

# SIDEREAL TIMES

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

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## From the Director

**October 10 AAAP Meeting.** For the next AAAP regular meeting (October 10, 8:00 PM, at Peyton Hall, Princeton Univ), Program Chair Ken Kremer has invited Dr Theresa Kucera of NASA/ Goddard. Terry Kucera has been a member of the Solar and Heliospheric Observatory (SOHO) solar mission since 1995 and is deputy project scientist for the upcoming and cutting edge Solar Terrestrial Relations Observatory (STEREO) project. She is also very involved in educational outreach. Don't miss this opportunity to meet one of NASA's brightest star-scientists at the next AAAP lecture! For more information, please see Ken's article in this issue (and on the AAAP website).

**AAAP Observatory Events in October.** As the skies clear out with the cooler breezes of October, we should have some excellent opportunities for good observing at the AAAP's Washington Crossing Observatory. The facility will be open for public nights on each Friday through the end of the month, and member participation is welcomed (see driving directions in this issue and on the website). In addition to the Celestron C14/Paramount and historic Hastings 6.25 refractor/G11 mount, there will be opportunities to check out telescopes owned and operated by Keyholders and the AAAP's observing core members. Take advantage of the improving weather to sharpen your observing skills and get acquainted with the instruments and expertise available through our club!

**What's Up this Month: Autumn Deep Sky Observing.** Visual observing and photographic imaging of faint nebulae and galaxies is optimal (at any location) when the object transits-- when it reaches it's highest altitude for the night. The faint extended object, the Cocoon Nebula IC-5146, is about 4000 light years away, a diffuse star forming region with embedded open star cluster located at the eastern edge of Cygnus. With a diameter of 12 arc-min, this nebula is challenging, yet can be seen when conditions are right. IC-5124 transited at around 11:00 PM in late Sept, when I was fortunate to capture the image below with my

Simpson Observatory (609) 737-2575



IC-5146, the Cocoon Nebula in Cygnus

SBIG ST-10XME and C11 at f/6.3 using a G11 equatorial mount. Exposure times were 24/16/12/12 minutes (L/R/G/B).

**Board of Trustees Meeting, Thursday October 19.** We will have a quarterly board meeting on the Princeton Campus at 7:30 on Oct 19. Location and agenda will be noticed on the website and via e-mail announcement. Board members, committee chairs, and interested members are urged to attend. Feel free to call or e-mail me (see masthead) if you have ideas you'd like to include for the meeting.

Dark skies! – Rex

Deadline for Submissions to the  
November Issue of Sidereal Times

October 27, 2006

## Science Outreach and Exploration Update

**S\*T\*A\*R Astronomy Club:** Middletown, NJ, Thur Oct 5 at 8 PM. This NJ astronomy club (meeting at King of Kings Lutheran Church) has invited me to present *“Exploring Mars, the Search for Life, and a Journey in 3-D”*: A comprehensive review of the ongoing NASA Rover Mission to Mars covering the explorations and adventures of *“Spirit”* and *“Opportunity”* from launch to the latest news. Free and open to the public.

Website: <http://www.starastronomy.org/>

**Children's Space & Astronomy Fair, Rockland Astronomy Club (RAC):** Suffern, NY, Sat, Oct 7 at 11 AM to 3 PM. Free Admission. This fun filled family astro fair is jointly sponsored with the Lower Hudson Valley Challenger Center. Educational features include a NASA Astronaut, simulator rides, solar viewing, hands on demos, and Planetarium shows including my presentation on *“Twin Robots Exploring Mars and a Journey in 3-D”* and much more. Details at the RAC Website:

<http://www.rocklandastronomy.com/>

**New Jersey Science Teachers Convention:** Somerset, NJ, Oct 11 at 2:30 PM. Two full days of science education events for grades K-12, including my presentation on *“Twin Robots Exploring Mars”*.

**Amateur Astronomers, Inc at Sperry Observatory:** Cranford, NJ, Fri, Oct 20 at 8 PM. AAI is one of the largest astronomy clubs in the US with over 300 members and has invited me to present *“Exploring Mars, the Search for Life, and a Journey in 3-D”*: A comprehensive review of the ongoing NASA Rover Mission to Mars. Free and open to the public. AAI is located on the campus of Union County College.

Website: <http://www.asterism.org/>

**“Blast-off for Outer Space” at The Franklin Institute Science Museum:** Philadelphia, Pa. Tue, Sep 19. I was invited as the featured guest speaker for this highly successful Community Science Night monthly event, which was free and open to the public. About 800 kids of all ages enjoyed my talks in the IMAX Theater where I introduced the IMAX Film *“Roving Mars”* along with Q&A. The enthusiastic audience posed lots of thought provoking questions on what scientific discoveries have the rovers accomplished, why have they lasted so long, are there alien beings, is Pluto a Planet, what if an asteroid hits earth and more.

