

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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From the Director

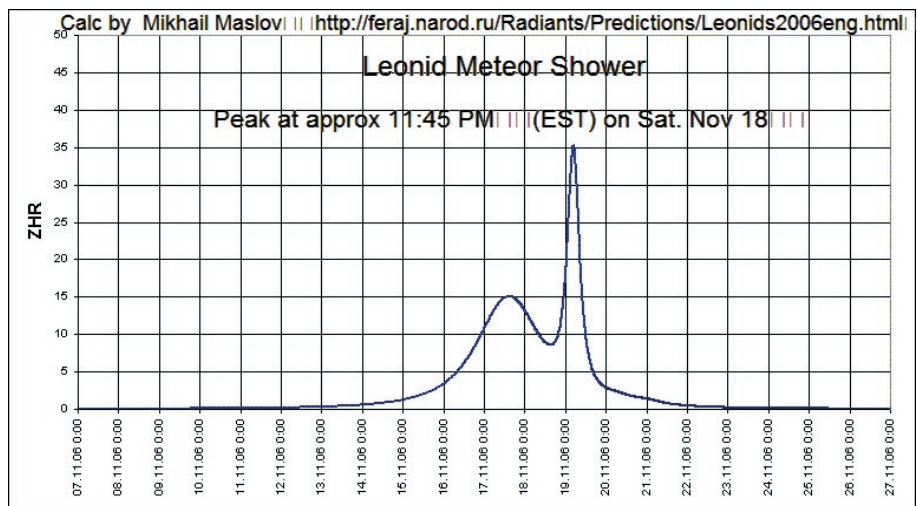
November 14 AAAP Meeting (8:00 PM, at Peyton Hall, Princeton Univ). This month we trace a different path into in the scientific and technical diversity of lectures at AAAP. Program Chair Ken Kremer has invited the Master of high-end oculars himself-- the celebrated founder and CEO of Televue Optics, Inc., **Al Nagler**-- for a turn at the podium in Peyton Hall. His talk will be "**Giant Eyepieces that Swallow Spacecraft**". Al is best known for the top-of-the-line eyepieces and refractor telescopes he has designed and his company has produced for over two decades. These optics are highly regarded by thousands of amateurs all over the world, including me and many of you! But did you know that Al Nagler also played a big role in the NASA manned spaceflight programs? For more info, please see Ken's article in this issue, and check out the AAAP website. More importantly, plan to come on Nov. 14 to welcome one of the unique personalities in the world of amateur astronomy.

Mercury Transit and Leonid Meteors – at the AAAP Observatory. Several members plan to get together in the late afternoon on **Wed Nov 8** at Washington Crossing Park (*check the AAAP website and look for e-mails*) to observe the **transit of Mercury**. In addition to member scopes with solar filters set up for the best angle with the setting sun, we will attempt to observe with the club's historic 6.25 inch Hastings Refractor. If successful, the Hastings scope could claim observation of Mercury transits in 3 different centuries!

The **Leonid meteor shower** has been predicted to show moderately good activity this year. The predicted peak for the US east coast is just before midnight on Nov. 18. Some calculations suggest an "outburst" in 2006 as the earth passes through the trail of debris from one of the previous returns of the parent comet. The AAAP **Small Refractor Group** is planning an observing evening at the Observatory on Sat night, Nov 18 to coincide with the Leonid peak. Fortunately this coincides with a near-new moon. As always,

there is uncertainty in the predictions and only background levels will be seen until the radiant rises above the horizon after 11 PM. We hope to see you at the Observatory on Nov 18.

Russian astronomer Mikhail Maslov has released his prediction for the **2006 Leonids**. The **Figure below** is borrowed from his study published on his website, in which the Nov 19 outburst is predicted to peak at 4:45 UT (11:45 PM EST) with ~35 Leonids/hour. Check out his paper on the website below (URL above the graph).



Other Local Observing Events. If you'll be in **Philly** on Nov 8, you can participate in the **Mercury transit**, on Nov 8 from 2-5pm at the **Franklin Institute**. The Franklin's recently refurbished observatory is equipped with 5 solar-filtered telescopes, and Derrick Pitt will be on hand to answer transit questions. Members of AAAP and their guests are specifically invited by the Franklin Institute for this event.

