

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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From the Director

October seemed to be a darned good move for Star Quest; at least, that appears to be the consensus of the attendees. After days of rain, the AAAP annual star party weekend opened in Hope, NJ with a perfect autumn Friday; blue skies and maples, oaks and birches starting their colorful transformation. For the most part, the astronomers enjoyed transparent night skies, and a lot more time to view. Several new members brought recently-purchased telescopes to test drive; and to keep those scopes busy, Bill Murray's annual Messier contest continued a very popular tradition. An abundance of new pins were awarded to the persevering.

This year, AAAP members prepared the Saturday meals—and did a masterful job. Thanks goes to Ludy D'Angelo, executive chef; Brian Van Liew, sous chef; Larry Smith, for coordinating and buying most of the supplies; and Bryan Hubbard and Larry Kane for rolling up their sleeves as the *escuelerie*. In this writer's opinion, our chefs du jour outperformed previous caterers by a mile. We hope for an encore next year!

Star Quest's keynote speaker was our own Bill Murray. Bill's presentation, "A Plumb Line to the Sun—Transits of Venus in the History of Astronomy," depicted the early observations and attempts therein of Venus solar transits, to more accurately determine the Earth's distance from the Sun. His considerable knowledge of the history of astronomy allowed Bill to seamlessly integrate very entertaining anecdotes describing the trials and tribulations of many early transit hunters; a thoroughly engaging talk.

Always a hit, Star Quest's Chinese auction left many attendees happy recipients of a myriad of prizes. The grand prize—a 203mm, f/9 fire engine red Dob mounted Newtonian was won by two New Hampshire brothers. These two gents arrived to our

astro event with a basketball-sized Edmund Astroscan. They left with a machine resembling a field cannon. Delighted with their gigantic prize, their demeanor changed when they hauled the scope to their vintage Honda Civic. They looked at the scope. Then the car. Then the scope again. It seemed to take the engineering genius of an Apollo 13 rescue to reconfigure all the car's contents, and get the howitzer to fit, but they did it. Amazing.



There will be lots of astro action in November. Regular diminutive visitor Comet 17/P Holmes has suffered a bout of indigestion and flared radically, making it a ~2.5 magnitude object in Perseus (as of November 1) nearly a million-fold increase virtually overnight. Very cool! And the AAAP will be bringing Holmes and other celestial wonders to several schools in the coming weeks and months. Many thanks to Public Outreach Coordinator Jeff Bernardis for his efforts in this critically important role; and kudos to Program Chair Ludy D'Angelo for arranging another terrific guest speaker for the November 13th general meeting. Princeton University's Edward Belbruno will present, "Using Chaos for Solar System Travel". Ludy is also arranging for copies of Belbruno's book, "Fly Me to the Moon" to be on sale.

Cheers—John Miller,
Director

The deadline for the December issue is:

November 30 2007

Send your submissions to:

editors@princetonastronomy.org

Membership Meeting Minutes November 13, 2007

Director John Miller opened the meeting at 8:01pm. Program Director Ludy DeAngelo introduced our lecturer Arlin Crotts of Columbia

University. After the lecture and recess, Director John Miller called the general membership meeting to order at 9:37pm.

Starquest: The first order of business was the finalization of the Jersey Starquest plans for the weekend of October 13, 14 and 15, 2007. At the time of this meeting there were 37 adults and 4 children paid with 22 requesting meals. Because of the higher charge for the bunkhouses, Don Monticello and Larry Smith have reserved two for the men and one for women. Larry Smith and Gene Ramsey will be buying the food on the first day of the event. Bill Murray will take over the job of registration at Starquest due to Don Monticello's absence. Ludy DeAngelo will transport the Coulter Dobsonian telescope from the Simpson Observatory to the Starquest location as one of our door prizes. Ludy DeAngelo and Brian VanLiew have volunteered for most of the cooking duties. Bryan Hubbard will help with the cleaning duties.

