

# SIDEREAL TIMES

*The Official Publication of the  
Amateur Astronomers Association of Princeton*

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## From the Directors

**AAAP Meeting April 12 (8:00 Peyton Hall).** Our program at the April 12 meeting features Dr Charles Liu, who will visit us from New York where he is Professor of Physics at CUNY/Staten Island. Dr. Liu also holds joint appointments as Research Scientist in the Dept of Physics and Astronomy at Barnard College/Columbia, and at the Hayden Planetarium, AMNH. His interests include observation and theory of galaxy evolution and star formation, in which he uses spectrophotometric approaches to study interacting galaxies, starburst galaxies, and also quasars. His talk will focus on the collaborative Hubble Space Telescope COSMOS project, a multi-instrument and -institution large-scale survey of galaxies. Among the multiple telescopes being used in the collaboration, COSMOS has succeeded in being able to utilize about 10% of HST's observing time over two years (640 orbits!). For more information see Dr Liu's website at AMNH, <http://research.amnh.org/users/cliu/> and also the link on the AAAP site.

### Bring a friend to StarQuest!

**The Importance of Jersey StarQuest to AAAP.** We are hoping see a really good turnout at our annual star convention, Jersey StarQuest, being held this **June 3-5** in Hope NJ (near the Delaware Water Gap). The registration form can be found in the Sidereal Times or on the AAAP website. Your participation could be important to your own future in astronomy, and is very significant to the club's future. Here are some of the reasons why:

- Opportunity to immerse oneself more deeply in observational astronomy, observing techniques, and lore.
- Take advantage of the darkest skies in NJ (hundreds of NGC objects are visible)
- Begin/extend your personal count of Messier Objects (and Herschel and Caldwell lists).
- Participate in Bill Murray's famous "Deep Sky Contest", and telescopically observe M and NGC objects (and even some IC)-- galaxies, nebula, star clusters-- with both "beginner" and "expert" lists and achievement pins.
- See and examine many different telescopes and related

hardware.

- Learn about CCD cameras and image processing techniques and software.
- Experience the wonders of daytime solar observing with H-alpha filter/telescopes.
- Get to know your fellow club members and others involved in amateur astronomy in the region.
- Join the Sat afternoon trip to the UNCNJ Observatory at Jenny Jump State Forest.
- Enjoy a wonderful outdoor setting with hiking, biking, birding, canoeing, fishing, swimming opportunities.
- Check out the new/improved caterer for 3 Saturday meals (other meals on your own).
- Clean, comfortable cabins can accommodate families, groups, or solo attendees.
- Plenty of space for camping in your own tent/sleeping bags if preferred.

### Register Now for StarQuest (June 3-5)

And don't forget the **Northeast Astronomy Forum (NEAF)**, the largest astronomical exposition east of the Mississippi, to be held **April 16-17** at the Rockland Community College in Suffern NY. Among the many attractions will be direct solar observing using H-alpha technology featuring Barlow Bob and associates. See the website, <http://www.rocklandastronomy.com/neaf>.

### StarQuest – The Premier Observing Retreat in NJ

**Dark skies! -- Rex**

Simpson Observatory (609) 737-2575

Deadline for the  
May issue of the  
Sidereal Times  
April 29, 2005

## Science Outreach and Exploration Update

**"Science Night Live" at Upper Freehold Regional Elementary/Middle School:** Friday, March 4, 2005, Allentown, NJ. About 90 enthusiastic kids and adults attended the display and presentation of *"Martian Robot Movies"* and *"Mars in 3D"*, with 3D glasses provided to everyone by the PTO. Special thanks to Ludy D'Angelo, who helped out with everything from setup to science as clouds unfortunately obscured the night sky.

**Super Science Weekend: NJ State Museum, Trenton,** May 21/22, 2005. Over 3 dozen scientific organizations featured; including the AAAP and my astronomy presentation entitled *"Exploring Mars and the Search for Life"*.

### **Jersey Starquest: June 3-5, 2005**

Has been listed on *The Planetary Society* website:

<http://planetary.org/html/society/calendar.html>

### ***The Planetary Society: 50% off New Membership***

Discount offer renewed until 30 Sep 2005, includes free nebula poster. Email:

Please contact me for school or community groups interested in science outreach presentations.

### **Robotic Mission Exploration Update**

**Spirit and Opportunity on Mars: Now over 350 days past the 90 Sol warranty !!!** As principal investigator Steve Squyres says, "Every day is a gift". Both rovers continue their scientific explorations, now over 15 months !!! Navigation software upgrades allowed Opportunity to again set new daily distance records of over 620 feet while driving over the vast sand dunes of Meridiani Planum. She is blazing past Vostok, Voyager and Viking craters and into the rocky "Etched Terrain", having traversed more than half way from Endurance crater to the giant Victoria crater. Opportunity drove over 1 mile in a recent 2 week period in March and is now outside the original landing ellipse.