Another event for your calendar is the **Sky Tour on Nov 17**, being held at the **Franklin Parker Preserve in the south Jersey Pine Barrens, near Chatsworth NJ**. This dark sky observing event is co-sponsored by the NJ Conservation Foundation and the Franklin Institute, and Derrick Pitts will be on site. For more information, registration, and directions, please contact Lauren at 908-234-1255.

2007 Jersey StarQuest moved to October. The Board recently
(Director, continued on page 3)

Simpson Observatory (609) 737-2575

Minutes of the
General Meeting of the AAAP
September 12th, 2006

The meeting started at 8 PM with Rex Parker giving an introduction. He mentioned that there is a NASA facility on the barrier islands off the coast of Virginia, about 5 hours away. Many rocket launches are done from there for sub-orbital flights. He encouraged members to talk about their experiences through 10-minute member talks to the club.

Ken Kremer then spoke for about Pluto and passed a petition around in order to reclassify Pluto as a planet. He continued to talk about the future lectures, and his public science outreach, and the Pluto situation. The next speaker for October will be Therese Kucera, from the NASA Goddard Space Flight Center, giving a solar talk. Ralph Marantino will give a 10-minute talk in October. November will be Al Nagler from Televue optics. December's speaker will be Jim Bell who developed the CCD cameras for the Mars rovers.

Ken then introduced member John Church who gave a talk on "When Ireland was the center of the Universe" which documents his visit to Ireland's 6-foot reflecting telescope finished in 1845 at Birr Castle Demesne by the Third Earl of Rosse.

After the break, Rex Parker announced there will a Board of Director's meeting on October 19th in the engineering quad if the space is available. He invited all interested to attend.

There will be a star party at Stokes State Forest on September 22-24. Ron Mittelstaedt made the arrangement. The event is for avid observers only. Ludy D'Angelo will cook and have food available.

Discussion ensued about the possibility of a special interest group in small telescope observing. Ralph Marantino may create a yahoo discussion group on the subject. 4 ½ inches or less are the parameters for the telescopes. One way that can be done is to have observing nights at Washington Crossing. Another way of using small scopes was to do CCD imaging. Rex Parker showed one of his images that he took with his small scope.

John Miller reported that there were 31,465 unique visits to the website. Countries included Mexico, Russian Federation, Hungary, US government, S. Korea, Austria, Sri Lanka, United Kingdom, and Iceland, to name a few. John also had redesigned the observatory section of the website.

Starquest for 2007 will be discussed at the Board meeting in October. There will be a decision made whether to move it to October or not for 2007.

Secretary Ludy D'Angelo reported that current membership is 115. That number will go down in October as members do or do not renew their memberships. He reported that the minutes were published in the last issue. Brian VanLiew brought up the feeling that the Sidereal times should be available to club members only on the website. All members either get the Sidereal by mail or email currently. Ludy introduced new member Ray Shapp and Chris Voinier to the club.

Observatory committee reports that a work party took place to find the property markers on the lot of property at Washington Crossing. A good idea of how much clearing we could do on the east side of the observatory was discussed. Planning will continue

on this issue. We will look into renting or hiring a chipper to chip all the brush.

We received a donation from the Friends of the New Jersey State Museum for a special event program in July. This entailed solar viewing for a summer camp. Sunspots and Venus were viewed. Bill Murray and Gene Ramsey made this event happen. The Friends of the State museum gave the club a \$200 donation. Gene Ramsey and Larry Kane were also involved in providing telescope viewing on four different occasions for the State Park at Washington Crossing during theater events this summer. A new finder scope for the refractor was purchased.

Jeff Bernardis (Public Outreach) reported that there was one star party in August for a day care center. They indicated that they might give a donation.

Bill Murray reported to Rex Parker that the State planetarium will be closing again, therefore there may not be groups coming from the planetarium during the open houses in October.

Brian VanLiew reported that the students from the Millstone School wrote the club thank you letters showing their appreciation for us showing them the stars for a star party they had asked for last spring.