Simpson Observatory: John Church and Gene Ramsey will repair the rotted wood at the Northwest corner of the observatory. The roof that houses the computer room and rest room will be repaired in the Spring of 2008. Discussion continued on John Miller's request for recommendations for the newly cleared land on the Northeastern side of the observatory, and how it should be used. It was suggested that the area be graded in a way that will provide water run-off using the natural slope of the land. Some suggestions were to install level concrete slabs for setting telescopes, or possibly purchase inexpensive clamshell type small observatories to be used by members and their scopes. Another was to build a small push-off roof observatory for the 12.5" Newtonian that is sitting idle at the Jenny Jump location. This subject will be discussed more at the next board meeting. Mice have been observed in the computer room, and Rex Parker has volunteered to remove them humanely.

Public Outreach: Jeff Bernardis has announced several local events for organizations and schools.

Dues: As of this writing we have 67 paid members. One more dues reminder will go out via e-mail, then all unpaid members will be stricken from the active member roster.

Meeting adjourned at 10:19pm.

Ron Mittelstaedt, Secretary

Treasurer's Report

As of November 2, the AAAP has received \$2,800 in dues payments for the current fiscal year. This represents 70 members. Two additional members joined late in the last fiscal year and their membership will carry over to this fiscal year.

Starquest was again a financial success. \$2,650 in revenues were received. Expenses were \$1,644, leaving a surplus for the event of \$1,006.

The Association cumulative surplus—largely represented by its checking and money market fund balances - as of November 2 was \$15,038.

Michael Mitrano, Treasurer

From the Program Chair

At our last meeting, Dr. Arlin Crotts from Columbia University discussed the transient phenomena that have been occurring on

the Moon. He explained how, in the next few years, many spacecraft will be sent to the Moon on various research missions. Argon, radon, and other gasses erupt in local outbursts. These make up many of the transient phenomenon seen on the Moon. People have been observing these phenomena from earth for many centuries. The place where more than half of the phenomena occur is the Aristarcus Plateau. It is the site of the largest lava flows on the moon. And this was where the Apollo 18 mission was to go if it had flown. What a surprise they would have had if something happened while they were there! Also, he spoke of the efforts, using telescopes in Chile, to observe, map, and detect these Moon occurrences. As always, the question and answers after the talk were engaging



Dr. Crotts speaking with members.



Dr. Crotts discusses another question.



On November 13th, Dr. Edward Belbruno of Innovative Orbital Design Inc. and Princeton University will give a talk titled “Using Chaos to Go to the Moon and to Travel Between Planetary Systems”. He will also be having a book signing of his new book; **Fly Me to the**

Moon: An Insiders Guide to the New Science Of Space Travel, which will occur after the lecture.

Dr. Belbruno is a Visiting Research Collaborator in the Department of Astrophysical Sciences at Princeton University. His areas of interests are celestial mechanics, dynamical systems, dynamical astronomy, and aerospace engineering. His work led to the first application of chaos theory to space travel. It rescued a Japanese spacecraft (Hiten) that would have missed the Moon without his calculations. ESA's SMART 1 lunar spacecraft also used another such calculated route in 2004.

Prior to Dr. Belbruno's talk, club member Richard Fabbri will give a short talk titled “What can self-organization teach us about the solar system?”

In December, there will be a 10-minute talk by Theresa Moody about Project Astro Nova. Her presentation will be followed by a lecture by Dr. Ed Turner of Princeton University. His talk is titled “**Detecting Extra solar Planets, Plants and Beaches**”

Please join us for another interesting night in Peyton Hall on November 13th. Prior to the meeting, there will be a pre-meeting dinner at Soto’s restaurant. We have an arrangement with them for a fixed price menu that includes salad, entrée, and non-alcoholic beverages for \$25. This is a good opportunity to meet the guest speaker in a relaxed surrounding, have a nice meal, and to socialize with other club members. As always, I’ll send an email announcement prior to the dinner, if interested, email me.

Please send any comments and suggestions to me at Ludy@princetonastronomy.org or Ldangelo106@comcast.net.

Ludovico D’Angelo, Program Chair

Picture This—It’s a Bird, it’s a Plane...No it’s a Comet!

Last week Comet Holmes 17P did a once in a lifetime event. This once, barely visible, comet has brightened a million fold almost overnight! According to the comet’s history it brightened up in 1892 also, but not to this extent. The comet is now a naked eye object in the constellation Perseus, although best viewed if using some optical aid, binoculars or a small scope. Perseus is rising this time of year, and is rather low in the north/northeast, but nonetheless this object can be easily seen even in a moderately light polluted sky.