**Washington Crossing State Park, Nature Center:** Titusville, NJ. Sat, Sept 30. The nature center was packed with a group of boy scouts for my talk on *“Our New Solar System”*. They had fun experiencing 3-D for the first time and imagined seeing all sorts of fanciful creatures and faces embedded in the martian landscapes and highlighting them with the laser pointer. AAAP members Ralph Marantino, Ron Mittelstaedt and Gene Ramsey helped out with solar scopes and education. (see photo at top of page)

**“World Space Week” at The Franklin Institute Science Museum:** Philadelphia, Pa. Sun, Oct 1 at 11 AM to 3 PM. This UN sponsored event celebrates the achievements of astronomy and space exploration on behalf of all humankind. The day was full of exciting space related activities including a presentation and booksigning by Mars Rover Principal Investigator Dr. Steve



*Boy Scouts and More: Imagining Alien Creatures in Martian Rock formations at the Wash Crossing Nature Center on 30 Sept.*



*The Solar System in 3-D at World Space Week*



*Chief Mars Rover Scientist Prof. Steve Squyres (center) chats about the latest adventures of the Opportunity Rover at Victoria crater and his book “Roving Mars” with AAAP Program Chairman Ken Kremer (right) and new AAAP member Ray Schapp (left) at World Space Week celebration at the Franklin Institute (Phila)*

*(Outreach, continued on next page)*

(Outreach, continued from previous page)

Squyres and my talk on the exploration of the Solar System in 3-D.

**Mars Rovers: *Opportunity* arrives at giant Victoria Crater.** The *Opportunity* rover has just arrived (Sep 27) at the ½ mile wide crater and is perched at the rim called Duck Bay. The mission scientists have worked tirelessly for nearly 3 years to achieve their dream of reaching Victoria and revealing her beautiful secrets. She is transmitting spectacular panoramic images back to earth and unlocking the mysteries of ancient Mars by uncovering new geologic layers further back in time.

**Cassini:** Astounding discoveries continue with more lakes of methane and ethane found in the north polar regions of Titan and a previously unknown new diffuse ring found just outside of the main rings but inside of the E ring.

**Space Shuttle: ISS Construction Successfully Resumed:** The space shuttle *Atlantis* roared into space with 6 astronauts on Sept 9. Together with 3 astronauts already on board the ISS, they successfully delivered and attached a 17.5 ton truss segment and installed a 2<sup>nd</sup> set of 240 ft. long power generating solar panels during 3 grueling spacewalks.

**Pluto Petition Drive:** I have initiated the effort to reinstate Pluto as a Planet with a petition drive aimed at the IAU at all of my public outreach events. The petition reads simply: "*I believe Pluto is a Planet. A better definition is needed*". Please contact me if you wish to sign the petition.

For science outreach presentations please contact me at Email:

Ken Kremer

AAAP Program/Lecture Chairman

## From the Program Chair

Upcoming 2006-2007 AAAP Lecture Season

**Oct 10: Dr. Therese Kucera** from the NASA Goddard Spaceflight Center is the keynote speaker. Terry will give a first hand account of NASA Solar Research. Her talk is titled "*The Sun as seen from SOHO and STEREO: NASA/ESA Missions*".

Dr. Kucera is the deputy project scientist for NASA's STEREO mission and the US SOHO deputy project scientist. She will describe the many discoveries for the Solar and Heliospheric Observatory (SOHO) mission, which has just reached its 10th anniversary and the upcoming Solar Terrestrial Relations Observatory (STEREO). SOHO's fundamental research breakthroughs have revolutionized our understanding of the sun over a wide range of solar physics from the solar interior, through its dynamic atmosphere and into the solar wind and in predicting 'space weather' events affecting our planet. STEREO will soon provide the first 3-D view of the Sun, solar activity and coronal mass ejections (CMEs) - immense magnetized clouds of material which explode off the sun, towards the Earth and into the solar system. The two STEREO spacecraft will orbit the sun, one speeding ahead of Earth and the other lagging behind to provide two points of view with which to study the Sun.

Websites: SOHO <http://sohowww.nascom.nasa.gov/> and STEREO <http://www.nasa.gov/stereo/>

Terry is an astrophysicist and studies the Sun's atmosphere, especially solar prominences and is also involved in educational outreach.