The Franklin Institute wrote a letter asking for AAAP club participation for their event on October 1st. Any one interested should contact Jeff Bernardis.

Treasurer Brian VanLiew reported that the treasury stands at \$11,139.43. Starquest summary was a profit of \$1,087.90, mostly for prepaid registrations that never showed up because of the bad weather. \$40 dues are due by October 1st.

Meeting was adjourned at 10:15 PM

Submitted by
Ludovico D'Angelo, Secretary

Minutes of the
General Meeting of the AAAP
October 10th, 2006

The meeting started at 8 PM. Rex Parker mentioned that the Nobel Prizes in Physics were awarded to John Mather and George Smoot, investigators of the COBE (Cosmic Background Explorer) project. Many lectures were given on the subject to the club. He also announced that the Custer Institute was having a symposium on October 20th.

Member Ralph Marantino then gave a 10-minute member talk on solar astronomy. He began in the hobby in 1989 and has over 3000 drawings of the solar surface. He reviewed the various ways of viewing the sun through telescopes.

Ken Kremer announced that the next program speaker for November would be Al Nagler. Jim Bell will be the speaker in December. Ken introduced the speaker, Therese Kucera of the Goddard Spaceflight Center, who gave a talk on the SOHO and STEREO missions on which she has worked.

After the break, Rex Parker announced there will a Board of Director's meeting on October 19th in the basement of Peyton Hall, Room 33. Members, Chairpersons, and interested parties are welcome to attend. He also called for agenda items for that meeting.

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(Director, continued from page 1)

studied a proposal to change the season for Jersey StarQuest. After substantial consideration and discussion by experienced members, the Board has officially changed the date for **2007 StarQuest to October 12-14**. The primary reason for the change is to improve the observing conditions-- October presents a higher probability of clear skies and earlier sunset/longer nights compared to June.

Design-a-Sign Project: request for volunteer. We are looking for a club member to help us better connect with the public, by **designing an outdoor sign** announcing **2007 Astronomy Nights** at the AAAP WC Observatory. With a good design, we would consider professional production, and the sign would be mounted in Washington Crossing State Park near the intersection of Rte. 546/579 (where other information signs are mounted, such as the Open Air Theatre). Please contact me if you would be willing to take on the **Design-a-Sign project!**

Dark skies! – Rex

(Minutes, continued from page 2)

There were many good comments about the club website from various visitors tonight. The Sidereal Times is now password protected on the website. Regular email and paper editions of the Times will continue. Contact Assistant Director John Miller for a password if needed in order to access the member roster and Sidereal Times on the website.

Articles and submissions to the Sidereal Times are encouraged. The cut off for submissions this month will be October 27th.

The next 3 Friday nights will be public open houses at the Simpson observatory at Washington Crossing State park. We all hope for good weather for the public nights.

Ralph Marantino will have the first meeting of the small aperture telescope special interest group on Friday, October 20th if the weather is clear.

There will be a transit of Mercury across the Sun's face on November 8th starting around 2 PM. There will be members both in the observatory and on the adjacent soccer fields with solar equipment to view the transit.

Brian Van Liew (Treasurer) reports that the treasury balance is \$12,640.65.

Ludy D'Angelo (Secretary) reports that membership as of 10/10/2006 is 52. There will be a reminder notice sent to all those members who have not renewed.

Meeting adjourned at 10:20 PM

Submitted by
Ludovico D'Angelo, Secretary

Cold Weather Observing

Winter is upon us, the warm, muggy-buggy nights of summer are gone. The atmosphere has less haze which makes the sky much clearer to sight constellations and star-hop. You say it's too cold to venture out with your telescope. You can observe as often in the winter as in the summer if you are dressed right and have the right equipment. Who wants to miss the Orion Nebula, the Crab Nebula and the many open clusters the winter sky has to offer.

I can handle the cold, but it's the wind that makes my toes and finger start to numb. The wind makes it hard to stand still looking

into an eyepiece for any length of time. My only suggestion is, try to refrain from observing on windy nights because body heat is lost quickly, and it makes the telescope shake on it's mounts where it is difficult to use high magnification. This is the case at Jenny Jump because it resides on top of a mountain and in a saddle point where wind speed is intensified.

