

SIDEREAL TIMES

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

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From the Director

AAAP Meeting April 11 (8:00 Peyton Hall). Continuing our adventures through the most compelling stories and cutting edge science within the vast realm of astronomy, the next AAAP meeting will provide an open window to some of the most inspiring images yet produced among the wide range of celestial objects. **Dr. Robert Nemiroff** of Michigan Technological University will be our guest lecturer, and will present "*Astronomy's Best Images -- as Subjectively Selected by the Editors of Astronomy Picture of the Day*". As co-founder and author of the "Astronomy Picture of the Day" website, Dr. Nemiroff will describe the science behind the pictures as he provides us with some of the most appealing and remarkable images using the best instrumentation available in the world. For more information, see Program Chair Ken Kremer's column in this issue (as well as the AAAP Website).

Club Picnic A Big Hit, as Members Observe Pleiades/Lunar Occultation, April 1. A great turnout of members and families on a beautiful early spring day enjoyed a delicious picnic cookout, the company of friends, and some rare observing events. The unusual sightings included the appearance of Kirk Alexander, former AAAP Director and core member of our club for several years, now a Californian and member (and Treasurer) of the Sacramento Valley Astronomical Society (see their website, www.svas.org/). I'd like to thank **Larry Smith** for organizing the picnic and all those who participated for making this a big success for the club! And special thanks go to Ludy, John, and several other Keyholders for spiffing up the observatory (new carpet is great) in time for this outing.

Several of our skilled observers and many newer members stayed around for the evening telescope observing session, beginning



Getting ready for the Pleiades occultation at the picnic at Washington Crossing Observatory, April 1

with the lunar/Pleiades occultation just after sunset. A vigorous but brief storm front had moved through the Delaware Valley in early afternoon to help clear the skies (after fighting clouds for a while). Later in the evening, very good transparency allowed us to observe dozens of galaxies in Leo, Virgo, Ursa Major, and neighboring constellations. Conditions were so good that we easily saw NGC's to magnitude 12.5 in the C14, in addition to dozens of Messier objects including old favorites M64, M65, and many of the Virgo galaxies. But the most astonishing sight was the dark limb of the crescent moon swallowing up, one by one, the individual stars of the Pleiades. Using *The Sky* program in the Paramount/C14 control room at the observatory, we tracked the individual stars and counted the seconds down as each star in succession suddenly blinked out. Bright jewels bearing famous and exotic names (Electra, Celaeno, Merope) disappeared one after another in a matter of minutes, hidden by the dark limb of the moon glowing faintly by earthshine. On the other side, the bright arc of the crescent moon seemed to form a crown ready to receive

(Director, continued on page 2)

(Director, continued from page 1)

these precious gems. Such beauty and elegance... we admitted this was among the most enjoyable celestial events seen in a long time. Such is the inspiration that keeps us up late on these clear nights, that drives us beyond our limits of skill and understanding, to see the universe as it really is. It's the *raison d'être* for our passion and for the existence of the AAAP!

Call for nominations for AAAP Board of Trustees. As required in our By-Laws, the AAAP Board is elected at the May meeting based on a nominations slate which is announced at the April meeting. All Board positions are elected each year: Director, Assistant Director, Secretary, Treasurer, and Program Chair. If you are interested in becoming a candidate, or in nominating someone else to be a candidate, please contact Nominations Chair **Larry Kane**.

Dark skies! -- Rex

Nominations Committee Report

Director: Rex Parker

Assistant Director: John Miller

Program Director: Ken Kremer

Secretary: Ludovico D'Angelo

Treasurer: Brian Van Liew

The slate of candidate will be read for acceptance by the membership at the monthly meeting of the AAAP, Tuesday, April 11, 2006.

After the reading of the slate, nominations for any of the positions will be taken from members in attendance.

Respectfully Submitted,
Larry Kane, Nominations Chairman

Deadline for the

May 2006

Issue of the

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April 28, 2006

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with Comet Borrelly, returning the best pictures that had ever been taken of the nucleus of a comet.

His new mission, the DAWN Asteroid will be the first spacecraft to orbit 2 bodies, Ceres and Vesta, which are the two most massive asteroids. Launch is scheduled for mid-2007. Marc has been featured prominently in spaceflight documentaries on the Discovery Channel and the History Channel.