*Further details of the STEREO mission are found in the 21 August 2006 issue of Aviation Week and Space Technology magazine (p. 42) in an article by aerospace journalist Craig Covault (AAAP Guest Speaker in October 2005).*

**Nov 14: Al Nagler**, the founder and CEO of TeleVue Optics in Spring Valley, New York, will speak on Optics, Eyepieces and Manned Spaceflight in a talk titled "*Giant Eyepieces that Swallow Spacecraft*". Al will discuss how his experiences in flight simulations for the Gemini and Apollo projects, led to the development of wide angle eyepieces which recreate the experiences of a spacewalk for the amateur astronomer.

**Dec 12: Prof. Jim Bell** of Cornell University is the lead scientist for the panoramic cameras on the Mars Rovers. He will present "*Postcards from Mars: Spirit and Opportunity Roam the Red Planet*" and will be autographing his new book "*Postcards from Mars*".

**Dr. John Church**, past director of the AAAP, was the keynote speaker on **Sep 12**. John gave an exciting lecture on the history of the largest telescope of the 19<sup>th</sup> century, located at Birr Castle in central Ireland, and used to first disclose the spiral structure of galaxies. Freeman Dyson joined us for dinner and kindly agreed to introduce his long time friend. John Church and Freeman Dyson were active in the building of the Washington Crossing Observatory in the late 1970's. Freeman nearly brought the house down when he recalled that "Well I'm not sure of John's astronomical abilities, but he sure is a good brick layer!"

Please send me your suggestions for speakers, with contact/topic

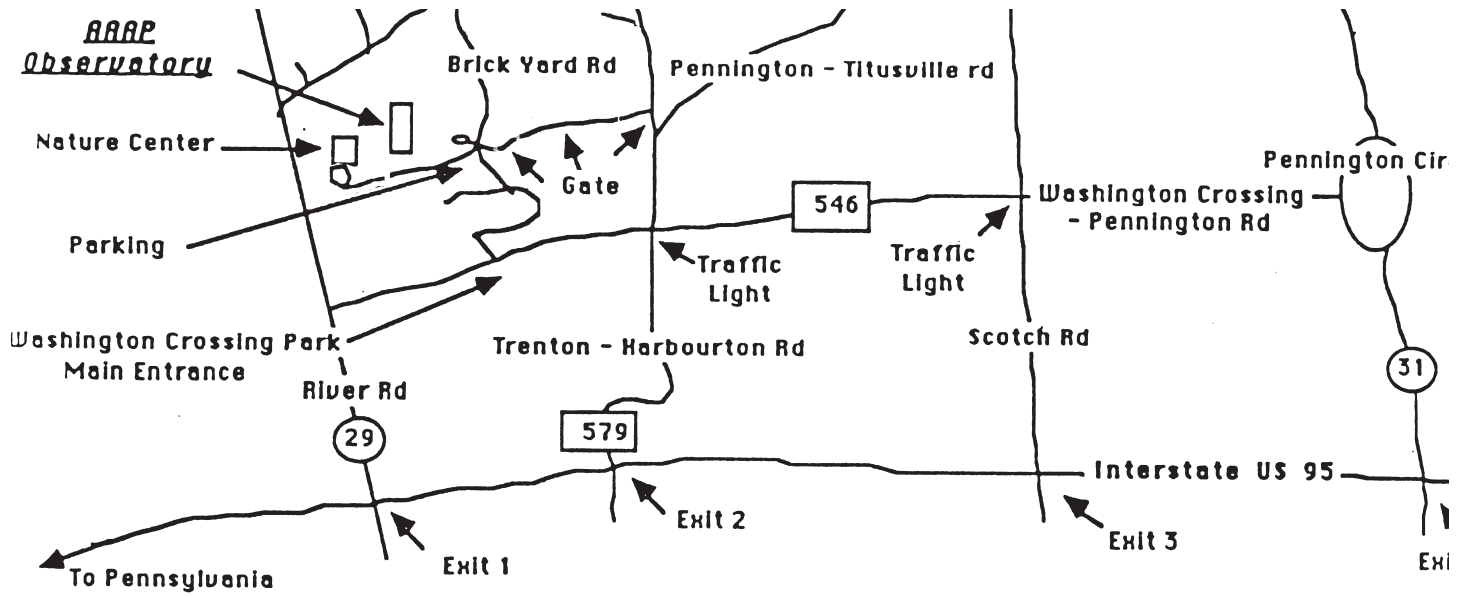


AAAP September guest speaker John Church, Rex Parker (AAAP Director), Prof. Freeman Dyson (Institute for Advanced Studies) and Ken Kremer (AAAP Program Director).

information.

Email:

Ken Kremer  
AAAP Program/Lecture Chairman



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.

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

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