



Monthly Notices of the Everglades Astronomical Society



Naples, FL
July 2012

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President's Message

It's summer and it's hot, cloudy and wet! What more can you say about the season? We have our summer informal meeting this month at the Books-a-Million in the Mercato Shopping Center in North Naples on the northeast corner of Vanderbilt and 41. The management of the store knows we are coming and welcomes us.

Despite the season a few brave stargazers still challenge the clouds and visit the Fack. If you are a Fack "virgin" please let Charlie know you would like to attend.

We need a new newsletter editor! If you are interested please contact me. It's not really as hard as it looks!

Dates for the "Fack"

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

Date	Moonrise	Moonset
July 7	11:12PM	
July 14	3:39 AM	

Sky Events

Jul 11 - Last Quarter Moon

Jul 19 - New Moon

Jul 26 - First Quarter Moon

Jul 28,29 - Southern Delta Aquarids Meteor Shower

Aug 2 - Full Moon

Next Meeting

July 10, 2010

Time 7:00 – 9 pm

At Books-A-Million in the Mercato

Astronomical Trivia Question of the Month

What did Albert Einstein consider the "biggest blunder" of his life?

- The addition of the Cosmological Constant to General Relativity.
- Marrying his first cousin
- Failure to properly market his refrigerator invention
- Declining the Presidency of Israel

Answer on next page.



How Many Discoveries Can You Make in a Month?

By Dr. Tony Phillips

This year NASA has announced the discovery of 11 planetary systems hosting 26 planets; a gigantic cluster of galaxies known as "El Gordo;" a star exploding 9 billion light years away; alien matter stealing into the solar system; massive bullets of plasma racing out of the galactic center; and hundreds of unknown objects emitting high-energy photons at the edge of the electromagnetic spectrum.

That was just January.

Within NASA's Science Mission Directorate, the Astrophysics Division produces such a list nearly every month. Indeed, at this very moment, data is pouring in from dozens of spacecraft and orbiting observatories.

“The Hubble, Spitzer, Chandra, and Fermi space telescopes continue to make groundbreaking discoveries on an almost daily basis,” says NASA Administrator Charlie Bolden¹.

NASA astrophysicists and their colleagues conduct an ambitious research program stretching from the edge of the solar system to the edge of the observable Universe. Their work is guided in large part by the National Research Council’s Decadal Survey of Astronomy and Astrophysics, which identified the following priorities:

- Finding new planets—and possibly new life—around other stars.
- Discovering the nature of dark energy and dark matter.
- Understanding how stars and galaxies have evolved since the Big Bang.
- Studying exotic physics in extreme places like black holes.

Observing time on Hubble and the other “Great Observatories” is allocated accordingly.

Smaller missions are important, too: The Kepler spacecraft, which is only “medium-sized” by NASA standards, has single-handedly identified more than 2300 planet candidates. Recent finds include planets with double suns, massive “super-Earths” and “hot Jupiters,” and a miniature solar system. It seems to be only a matter of time before Kepler locates an Earth-sized world in the Goldilocks zone of its parent star, just right for life.

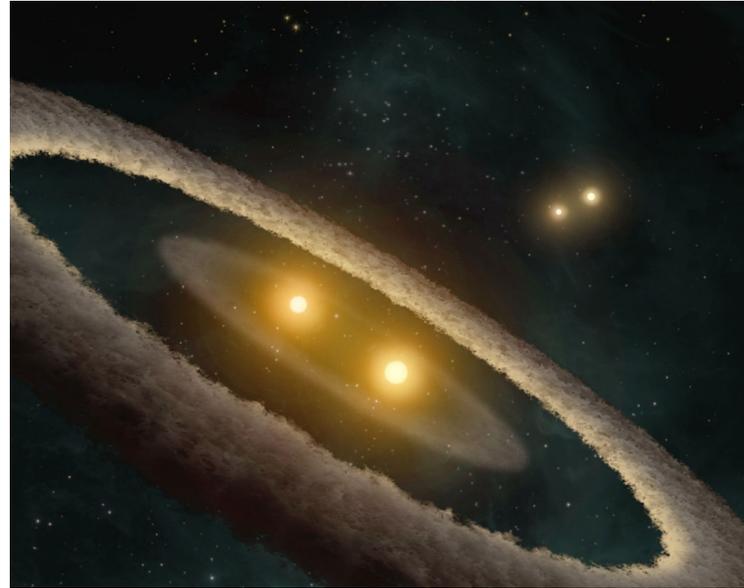
A future astrophysics mission, the James Webb Space Telescope, will be able to study the atmospheres of many of the worlds Kepler is discovering now. The telescope’s spectrometers can reveal the chemistry of distant exoplanets, offering clues to their climate, cloud cover, and possibilities for life.

That’s not the telescope’s prime mission, though. With a primary mirror almost 3 times as wide as Hubble’s, and a special sensitivity to penetrating infrared radiation, Webb is designed to look into the most distant recesses of the universe to see how the first stars and galaxies formed after the Big Bang. It is, in short, a Genesis Machine.

Says Bolden, “We’re on track in the construction of the James Webb Space Telescope, the most sophisticated science telescope ever constructed to help us reveal the mysteries of the cosmos in ways never before possible.” Liftoff is currently scheduled for 2018.

How long will the list of discoveries be in January of that year? Stay tuned for Astrophysics.

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



Artist’s concepts such as this one are based on infrared spectrometer data from NASA’s Spitzer Space Telescope. This rendering depicts a quadruple-star system called HD 98800. The system is approximately 10 million years old and is located 150 light-years away in the constellation Crater. Credit: NASA/JPL-Caltech/T. Pyle (SSC)

Answer to Trivia Question

All of the choices are actual events in Einstein’s life, but the answer is “a” the addition of the Cosmological Constant to General Relativity. After Edwin Hubble discovered the universe was expanding the cosmological constant was no longer required in general relativity. Interestingly, since the universe was recently discovered to be accelerating its expansion, the concept of the cosmological constant is enjoying a strong comeback among modern cosmologists. (It is unlikely Einstein considered “b” or “d” blunders.)

¹ Bolden made these statements in an April 20th editorial he co-authored with John Holdren, Director of the Office of Science and Technology Policy