2006-2007 AAAP Lecture Season

Dec 12: Prof. Jim Bell of Cornell is now confirmed for the new season. He is the lead scientist for the panoramic cameras on the Mars Rovers and will present the story of Astrophotography from Mars, Hubble and more. Jim will be autographing his new book "Postcards from Mars", scheduled to appear in mid-November.

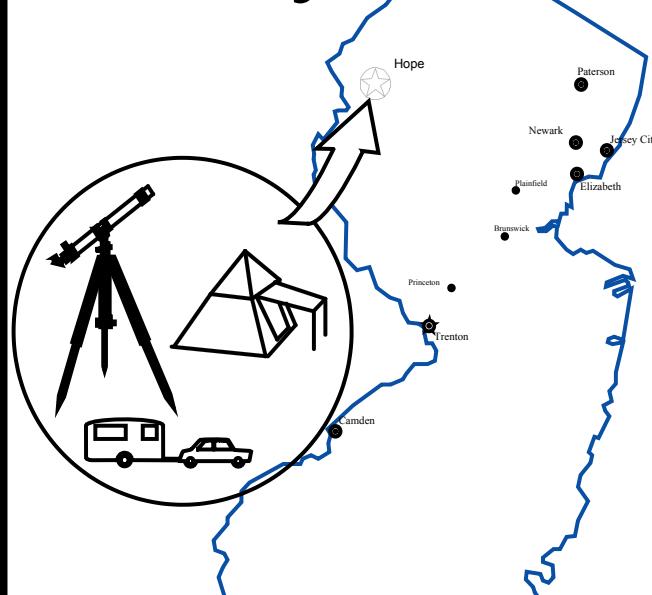
Please send me your suggestions for speakers, with contact/topic information.

Email: ken@princetonastronomy.org

Ken Kremer

We're looking for a volunteer with page layout experience and access to the necessary software to help with editing the Sidereal Times. Contact the Editor: vic@apink.com

Jersey



StarQuest '06
June 23 - 25

Minutes of the General Meeting
Amateur Astronomers Association of Princeton
February 14, 2006

12 members attended the pre-meeting dinner at the Annex restaurant with the guest speaker Mary Lou West.

The meeting started at 8 PM with Rex Parker (Director) giving a welcome and overview of meeting agenda. He also acknowledged the clubs efforts in recent public outreach and encouraged members to be involved in observatory keyholder training. He suggested a Messier Marathon that should be held soon as a member's activity. Also, Rex announced that member Robert Vanderbei was having an exhibition of his astrophotography at the café in Princeton University's engineering quad.

Brian Van Liew gave a 10-minute member talk on his recent Saturn imaging in which he captured images of a storm on the surface of Saturn.

Ken Kremer (Program Chair) then recapped that the next speaker will be Marc Rayman and that it will be at the Friends Center on the Princeton University Campus on March 9th, 2006. He handed out maps and specific instructions for that lecture. He then introduced the guest speaker, Mary Lou West. Her talk was on "How Things Move in Space". Mary Lou engaged the audience with some visual demonstrations while she gave her lecture. The lecture hall had approximately 55 in attendance.

At 9:30 PM, the member meeting was called to order by Rex Parker (Director). A discussion ensued about the separate March events for the club. The guest lecturer will be speaking on a Thursday night, the other meeting being the regular club gathering on the second Tuesday. After much talk, it was decided to have the regular club meeting as a combined Board of Directors/member meeting. We could possibly have several member 10-minute talks included.

There was some general talk about Starquest. Some comments were made that we should start contacting prize/raffle donors sooner than later in order to get that process moving. Also there was concern about getting the event advertised into the online versions of Astronomy and Sky & Telescope. There was also a call for volunteers to help with registrations and other aspects of the event.

Brian Van Liew reports that the keyholder schedule for 2006 open houses is on the website. Keyholder training continues and is also posted on the calendar section of the website.

The AAAP picnic is tentatively scheduled for April 1st 2006, subject to availability to the picnic site next to the observatory, Gene Ramsey will check on this. An observing session will follow the picnic if conditions allow.

