to write a regular column, be prepared to do so each month without stimulation from me. I ask that you submit your article(s) to me by no later than the 23rd of each month. That gives me time to check it, arrange the newsletter, and publish.

Also is anyone out there interested in co-editing the newsletter with me? You would be responsible for writing at least one article a month and helping out with publication when needed. Please let me know if you can do this.

Wes Whiddon