

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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From the Directors

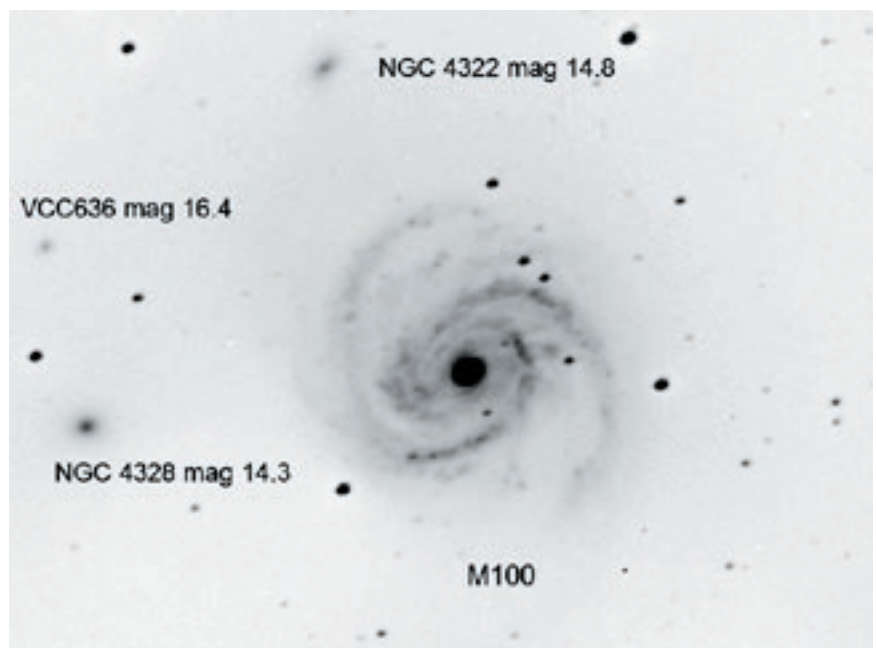
AAAP Meeting June 14 (8:00 Peyton Hall). Alas, the amazing NJ State Museum Planetarium will not be able to host our June meeting as has been our tradition for the past 30+ years. Bill Murray informs us that the Planetarium renovation process is not completed, and as a result we will hold our June 14 meeting in Peyton Hall on the Princeton campus. The topic of the evening will be "StarQuest Revisited". We'll run a debriefing on StarQuest and consider options for next year's event including possible alternate locations. By the time this article goes to press, StarQuest 2005 will be happening! For those who are really last-minute oriented, the AAAP-sponsored, premier astronomy event in NJ is being held June 3-5. Check out the club website for info.

With the beginning term of a new Board of Trustees, AAAP would like to thank Michele Novatski (past Program Chair) and Mark Jaworsky (past Secretary) for their dedicated work for the club in 2004-05.

Astronomy Observing and Outreach Season Is Now! At last we approach what is, perhaps, the best time of the year for observing and reaching out to members and the public to share astronomy and the splendors of the night skies. The AAAP Observatory is in top gear now, with public star watch sessions held the first and last Friday of each month throughout the spring and summer at the AAAP's Washington Crossing Observatory. In addition, Observatory Keyholder training is available to those wishing to learn how to study deep sky objects and handle a Celestron C14 Schmidt-Cassegrain scope with automated Paramount equatorial mount, and to find objects visually using the club's 6.25 inch classical refractor on Losmandy G11 mount (contact observatory co-chair Brian Van Liew). Get involved, come out to the observatory any clear evening (call in advance, 737-2575), study your star charts, and pull out that telescope or binocular!

Springtime Messier Sightings. In contrast to our hopes for the weeks ahead, the cloud cover the past month left only a few chances to get serious about observing and imaging. I was ready

Simpson Observatory (609) 737-2575



and fortunate to get my equipment set up in mid-April to record the CCD image above of the famed Messier object M100. M100 is a spiral galaxy in Coma Berenices (really part of the Virgo super-cluster) whose structure is similar to the Milky Way as it would appear from a similar distance. This beautiful face-on spiral galaxy has a visual magnitude of 9.7, a diameter of 6x7 arc-minutes, and is approximately 60 million light years distant. Its spiral structure can be seen visually in larger reflectors on moonless nights from NJ. Over the past century four supernovae have been seen in M100. Also visible in the left side of the photograph are three other much more distant galaxies, NGC4322 (mag 14.8), NGC4322 (mag 14.3), and VCC636 (mag 16.4)! These fainter galaxies are billions of light years distant, yet are visible from central NJ in a Celestron C11 with SBIG-ST10XME CCD camera with exposure time approx 50 min.