Secretary Rudy D'Angelo reports that the Annex Restaurant will close down for renovations for a couple of months. This presents a problem for the pre-meeting dinners and possible alternatives will be explored. He also reports that at the Lawrenceville Elementary School, Linda Papetti did a good job setting up an area with club promotional materials and promoting the club by handing out brochures. She is also doing follow-ups on the guest sign in sheet that we have out at every meeting.

Membership stands at 106, a few renewals, but no new members. The renewal form for UACNJ was completed and given to the

treasurer for payment. The dues payment entitles the club to have star parties at the Jenny Jump facilities, which Rudy encourages.

The Schmidt Camera still has not sold. Prospects for selling the equipment are dim, but the camera is available to any member who takes an interest in it.

Ken Kremer reports that the field trip to Honeybee Robotics may be scheduled for early March.

John Miller (Assistant Director/Webmaster) reports that there is a new interactive calendar of events page on the website. Some new additions to the "Member's and Their Scopes" page, and a new feature with a downloadable star chart for each month

Ron Mittelstaedt (treasurer), reports that there is \$xxxxxx. Ron is still dealing with collection notices from our former insurance carrier. Their claim is that we owe money to them for a period of time after the policy ended. Many letters and phone calls have been made to try and resolve the problem, but to no avail. The IRS has sent Form 990, which will be completed. This form verifies our non-profit status to the IRS.

Brian Van Liew announced that there is a call for scopes March 3rd at the school in Allentown. Anyone interested should contact him to volunteer.

The deadline for the next Sidereal Times will be February 24th.

Meeting adjourned at 10:30 PM

Submitted by,
Ludovico D'Angelo, Secretary

Minutes of the General Meeting/Board of Directors

Amateur Astronomers Association of Princeton

March 14, 2006

The meeting started at 8 PM with Rex Parker (Director) giving an intro to the general outline for the evening agenda. There were about 25 members present.

Officers present were Rex Parker (Director), John Miller (Assistant Director), Ron Mittelstaedt (Treasurer), Ludovico D'Angelo (Secretary), and Ken Kremer (Program Chair).

Bill Murray announced that the NJ State Planetarium was reopened as of March 14, 2006, after a long hiatus. The Planetarium has requested AAAP to be available for Planetarium public nights on April 7th and the 21st. The 7th is a regular public night. The 21st will need some volunteers to open the observatory. Super Science weekend is April 29th and 30th. They also asked for additional time in the summer.

There will be solar observing at the NJ State Planetarium for the weekend reopening of the Planetarium from 11AM to 4 PM. Gene Ramsey is leading this effort and asked for volunteers for Saturday.

Rex Parker then gave a 10-minute member presentation on his trip to Hawaii. He explained all the viewing conditions available. He also reviewed the vast array of observatories and his visit to the Keck Observatory complex.

Tito Bastianelli gave a 10-minute presentation on the Italian astronomy magazines he had collected. Showing their quality and the wide range of magazines available compared to the US.

(Minutes, continued on page 4)

(Minutes, continued from page 3)

After some discussion, it was announced that the AAAP picnic would be on April 1st, 2006 at our observatory (not the pavilion next to it). The picnic will start about 4:00 PM and will be held if it is not raining. Members should bring their own chairs and contact Larry Smith to RSVP. It will be posted on the website. Afterwards, weather permitting; there will be a Messier Marathon as we open the observatory.

Starquest Planning: Don Monticello proposed a \$10 reduction for any family member after the first full paying family member for staying at Starquest. There was much discussion on this issue by the members present. The idea is to give a discount to families that come. There were several points made during the discussion, one being that we would actually lose money (i.e. not cover the basic cost of what Hope Conference Center charges AAAP for the Bunk house accommodations and the camping fee).

The Board of directors voted on the proposed reduction. The vote was 3 for (Parker, Kremer, Mittelstaedt) and 2 abstaining (Miller, D'Angelo). The proposed reduction for Starquest was passed.

The caterer will be the same as last year. The meals will be available on Saturday and there is slight increase in the cost.