The calm, clear, some-what cold nights can be enjoyed comfortably by wearing several layers of clothing. I start with insulated underwear, then a flannel shirt and jeans. I then wear an insulated vest, scarf, and a heavy coat. My gloves are actually mittens that can be folded back to expose my fingers to handle delicate eyepieces, focus knobs, or my sketching pencil.

On my feet I find a thin pair of cotton followed by a pair of wool socks works best. Your feet may tend to sweat with the just the wool socks. The cotton is there to absorb the perspiration which cause your feet to cold just from being moist. My boots have 1000 grams of "Thinsulate" not so bulky that I can't drive with them on. Lastly I wear a hat, most of your body heat is lost through your head (makes you wonder if there's anything up there to stop it). I prefer to wear the insulated baseball caps that sport ear flaps. If the temperature really dips, I wear a wool "stargazers" knit hat. My coat also has a detachable hood which I can use when the temperatures really go down.

A nifty heat source is a solid fuel hand warmer. These heaters can be purchased from K-Mart or Wal-Mart for a few dollars each and use solid fuel sticks that cost about two dollars for ten sticks. I light the sticks at each end for maximum heat where they tend to stay warm for about three hours.

Take your observing equipment outside before you don the articles mentioned above and let your optical tube stabilize for about fifteen minutes. I sometimes observe with bare fingers and find that if I insulate the bare metal items on my telescope my fingers won't numb so fast. I do this by wrapping rubber bands around the top metal portion of the eyepiece. Another item is my observing chair. When I obtained my Tele-Vue Air Chair, Ralph already had his. His wife, Betty, made a nice cloth cushion to cover the cold "Nauga-hide" cover. I also bought a heatable pad to fit this chair. The pad can be reheated in a microwave oven and lasts for about three hours, more than enough time for a decent observing session in the winter months.

When I bring my Schmidt-Cassegrain telescope in from the cold I let it sit to dry, this is to make sure no condensation is left on the optical tube before it's covered. I have never seen condensation form on the primary mirror. Tilting the rear of the scope down and the star diagonal removed, will allow dry air to enter the optical tube and a minimal amount of dust. Now that I advanced from a 8" scope to a 11" the cool down of the primary mirror will take twice as long before I can start observing. By the way I won't be selling my 8". Who knows how long it will be before I won't be able to lift the 11" and I will be back to the 8".

Ron Mittelstaedt

From the Treasurer

The treasury balance stands at \$13465.70.

Brian Van Liew

Science Outreach and Exploration Update

S*T*A*R Astronomy Club: Middletown, NJ, Oct 5. This fine NJ astronomy club is located near the shore and trekked to other worlds during my talk on *“Exploring Mars, the Search for Life, and a Journey in 3-D”*. It was an alien experience according to the STAR President (see photo).



Space Aliens enjoy “Exploring Mars, the Search for Life, and a Journey in 3-D” on 5 Oct at STAR

Children's Space & Astronomy Fair, Rockland Astronomy Club (RAC): Suffern, NY, Oct 7. Over 1200 kids of all ages attended this fun filled family astro fair jointly sponsored by RAC and held at the Lower Hudson Valley Challenger Center. AAAP Members Ralph Marantino, Barlow Bob Godfrey and Ron Mittelstaedt helped outside with solar viewing while I presented *“Mars in 3-D”* (see photo).



AAAP members volunteering help at the Rockland Astronomy Club Space Fair on 7 Oct

Amateur Astronomers, Inc at Sperry Observatory: Cranford, NJ, Oct 20. AAI is an extraordinary club with exciting public outreach every Friday night and maintains an observatory with 2 large telescopes. Over 110 people, including many women and kids packed the hall for my presentation on *“Exploring Mars, the Search for Life, and a Journey in 3-D”*. This gracious crowd

greeted me warmly and more than 50 signed the “Pluto is a Planet” petition.



Mars in 3-D at AAI meeting at Union County College on 20 Oct. The club gathers for a jovial social hour at the Sperry Observatory following the monthly lectures

Pluto Petition Drive: Please contact me if you wish to sign the petition to the IAU to reinstate Pluto as a Planet.