Dark skies! – Rex

Deadline for the Mid-Summer Issue
July 8, 2005

Minutes of the Board Of Directors
Amateur Astronomy Association of Princeton
April 7, 2005

Director Rex Parker called meeting to order at 7PM.

Officers present were Rex Parker (Director), John Miller (Assistant Director), Ron Mittelstaedt (Treasurer), and Michele Novatski (Program Chair)

Mark Jaworsky (Secretary) was absent

Other members present and representing various committees were: Jane Lanahan (Membership), Vic Belanger (Sidereal Times), Lary Kane (Archivist/Librarian), Don Monticello (Starquest), Gene Ramsey (Observatory), Brian VanLiew (Observatory/Public Outreach), John Church (Nominations/Constitution), Ken Kremer, and Ludy D'Angelo

A quorum of the Board was present.

Report of Committees:

Nominations: John Church reported that the nomination committee had finished their work in nominating a new slate of officers for the next year 2005-2006. They are Rex Parker for Director, John Miller for Assistant Director, Ludovico D'Angelo for Secretary, Ron Mittelstaedt for Treasurer, and Ken Kremer for Program Chair. A small discussion ensued about the succession plan.

Programs: A discussion was started about creating a committee that is stronger in structure in order to expand on the pool of speakers to draw from for the club lectures. Ken Kremer listed/brainstormed with the attendees possible sources for subjects and institutions to draw speakers from including astro journalists, planetary science, astro biology/physics, Mars scientists, Hubble scientists, SETI, philosophy-stellar, astronomy hardware, astro-photography doctoral students and post docs, Deep Impact Mission scientist, astronomy history, U Penn, Temple Rowen University, PPL, IAS, Hayden Planetarium and Rutgers.

An action item was requested to send Ken additional suggestions.

Michele Novatski (Program Chair) reported there was still no speaker for May and June. She continues to work on getting a speaker for the May meeting.

Starquest, June 4-6: Don Monticello reported that as of this meeting there were 10 registrations received for Starquest. Flyers were to be mailed /emailed to other clubs. There was talk as to who to send the flyers to and to send Don a list so he could act on sending them out. There was consideration made to more advertising, Ron Mittelstaedt is going to make up sets of registration packets to be available at NEAF.

Prizes at Starquest were discussed and it was said that timing for asking the organizations to donate was critical. Usually following NEAF and it is expected that various organizations will donate. A budget to supplement the prizes was motioned and seconded to be \$400.00.

Michele Novatski reported that speakers for Saturday night were still in the works with a possibility of Jonathan Linman. Other possibilities were Dan Maas, Jim Garvin, and Steve Squires. Michele should find out soon who is available.

The caterer for Saturday is all set. Friday night no food will

be provided but it may happen that members may organize a gathering at a local restaurant or call in for pizza or just fend for themselves.

Constitution: John Church reported that the committee to update the constitution /by-laws have made their recommendations. The result was that many minor changes would be made to update the document. A discussion followed on how to implement the changes under Article V of the AAAP constitution. The age requirement for membership was also discussed. Currently any age can join the club, a proposed change to that section of the by-laws was made and various opinions followed. All changes are to be printed in the May issue of Sidereal Times with time given after publication for member review and voting on all proposed changes.

Membership: Jane Lanahan reports that currently there are 101 paid up members. 5 members were dropped from the member list for bad addresses or non-renewing. 35 members have not responded to any effort to contact them. The membership roster will be distributed to board members.

It was decided that Ron Mittelstaedt would email the Membership Committee (Jane Lanahan et al) with the names of new members interested in the various activities of AAAP. These activities are listed on the membership forms, which are received with checks to the AAAP Post Office Box. Not much has been done with this information and an effort will now be made to get interested new members involved and on various committees depending on their interests. Also, Ludy D'Angelo will act on the guest list that is solicited at regular meetings. He will contact individuals to get feedback and address any comments that were written in those lists. This has not been done previously.

Observatory Committee: Gene Ramsey reports that the focuser for the observatory refractor will be reinstalled on April 8, 2005. The continuing problem of water by the observatory after it rains and in winter will be addressed by placing a berm of dirt in order to divert the runoff across the stone drive and away from the building. Also, a flap is to be designed in order to keep moisture/water away from the north side of the observatory roof, which is the most probable cause for buckling of the building during winter.