Discussion continued on to the issue of the raffle prizes and how to obtain them this year. Ron Mittelstaedt and Brian VanLiew did a great job last year. We have a list of all the donors from last year; they will be contacted earlier than later for donations for this year. Brian VanLiew indicated it was helpful to have had business cards to show to various donors and also to refer to the website to show we were on the up and up. John Miller will lead a team of volunteers to try and do as good a job as last year in collecting door prizes and donations. Anyone interested in this effort is to contact John Miller (assistant director).

Publicity is already out to the astronomy magazines. The flyer will be updated and put on the website and sent to last year's participants.

Other planned activities: lectures during the day on Saturday with some solar observing and a field trip to Jenny Jump.

There will be at least one speaker for the weekend. The main speaker will be after dinner Saturday and possibly one additional speaker for the afternoon. The speakers will most likely come from the Princeton Astrophysics department. Rex has been talking to some of the post docs who are interested and are researching some new and interesting subjects. The speakers will have free accommodations and dinner for their participation.

It was the consensus of the members present that there should be a new Starquest t-shirt for the occasion. All shirts will mostly be extra large. Possibly silk screened. Design needs to be determined.

Elections: Elections for the Board of Directors will be at the May regular meeting. Ron Mittelstaedt will be stepping down from the treasurer's position. Brian VanLiew will be a candidate for the treasurer's position. He would give up his Public Outreach and Observatory Co-chair positions and let other members move into the those areas.

Larry Kane will head the nominating committee and will take nominations for all the board positions and report to the membership at the April meeting.

Sidereal Times: Bryan Hubbard (publisher) was asked by Rex

Parker to get price quotes for having someone do the layout of the Sidereal Times. He reported that a person he had contacted gave him a quote of \$150 for initial set up and then \$75 per month for each edition after that. There was a concern about the actual editing of each of the issues as opposed to the layout. Currently Vic Belanger does both and tried to make the space in the paper work as efficiently as possible. Rex was concerned that when the time came for Vic to stop being editor that there would be good transitions so that other members could step into the editor's role, or have someone else not in the club do it. There was much discussion on these points. Ludy D'Angelo indicated that whoever takes it over in the future would probably change the format of the paper anyway since they will probably not be using the same programs to prepare the Sidereal as Vic does. John Miller indicated that the outsourcing would be very expensive given our treasury situation. Rex Parker wanted for everyone to be aware of the situation and wanted members to be more involved and to have more input.

The deadline for the next issue of the Sidereal times will be Friday, March 31st.

John Miller thanked Linda Pappetti for taking initiative and being pro-active as a new member in developing some very colorful return address labels along with the other activities she has involved herself in.

Observatory: Brian VanLiew reports that Bill Nagel has passed the requirements and has been given his key as a new Keyholder. Brian has assigned Bill to Team 5, replacing the slot vacated by George Walker when he moved away.

Gene Ramsey and John Church continue to investigate the tree trimming possibility at Washington Crossing.

A new carpet will be installed at the observatory.

Programs Update: Ken Kremer reported that the March 9th speaker, Marc Rayman, was well attended at the Friends Center. The majority of attendees were AAAP members. Bob Nemiroff has confirmed that he will be the speaker in April. Ken indicated he require \$200 to pay for his expenses, which will come from his allocation (budget) for program speakers. Mike A'Hearn will be the May speaker. The June meeting will be at the New Jersey Planetarium as it always has been in the past when it was open.

Ken also reports that he is already working on speakers for next year. There were several suggestions for speakers made. Derrick Pitts from the Ben Franklin Institute was suggested. Also Gregg Olsen (local resident who was a passenger to the ISS) was discussed.

Princeton University is hosting a science fair for the local middle school students on March 20th. Ken will be presenting there. Also on April 2nd, Ken will give a program at the Nature Center at Washington Crossing. Ron Mittelstaedt and Ralph Marrantino will help with solar observing.

The Riverside School (Princeton) and Allentown School (Allentown) star parties were a well attended. Ken also reported that he gave a presentation at the Delaware Valley club.

Treasury: The treasury is at \$xxxxxx

Meeting adjourned at 10:15 PM

Submitted by,
Ludovico D'Angelo, Secretary

Science Outreach and Exploration Update

Science Outreach

Toll Gate Grammar Elementary School: Pennington, NJ, Tue, Apr 18, 7 PM: The school principal has invited me to present an Astronomy evening of Solar System Exploration including 3-D for the entire school. AAAP members will provide telescope viewing, weather permitting.