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

Nov 14: Al Nagler, the founder and CEO of Tele Vue Optics in Chester, New York, is the keynote speaker for the November 14 monthly meeting of the AAAP. He will speak on Optics, Eyepieces and Manned Spaceflight in a talk titled *“Giant Eyepieces that Swallow Spacecraft”*. Al will present a personal perspective on how his amateur astronomy background helped when designing the visual training equipment (flight simulators) for the Gemini and Apollo lunar module astronauts. This eventually led to the development of wide field eyepieces for the amateur astronomer and which recreate the experience of a spacewalk. He'll also show the latest Tele Vue telescope optimized for imaging as well as visual astronomy. And bring your eyeglasses and your prescription, if possible, because he'll personally demonstrate DIOPTRX, the lens that corrects eyesight. It's all about getting that “spacewalk” experience that inspired Al from the Apollo days.

For background about Al and Televue please read the article, “The Eyepiece that Changed Observing” from Astronomy magazine (December, '05, p. 90) or download the .pdf file at the Televue website: www.televue.com/engine/page.asp?ID=286

Dec 12: Prof. Jim Bell of Cornell University is the lead scientist for the Panoramic cameras on the Mars Rovers. He will present
(Program, continued on page 5)

(Program, continued from page 4)

"Postcards from Mars: Spirit and Opportunity Roam the Red Planet" and will be autographing his new book "Postcards from Mars", scheduled to appear soon in mid-November.

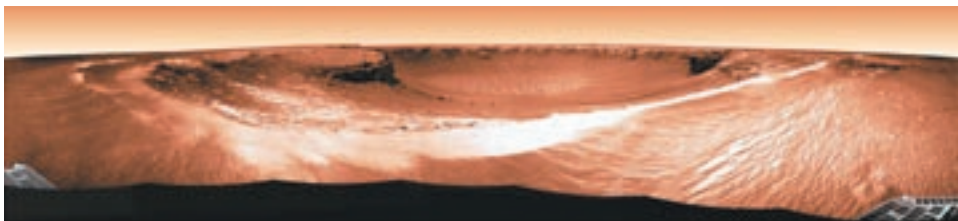
Dr. Therese Kucera from the NASA Goddard Spaceflight Center treated us to a scientifically rich and visually stunning presentation at the **Oct 10** meeting. Terry gave a first hand account of NASA Solar Research in her talk on "The Sun as seen from SOHO and STEREO: NASA/ESA Missions". She is the deputy project scientist for both SOHO and the new STEREO mission, which will soon provide the first 3-D view of the Sun and coronal mass ejections (CMEs). Just 2 weeks later, Terry was on hand to witness the successful launch of STEREO (see photo).

SOHO: <http://sohowww.nascom.nasa.gov/>

STEREO: <http://www.nasa.gov/stereo/>



Oct 10 Meeting: AAAP Speaker Dr. Terry Kucera from NASA (center) delights the audience with Breakthrough Solar Research science. AAAP member Ralph Marantino (left) gave a short talk highlighting the technology and equipment available to amateur solar observers. AAAP Program Chairman Ken Kremer (right)



Rover Opportunity Panorama colorized by an outside team, reveals 2,500 ft-wide, 230 ft-deep Victoria Crater from the lip at Duck Bay alcove. Geologic layers will reveal the history of Martian water here. The panorama was taken about 8 feet from the crater rim on Sol 952 (28 Sept 2006). Image Credit: NASA/JPL Navcam imagery merged and color coded by Bernhard Braun, Marco Di Lorenzo, Ken Kremer and Doug Ellison. Reprinted courtesy of Aviation Week and Space Technology Magazine (2 Oct 2006)

Victoria's Secrets Revealed in Color in Aviation Week magazine on 2 Oct 2006! My international team of Martian enthusiasts again worked directly with aerospace journalist Craig Covault to create a tantalizing color panorama from images taken by the Opportunity Mars rover as she arrived at the edge of the giant ½ mile wide