Brian VanLiew reports that members are not communicating back to him or team leaders about the team assignments on public nights. He is rearranging the roster to accommodate the problem. The first public night of the season (April 1, 2005) was overcast. The next is scheduled for April 29th. Keyholder training continues but is hampered by bad weather and scheduling. It was expressed that there is a need to have more keyholders graduated over the next year.

Other Items of Interest: Ken Kremer asked if there was a budget for the guest speakers and was told that currently it is \$100 per speaker. This will probably be raised with the new by-law amendments. More consideration to be made on the budget once the Program Committee is up and running after the Board elections in May.

There was a Motion to adjourn the meeting, which was seconded. The meeting adjourned at 10:00 PM.

Submitted by Ludovico D'Angelo

Amateur Astronomers Association of Princeton

May 10, 2005

Director Rex Parker called meeting to order at 8 PM.

Rex Parker announced a response was received from U.S. Senator Frank Lautenberg about the petition letter that was signed by the club concerning repairing the Hubble Space telescope. Rex read the letter to the membership. Rex also showed the award certificate that was given to the AAAP by the New Jersey Division of Parks and Forestry for our volunteer efforts at Washington Crossing State Park.

A motion was made to open the voting for the ballot of AAAP Board of Directors for 2005-2006, which was seconded. The floor was open for additional nominations, none were given. The membership in attendance then proceeded to vote unanimously for the slate of nominees as published in the May Sidereal Times. They are: Rex Parker-Director, John Miller-Assistant Director, Ludovico D'Angelo-Secretary, Ron Mittlestaedt-Treasurer, and Ken Kremer-Program Chair.

John Church presented the amendments to the AAAP by-laws and opened the voting for the proposed changes. This vote requires a majority of the total club membership to pass. A voting sheet for the members in attendance was passed around for their vote. An email and written effort will be made to those not in attendance.

Tonight's program consisted of member and non-member speakers on a range of subjects. **Michael Carr** showed us his new photometric shutter he had just completed. **Doug Braun** presented a homemade viewing chair and equatorial table. Plans for the viewing chair are found at members.tripod.com/denverastro/seat.html. **Gene Ramsey** gave an overview of his Coronado PST (Personal Solar Scope) and the foam shield he uses featuring the Rex Parker gap. He also showed how he mounted his PST to his LX 90 using an adapter. **Ralph Marantino** gave a presentation of some of his solar observing sketches he made since 1993. He has scanned these drawings and posted many of them on the Internet. He is involved with many online solar forums. He also mentioned that there are some thoughts about a possible solar star party in Mexico City in 2006.

Ron Mittlestaedt presented his interest in making sketches of Messier Objects. He keeps a notebook and has been doing the drawings for about 4 years. He always uses his 11" scope for consistency. **Brian Van Liew** showed is processing techniques for capturing astro images on his CCD cameras. He also showed video capture of Saturn and Jupiter.

Nick Hillman brought some of his meteorite collection for all to see. He explained the several different types that he owned and where to get them. And to end the program, **Bob Vanderbei** proudly showed us photos of his new toy, a 10" Ritchie-Creitan telescope. Photos of its interior and exterior construction and some astro images he made with the telescope.

After a short break, the general membership meeting continued.

Ludy D'Angelo presented the new AAAP brochure and took comments. Ludy will print as many brochures as his color ink jet printer can, a black and white version will be available for Super Science Weekend and thereafter for large events.

Newly elected program chair Ken Kramer requested member suggestions on future programs for the club. Also, he mentioned that he would need assistance with the pre-meeting dinners since he is not able to get to Princeton by the 6 PM dinnertime. Ludy D'Angelo will help with the dinners since he works close to Princeton. Ken also mentioned that NASA was actually instituting planning on how to fix the Hubble Space telescope and that he will be giving a program at Super Science Weekend at the New Jersey State museum May 22.

Saul Moroz indicated that Burgess Optical has made a generous donation to the club by providing several optical pieces, including a binoviewer, for the 6" refractor at the observatory and several items for Starquest.

John Church and Gene Ramsey reported on the shortening of the optical tube on the 6" refractor. The tube was shortened by an inch to accommodate larger eyepieces. They completed this task the week prior to the meeting. The telescope can now hold 2" eyepieces. Gene showed a new system on how to balance the scope if it got too heavy on one end because of the eyepieces.

A report on Starquest was provided by Don Monticello. There are currently 41 people registered and paid as of May 10, 2005. The speaker will be Carlos Badenas of Rutgers University. He now has enough info to produce and distribute a program for Starquest.

The report by Ron Mittlestaedt, Treasurer indicates that the treasury is at \$XXXX.

Observatory chair Gene Ramsey announced that there would be an observatory work party on May 14th from 10AM – 2PM, bring a shovel!