Super Science Weekend: NJ State Museum: Trenton, NJ, Sat/Sun Apr 29/30: Will include my display on solar system exploration. AAAP will have a separate club and observing booth.

NEAF Northeast Astronomy Forum: Suffern, NY, May 6-7. Check out the Rockland Astronomy Club (RAC) website for a prestigious group of speakers. Barlow Bob is organizing the Solar Star Party with help from Ron Mittelstaedt and Ralph Marantino. RAC has invited me back for presentations and displays on NASA's current Solar System exploration.

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

March has been quite a busy and productive month for my outreach to an array of astronomy clubs, schools and more that continues as we go to press. Especially fun and effective are those which combine my astronomy talks with stargazing courtesy of AAAP members.

Riverside Elementary School: Princeton, NJ, Fri, Mar 3, 7 PM. The sky finally cleared for these eager 3rd graders and parents. The two wonderful teachers told us that every kid (picture below) had an amazing astronomical experience hearing my talk on the "Twin Robots Exploring Mars" and viewing the universe thru AAAP telescopes courtesy of Gene

County. I gave astronomical talks throughout the day on "Twin Rovers Exploring Mars and a Journey in 3-D" to standing room only gatherings (see photo below). They enjoyed handling the scale model Mars Rover Science Drill (RAT) on loan from Honeybee Robotics and experiencing the life giving martian dust storms. The expert university graphics staff kindly prepared and displayed 2 large posters of Spirit and my mars team summit Panorama for all to enjoy. AAAP member Linda Papetti thrilled the kids all day too with an astronomy/telescope demo table in the Engineering area.

Website: <http://www.princeton.edu/~pccm/outreach/seeprinceton.htm>



7/8 Graders view 3-D Mars Rovers at SEE Princeton

Rockland Astronomy Club Annual Dinner (RAC)

(RAC): Blauvelt, NY, Sat, March 4, 2006 at 7 PM. I was the keynote speaker for this evening gala which had been postponed by the record Blizzard of 2006 from February. RAC sold a record number of dinner tickets, ca. 100, for my most comprehensive presentation to date titled "Mars, Saturn, Comets and Beyond!" which covered the gamut of NASA's ongoing and future solar system exploration and concluded with a look back to the pale blue dot. There was a lively discussion on *Is Pluto a Planet and What is a Planet anyway?* The majority favored planethood status for Pluto and a small minority of brave souls were inclined towards its demotion. The club leaders (see picture below) graciously thanked me for a "spectacular presentation" of visual and descriptive content. One highlight even for longtime RAC members was my unique use of 3-D

to demonstrate perspective. My thanks to Ralph Marantino and his wife who attended and graciously provided me with 1st class transportation.

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

Co-hosts Keith Murdock (left) and Ed Siemenn (right) for RAC
(Outreach, continued on page 6)



3rd Graders at Riverside Elementary Enjoy Mars in 3D

Ramsey, Larry Kane, Jeff Bernardis and John Miller.

SEE Princeton Science and Engineering Expo for Middle Schoolers: Princeton University, NJ, Tue, Mar 21, 2006 from 9 AM to 2 PM. Over 900 kids in grades 7 and 8 attended this day long University sponsored science fair dedicated to capturing the imaginations of middle school students from across Mercer

(Outreach, continued from page 5)

Dinner Speaker Ken Kremer on March 4

Delaware Valley Astronomical Association (DVAA): Plymouth Meeting, PA, Fri, Mar 10, 2006 at 7:30 PM. This friendly and social club of about 160 members welcomed me with an enthusiastic standing room only crowd for my invited talk on "*Exploring Mars and the Search for Life*". Many questions focused on extreme life forms on Earth and the implications for extraterrestrial life. Other topics included the Hubble repair mission, Cassini, Comets and planethood for Pluto. Several DVAA members have worked on NASA/JPL missions including the early Mariner missions to Venus and Mars and the Apollo manned lunar landings. Afterwards, the club invited me to their monthly after-meeting social gathering to discuss more on astronomy and the extensive devotion of DVAA to public outreach.