Meanwhile, the power output on Spirit has doubled to about 800 watt-hours per day (almost full power at landing) when a dust devil miraculously cleaned off the solar panels on March 9. Pictures confirmed significant removal of accumulated dust. Remarkably, these dust devils were photographed in action on the Martian surface for the first time by any lander. As Spirit was climbing to within 150 feet of the Columbia Hills summit, the dust devils were speeding by on the plains below, 3/4 mile away, at about 7 MPH.

Both rovers continue to function well and the arrival of spring brings more power as well as global dust storms.

Eclipse season has also returned to Mars. You can see these brand new *"Dust Devil"* and *"Deimos Eclipse"* movies (compiled by amateur astronomers) at my Super Science Weekend presentation on May 21/22.

**Cassini/Huygens:** High resolution and 3D images of the fractured terrain were returned from the icy moon Enceladus, during the close flyby (313 miles) on March 9. The surface of Enceladus is apparently quite young, with some signs of recent geologic activity and the possible discovery of a tenuous atmosphere of currently outgassing water molecules.

Cassini is currently orbiting in the plane of the rings and many moons of Saturn. This geometry allows for numerous beautiful

edge on pictures of the rings and moons, as well as the moons eclipsing one another. The next close flyby's of Titan occur on March 31 and April 16.

Listen to the newly enhanced sounds of Titan at:

[http://www.planetary.org/sounds/huygens\\_sounds.html](http://www.planetary.org/sounds/huygens_sounds.html)

**Mars Express (ESA):** Recent high resolution images show an hourglass shaped feature most likely formed by glaciers just a few million years ago at Promethei Terra, 38° South Latitude. First ever perspective pictures from the north polar ice cap show layers of water ice, dust and volcanic ash.

**Rosetta (ESA):** This comet chasing mission had a successful flyby of Earth on March 4, for the first of 4 gravity assist planetary flyby's needed to accelerate the spacecraft. Rosetta is now on course to make supporting scientific observations when the NASA Deep Impact comet probe encounters Comet Temple 1 during July 2005.

**Deep Impact:** Remains on course for the July 4 flyby and impact with Comet Temple 1 as the science instruments are checked out and calibrated.

**SMART-1 Lunar Orbiter (ESA):** 1 year mission extension has been granted to enable high resolution and 3D mapping and other scientific observations.

*Websites for daily updates/perspectives:*

<http://marsrovers.jpl.nasa.gov/home/index.html>

[http://www.esa.int/export/SPECIALS/Mars\\_Express/index.html](http://www.esa.int/export/SPECIALS/Mars_Express/index.html)

<http://saturn.jpl.nasa.gov/home/index.cfm>

<http://www.esa.int/SPECIALS/Cassini-Huygens/>

<http://www.esa.int/export/esaMI/Rosetta/index.html>

<http://deepimpact.jpl.nasa.gov/>

<http://www.planetary.org/>

Email:

*Volunteer for The Planetary Society, AAAP and JPL*

Ken Kremer

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## Nominations Committee

The Nominating Committee is pleased to announce that the following slate of officers has been nominated for the 2005-2006 term, and that all have accepted their nominations:

Director - Rex Parker

Assistant Director - John Miller

Program Chair - Ken Kremer

Secretary - Ludy D'Angelo

Treasurer - Ron Mittelstaedt

I want to thank the members of the committee (Don Monticello, Vic Belanger, Larry Kane, and Bill Murray) for their assistance in putting this slate together. Special thanks to Rex, John, and Ron for their long and dedicated service to the AAAP and their willingness to continue for another term.

John Church, Chairman

Jersey StarQuest '05

June 3 - 5



The best way to get to the observatory is to take Interstate 95 South towards Pennsylvania. Then take Scotch road at Exit 3 and proceed north (this amounts to right). Then, at the third traffic light take a left onto the Washington Crossing-Pennington road (County Route 546). Take this road to the first traffic light and take a right onto Trenton-Harbourton road (County Route 579). Take this road to the first driveway on the left, this is the Phillips Farm/Soccer Field entrance to the park. There is a series of three gates with club combination locks. If the gates are not open, you will need the lock combination to open the gate or be accompanied by a Keyholder member.

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See us on the Web: [www.princetonastronomy.org](http://www.princetonastronomy.org)

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