The deadline for the Sidereal Times this month will be May 27th.

The meeting was adjourned at 10:30 PM

Submitted by,
Ludovico D'Angelo, Secretary

Science Outreach and Exploration Update

"Reach for the Stars" Star gazing night: St Catherine's of Sienna Church School, Reseda, Ca, May 13, 2005. While visiting JPL, the stars aligned to afford me a wonderful opportunity to speak at a local Star Party to over 300 kids and adults about Mars and the Solar System. The kids had built home made robot and solar system models and were eager to learn about astronomy and telescopes.

Super Science Weekend: NJ State Museum, Trenton, May 21/22, 2005. "Mars, Saturn and Comets" was the theme of my outdoor display at the 25th Anniversary of this fun filled weekend of science activities. Over 500 kids and adults marveled at seeing pictures of "Mars and Saturn in 3D" for the first time. Many people remarked that these places really are worlds. Rover models, activity sheets, bookmarks and magazines were quite popular. Everyone enjoyed handling a demonstration piece of the Mars Rovers, obtained from JPL staff. On Sunday, I presented "Exploring Mars and the Search for Life", as part of the Science Forum lectures on behalf of AAAP, JPL and The Planetary Society.

A multitude of solar observing scopes were set up at the AAAP exhibit area by members John Miller, Brian van Liew, Ron

(Outreach, continued on page 4)

(Outreach, continued from page 3)

Mittelstaedt, Larry Kane, Gene Ramsey, Ludovico D'Angelo and Ralph Marantino, with Bill Murray presenting planetarium shows.

This event also marked the debut of the new AAAP brochure, artfully prepared by Ludy.

Jersey Starquest: June 3-5, 2005. My daytime presentations will include "Deep Impact at Comet Temple 1", "Mars and Saturn in 3D" (AAAP will provide 3D glasses) and the "Solar Sail".

Lawrence Intermediate School: June 9, 2005. Upcoming astronomy presentation to 6th grade classes.

Please contact me for schools, museums or community groups interested in science outreach presentations.

Email: ken@princetonastronomy.org

Robotic Mission Exploration Update

Voyager 1: Has entered the Solar System's final frontier by crossing from the termination shock into the heliosheath on the way to interstellar space. In this turbulent and uncharted region, the sun's influence ends as the solar wind slows, becomes denser and hotter and the magnetic field strength increases. At 8.7 Billion miles from Earth, it is the most distant man-made object.

Deep Impact: Instruments are being calibrated and the trajectory is on target for the impact with Comet Temple 1, now less than 7 weeks away on July 4. *Amateur observers* are encouraged to track and photograph the impact (see website below). *The Planetary Society* is sponsoring a contest to guess the size of the resulting crater.

<http://deepimpact.umd.edu/amateur/outreach/index.shtml>

http://www.planetary.org/deepimpact/contest_enter.html

Spirit and Opportunity on Mars: Now over 500 Sols of Exploration !!! Spirit continues exploring the scientifically rich and water altered "Methuselah" layered bedrock at "Larry's Lookout" ridge. Beautiful new panoramic vistas of the mountain ridge and the crater plains below have been sent to Earth. See them at Starquest! Power output remains high, thanks to the dust devil cleanup. Meanwhile, Opportunity is slowly being extracted from a sand dune ripple following extensive simulations at the JPL sandlot.

Cassini/Huygens (NASA/ESA): The mission team has just released enhanced mosaics of the Huygens landing on Titan. Elsewhere, a mysterious and persistent bright feature, 300 mi wide, was discovered on Titan's surface which is visible at multiple wavelengths, and may be a "hot" spot, possibly indicative of geologic activity.

Meanwhile, the Saturn orbital tour is currently focused on the most detailed observations ever of the rings. A small new moon was discovered in the Keeler gap, and is the source of waves in the rings due to effects of gravity. Radio waves are being broadcast through the rings in occultation experiments to determine physical properties and particle size, which range from less than 1 centimeter to many meters. The mysterious rings are not uniform in composition and are a fundamental science target of the mission.

Solar Sail (Planetary Society): The launch window opens on June 21 for the world's first solar sail. The spacecraft has been shipped from Moscow and will be launched from a submerged

Russian submarine in the Arctic Sea by a converted ICBM. Funding for this privately financed mission was provided by members of *The Planetary Society* and *Cosmos Studios*. Sunlight pressure (photons) will provide the only means of propulsion.

Mars Reconnaissance Orbiter (MRO): NASA's next Mars spacecraft has arrived at the Kennedy Space Center for an August launch on an Atlas 5 rocket. MRO will search for water with radar and have the picture resolution of a spy satellite.