New Jersey Astronomical Association (NJAA): Paul Robinson Observatory, High Bridge, NJ, Sat, Mar 25, 2006 at 8:30 PM. A standing room only crowd enjoyed my invited presentation on "*Exploring Mars and the Search for Life*" and "*Journey to Mars, Saturn and more in 3D*" with 3D glasses provided by the club. This friendly club of over 350 members sent a very gracious note of thanks and appreciated my up to the minute presentation which included the just released first image from MRO. Website: <http://www.njaa.org/>

Stuart Day School: Princeton, NJ, Thur, March 30. This elegant all girls school of top notch students was a last minute addition to my outreach program. The group of 5th graders were excited to hear about the "*Twin Robots Exploring Mars*" and asked inquisitively about the latest solar system discoveries. Outside they were wowed with telescopic views of Saturn and more by AAAP members Brian Van Liew, Gene Ramsey, Linda Papetti, Ludy D'Angelo and John Miller.

Millstone River Elementary School: Plainsboro, NJ, Fri, March 31. Three 4th grade teachers organized an evening of astronomical activities including the phases of the moon, star charts and more. About 80 kids, siblings and parents sat cozily on the floor of the darkened gym for my interactive talk on "*Twin Rovers Exploring Mars and a Journey in 3-D.*" They had great questions on the habitable zone and the possibilities of life on Mercury, Venus, Mars, Europa, Titan and beyond. AAAP Telescope viewing was provided right outside the gym door by Brian Van Liew, Linda Papetti, Gene Ramsey and Ludy D'Angelo. Afterwards Brian, Linda, Ludy, and myself enjoyed pizza and fun and compared approaches to public outreach by other area astronomy clubs.

Washington Crossing State Park, Nature Center: Titusville, NJ. Sun, April 2 at 1:30 PM. Glorious blue skies greeted us for a magnificent day of astronomy and solar viewing. Kids and parents packed the nature center for my presentations on "*A Tour of Our New Solar System*" and "*Twin Rovers Exploring Mars and a Journey in 3-D.*" The kids wondered about tumbling rovers, the new planet Xena, Sedna, Santa, Buffy and more. One amazing 3 year old boy said Pluto wasn't a planet because it was a moon of Neptune! And right outside was a AAAP armada of solar scopes, led by Ralph Marantino with the world famous BOB-O-SCOPE and Ron Mittelstaedt. Gene Ramsey, Brian Van Liew and Ludy D'Angelo pitched in too. Website:<http://www.state.nj.us/dep/parksandforests/parks/washcros.html>

For science outreach presentations please contact me at Email:

ken@princetonastronomy.org

Ken Kremer

Robotic Mission Exploration Update

Mars Reconnaissance Orbiter (MRO): NASA's newest Mars mission successfully entered orbit on 10 March with a spot on main engine firing. MRO is the largest and most powerful spacecraft ever sent to Mars and will return more than 10 times the data of all previous Mars missions combined. The first test images have been relayed to earth and already show exquisite detail. Over the next six months, the craft will use aerobraking to attain the near circular final science orbit.

Venus Express Orbiter (ESA): All systems are go in advance of the critical main engine firing on 11 April 2006 to "brake" the spacecraft and achieve orbital insertion at Venus.

Spirit and Opportunity on Mars: As we go to press, Spirit celebrates 800 Sols of exploration and discovery as Oppy exceeds 770 Sols. And both sisters are well on the way to significant new science targets.

Cornell Professor Jim Bell, the lead imaging scientist for the Mars Rovers, told me in a wide ranging telephone interview that "Oppy is now well on the way to Victoria, and driving a maximum of about 30-50 meters per day. That equates to about the distance she can see ahead in 1 day". He said the rover team has adopted conservative practices to preserve healthy operations, especially to "avoid another near-death experience with sand traps" as happened in May 2005. There will be no more 100 meter or more drive days. Jim told me that more deadly sand traps "and high dunes lie just a bit to the east of Opportunities current location". So the team "is driving her down lanes to be safe. And they are driving with the robot arm being stowed underneath, not elbow out". He added that the recent "arm deploy problems are currently understood but could recur again", so they need to be conservative since rover safety is the order of the day to extend her life.