Victoria Crater. The layout was published as a spread across 2 pages and as the Lead news story inside the 2 October 2006 issue of Aviation Week and Space Technology magazine (p. 24). The 4 page article written by Craig Covault describes the dramatic and nearly three year long expedition by the Opportunity Rover across the Martian surface and the complex and dangerous science operations ahead (see <http://www.aviationnow.com>). Mars Rover Principal Scientist Prof Steve Squyres (Cornell) told me that the initial goal of the team will be to first "partially circumnavigate the crater while looking for a safe way in and a safe way out" of the crater. He wants an "exit strategy" prior to entering the crater and does not wish to send "the rover on a suicide drive". Steve said that Victoria Crater is the most spectacular target of the entire mission because it will unveil the geologic "history of water alteration on the Martian surface" farthest back in time compared to any other point on this mission.



Oct 25 - Dramatic nighttime launch of the twin STEREO Spacecraft on board Delta 2 rocket at 8:52 PM from Cape Canaveral. Image Credit: Boeing/Carleton Bailie. Read the launch story by Craig Covault in Aviation Week on Oct 30 (p.35)

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

Email:

Ken Kremer
AAAP Program/Lecture Chairman

Project ASTRO NOVA

Are you an amateur or professional astronomer, or an astronomy educator?

Do you LOVE astronomy?

Do you like to share what you know about astronomy?

If you answered YES to these questions, you may be interested in
(Astro Nova, continued on page 6)

(Astro Nova, continued from page 5)

volunteering as a Project ASTRO NOVA astronomer! Each school year, Project ASTRO NOVA pairs second to ninth grade teachers with volunteer astronomers. Astronomers commit to making at least four visits to the same one or two classrooms. One class visit is only 60-90 minutes. During these visits astronomers answer students' questions and lead or assist the teacher with astronomy activities. Examples of activities include: Making a Telescope, Stargazing, Exploring the Constellations, the Reason for Seasons, Modeling the Phases of the Moon, Making a Scale Model of our Solar System, Observing the Moons of Jupiter, Making a Comet, Life Cycles of Stars and the Origin of the Universe.

The teacher-astronomer partnerships are established at a two-day workshop. During the workshop, partners develop a strategy for working together, in and out of the classroom, and start planning their astronomy lessons and the first astronomer's visit. Our next training workshop will be on *February 2-3, 2007 (Friday and Saturday)* at Raritan Valley Community College.

Astronomers who are interested in participating should fill out an Astronomer Volunteer Form. On this form, astronomers will be asked for areas of astronomy that are of special interest to them and which grades/ages they prefer to work with. Based on the answers, astronomers will be matched with compatible teachers or youth leaders near their home or work. Each partnership will receive a wide variety of materials and resources for use in their visits, including: The Astronomical Society of the Pacific's "*The Universe at Your Fingertips*" activity and resource notebook, articles about recent astronomical developments, resource lists, access to audio-visual materials, tips on working with schools/groups and students, tips on addressing and working with

preconceptions and learning styles, and more.

A representative from Project ASTRO will be at the November 14th AAAP meeting with forms and more information.

Astronomer Volunteer forms and more information can also be obtained from our website at <http://www.raritanval.edu/planetarium/astronova.html> or from Project ASTRO NOVA, Raritan Valley Community College, P.O. Box 3300, Somerville, NJ 08876, (908) 526-1200 x8942 , fax (908) 526-7938, or email tmood@raritanval.edu.

The deadline for submission of Astronomer Volunteer Forms is December 1st.

Theresa Roelofsen Moody
Astronomy Educator, NJACE Teaching Institute
Raritan Valley Community College
Email: tmood@raritanval.edu
Website: <http://www.raritanval.edu/planetarium/teachinginstitute.htm>
Phone 908-526-1200 x 8942 - Fax: 908-526-7938

Therese will be giving a short talk on Project Astro Nova at the Nov 14 meeting. Along with a short talk and main talk by Al Nagler

Ken

**Deadline for the
December Issue of the
Sidereal Times
November 24, 2006**

See us on the Web: www.princetonastronomy.org

November 2006

Amateur Astronomers
Association of Princeton
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