Mars Express (ESA): Deployment of the first of 3 long MARSIS radar experiment booms was completed in mid-May, but with some anomalies.

Mars Global Surveyor: Has photographed the Mars Odyssey and Mars Express spacecraft for the first time in Mars orbit. The doomed Mars Polar Lander appears to have been located using a new high resolution photographic technique (see *Sky and Telescope*).

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://www.planetary.org/>

Email: ken@princetonastronomy.org

Volunteer for AAAP, JPL and The Planetary Society

Ken Kremer

From the Program Chair

First, let's thank the outstanding efforts of the outgoing program chair, Michele Novatski and wish her good luck. As the new program chair, I encourage everyone to send me your suggestions for speakers, with contact/topic information, and consider volunteering to help on the program committee.

Email: ken@princetonastronomy.org

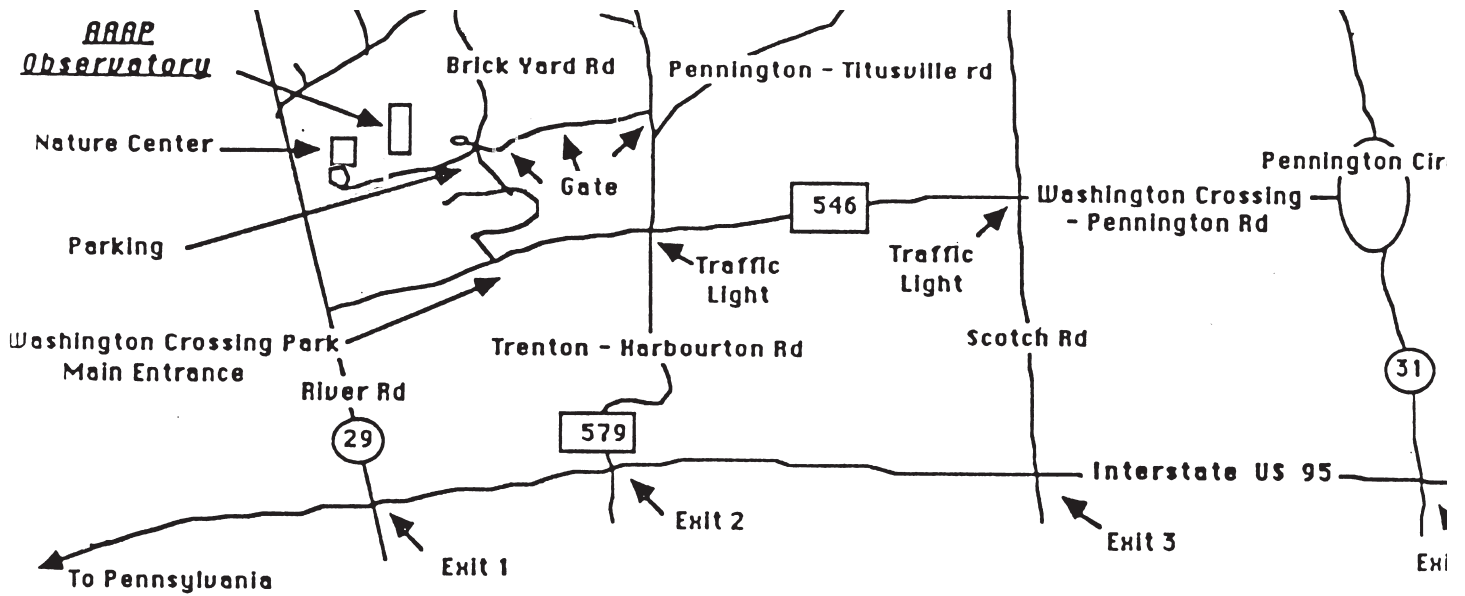
Ken Kremer

From the Editor

I guess it would be safest to assume that you received this issue of the Times after StarQuest '05 so I won't spend time talking it up. However, I can say if you took some good pictures of the festivities and activities, submit them for publication in either the Sidereal Times or on the website. Submit your JPEG's to John Miller or myself and we'll try to get them up for everyone's enjoyment. I will also be looking for short write-ups of your impression of this year's event for our Mid-Summer edition. The deadline will be Friday, July 8th. There are a lot of summer plans for everyone involved in the publication so please get your submissions to us before that date.

Our next deadline will be August 26, as I would like to get the September issue out without having to work the Labor Day weekend. Thank you for all your support and have a wonderful summer full of great activities.

Vic



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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