Jim told me that "Oppy is headed due South to Southeast and on pretty level ground. The team is on a tear while rushing to reach the *spectacular Victoria Crater*, about 1.5 miles away with only minimal stops". However, in a bit of fancy Jim said that the team would "definitely stop if they spotted some *dinosaur bones* sticking out".

On the other side of Mars, Jim mentioned that "the power level on Spirit is way down to about 350 watt hours and sometimes less, so a big sandstorm could spell doom. Spirit is in a drive or die situation right now and must reach the north facing slopes of McCool Hill quickly. She is several hundred meters and a few weeks away. He said the science and engineering teams "have located several *sweet spots* with regard to power and *tasty outcrops* with regard to science". Jim added that they will direct Spirit to "climb up to the sweet spots and tasty outcrops but not necessarily to climb up to the summit". In this way they preserve the option to return to the mysterious circular *Home Plate* feature at a later date if Spirit survives the low power of the winter months. He personally would like to return to *Home Plate*, since lots of science exploration remains still to be done. Spirit only had time to journey about 1/3 of the way around and they don't know what they missed at the uninvestigated parts. Jim said that because the earlier mad dash from the Husband Hill summit to *Home Plate*

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(Update, continued from page 6)

saved time by not stopping along the way, this allowed for more time to explore *Home Plate*. About 5 weeks vs. just 2 or 3, but they had to sacrifice tasty science targets along the way.

Jim says "there is no team consensus right now on returning to *Home Plate*, the focus is on moving ahead and day to day activities. The engineering focus is on *Saving Spirit* and that overrides all else at this point So its imperative to move on. It's a frightening power situation with Spirit and she may not survive the winter".

I am pleased to announce that I have confirmed Dec 12 as the date for Prof Jim Bell as guest speaker to the AAAP. He will be autographing his new book "*Postcards from Mars*", scheduled to appear in mid- November.

Websites for daily updates/perspectives:

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

<http://pluto.jhuapl.edu/index.php>

http://www.esa.int/SPECIALS/Venus_Express/index.html

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

Email: ken@princetonastronomy.org

Ken Kremer

From the Program Chair

Spring 2006 AAAP Lecture season:

April 11: Prof. Robert Nemiroff of Michigan Technological University is the Co-founder/author of the immensely popular "Astronomy Picture of the Day" Website. His talk is titled "Astronomy's Best Images -- As Subjectively Selected by the Editors of Astronomy Picture of the Day." Some of the most spectacular images of any sort in modern times have been of space. From the red rock plateaus on Mars to the magnificent desolation of the Moon to monster-shaped nebula in deep space, astronomy images continue to excite the imagination, inspire curiosity, and challenge description. Many of these images have appeared on the popular web site Astronomy Picture of the Day (APOD) at <http://apod.nasa.gov/>. After reviewing the entire archive, APOD's editors have selected some of their all time favorite APOD's. These images will be presented along with stories behind them and a running educationally oriented commentary. The APOD website averages more than 3,500,000 page views/week. Dr. Nemiroff is the co-author (w/ J. T. Bonnell) of the books "The Universe: 365 Days" and "Astronomy: 365 Days" (due out Summer 2006).

Dr Nemiroff has published over 50 scientific papers and his research interests include the investigation of gamma-ray bursts, gravitational lensing, terrestrial gamma flashes and cosmology. He is also the founder of the "Night Sky Live" project

at <http://nightskylive.net/education/>.

May 9: Distinguished Prof. Michael A'Hearn from U. Maryland is the Scientific Principal Investigator for the Deep Impact mission to Comet Temple 1. Deep Impact successfully smashed into the comet on July 4, 2005 and Prof A'Hearn will tell the first hand mission story.

June 24 Starquest: Dr. Ruslan Belikov from Princeton U will be the evening speaker on "Searching for Other Earth's". Since at least the times of ancient Greece, man has wondered whether there are other Earth-like worlds in the universe. Past space missions have shown that Earth is unique in our solar system, but are there Earth-like worlds around other stars? Today, over 160 extrasolar planets have been found, but almost all of them are gas giants very different from our Earth, and not a single one can support life in any form we know. These planets were detected by indirect means such as perturbations of the host star's radial velocity or apparent brightness, which are unlikely to yield detections of planets as small as Earth. Direct imaging with a space telescope will probably be necessary for this task. Scientists and engineers are hard at work today to develop such a telescope, aiming at a launch of about 10 years from now. Our group at Princeton University has been pioneering the so-called Shaped-Pupil Coronagraph, which suppresses starlight by use of a specially designed shaped mask placed at a pupil plane of the telescope, and are currently testing it in our lab.

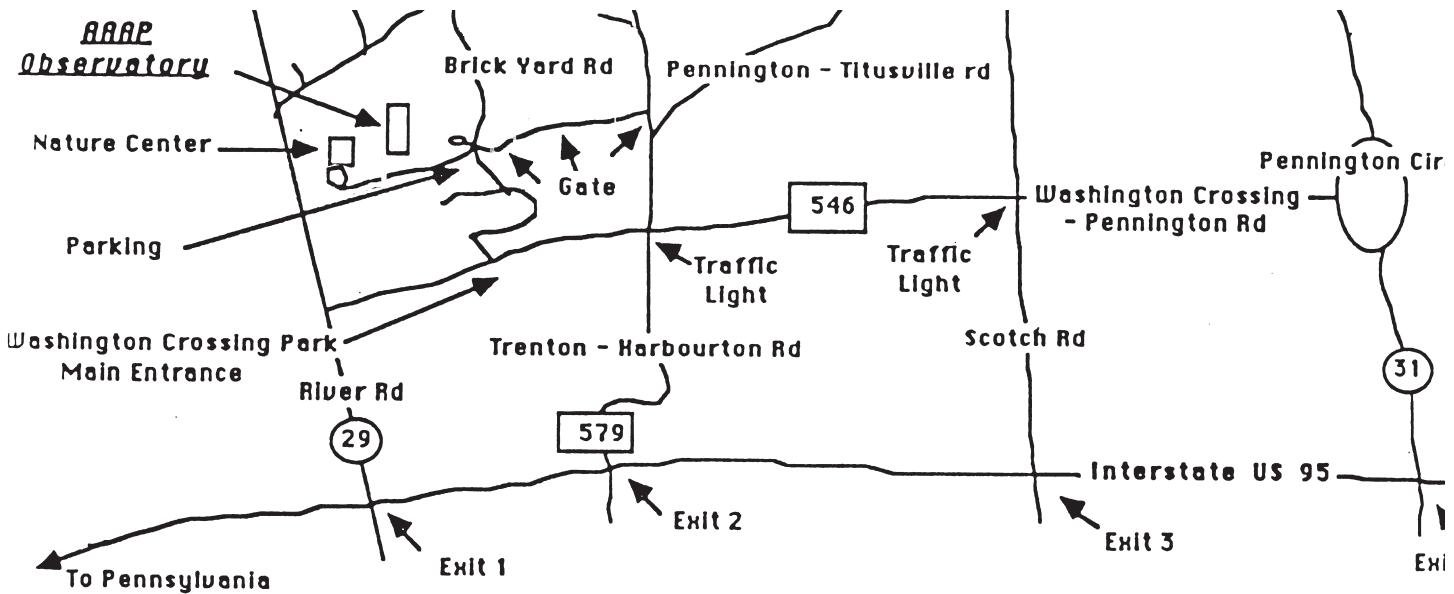
March 9: Award Winning Scientist and Princeton University Alumnus **Dr. Marc Rayman** from the Jet Propulsion Lab in Pasadena, Ca. gave an outstanding lecture which was jointly sponsored by AAAP and the Mechanical and Aerospace Engineering Department (MAE) of Princeton U. He spoke to over 90 attendees on "*NASA's DAWN and Deep Space 1 Missions: To Boldly Go -- well, you know ... (Adventures in the Solar System)*". Dr Rayman is the Chief Engineer for both missions. Deep Space 1 successfully used high-risk, advanced technologies like ion propulsion, autonomous navigation and artificial intelligence



March 9 Speaker Dr. Marc Rayman (center) with co-hosts Princeton MAE Prof. Edgar Choueiri (right) and AAAP Program Chair Dr. Ken Kremer (left)

which were then applied to future space science missions. The spacecraft conducted an extremely ambitious and risky encounter

(Program, continued on page 2)



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

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