With the weather being poor I hadn’t bothered looking for the comet until the evening of Sunday 10/28. I went out, and sure enough I could make out something to the left of Perseus and I could easily see it wasn’t a star when using binoculars, but a comet with no tail. Next, I dragged out my scope and hooked up my CCD camera to my ED80 refractor. I kept eyeing the skies in that area thinking with my luck a bank of clouds would be rolling in just when I got everything ready. I finished setting up and no clouds, so I ran off a bunch of shots and came in with a great souvenir to share.



The RGB image is comprised of 30, 5 second exposures. A bit of stretching was done in processing the image to bring out the green halo of gases escaping from the comet, while the coma is a

pale yellowish ball of sunlit dust which surrounds it’s nucleus. In this image there is the nucleus near the center and a couple of background stars shining through.

Maybe by the time this month’s Sidereal edition gets out to the club it will still be around for us to enjoy. Let’s hope.

Brian Van Liew

Interested in keyholder training?

Contact: kane@princetonastronomy.org or by cell phone (609-273-1456)

Comet P71P—Holmes

It all started for the Editors, with Surabhi Jain-Agarwal’s email advising that the recent brightening of this comet had made it visible to the naked eye, as it nears its closest approach to Earth, on its seven-year, 2AU plus orbit of the Sun. Since then, we have received images taken by Brian Van Liew, Bob Vanderbei and Rex Parker. These members really do great work in taking and processing images so that we can see them to the best advantage. For more information see Brian’s “Picture This” article. Below are pictures from fellow members.



Rex Parker—took this image on Oct 30. He says it does seem that asymmetry is developing in the nucleus of the comet. Still working on processing, this is RGB with 12 x 10 sec each filter, Tak FC-76 refractor with ST-10XME.



Bob Vanderbei—took this image—21:01--21:15 EDT, Nov 01, 2007—Starlight Express SXV on 4" Tak FSQ-106 - L = 6 x 10 second, R = 5 x

10 second, $G = 16 \times 10$ second, $B = 7 \times 10$ second R,G, B, L frames aligned on the stars.

Brian Van Liew—says, “first thought I could use my web cam and get the comet when I first saw how bright it was - WRONG. Then I broke out my SX camera to capture this beast”.

The Editors

Community Outreach

It's that time of year again – with the start of our new year, the requests for us to host star parties have started coming in. While we have a dedicated core of members that regularly help out at these events, we are always looking for more. This is a great opportunity to reach out to kids in the area. Please come out to help the club – even if it's for only 1 event a year.

If you think this is something you want to do, please contact me at jbernardis@princetonastronomy.org or 609-466-4238.

I am going to try to have this column be a regular piece in the newsletter, to let you know of outreach events we might have just had, as well as those that are upcoming. Since this is the start of the year, there is nothing to report about past events. However, we have the following star parties coming up:

- November 9 at 7:30–Plainsboro Recreation Department Star Party, at the West Windsor-Plainsboro Community Middle School in Plainsboro.
- November 27 (rain date 11/28) at 7:00–Millstone River School Star Party in Plainsboro.
- December 6 (rain date 12/7) at 7:00–Riverside Elementary School Star Party in Princeton.

Jeff Bernardis

My First Starquest

Although I have been a member for 4 years and had my 8” Meade SCT for a year, this was my first Starquest. After checking in, I set about assembling my scope among an amazing selection already well on their way to completion.

It started out cloudy while still daylight, but the forecast on Ron Mittelstaedt's cell phone said we would have progressive clearing through the evening, and so it went. We had great seeing until a little after midnight. What wonders we saw, Jupiter of course, M13, M15, M92 and M31; the Veil Nebula and the double cluster in Perseus, among many others; all were revealed in one scope or another. The generosity of members with their time was wonderful. I learnt a lot in a hurry, particularly from Gene Ramsey, who gave much of his time to both me, and others. Larry Kane introduced me to the difference a 2” setup can make, that prompted Gene to loan me his diagonal and eyepiece to try. Thank you both for your help, I have already ordered and received my own setup, the difference is dramatic.

In the food department, Chef Ludy organized well and produced, with his aides, great meals for all; his lasagna demanded second helpings. Apparently, this was a great improvement over last year; all meals were hot and relished by the attendees.

The icing on the cake was Bill Murray's lecture on Saturday afternoon, covering the history of Venus transits; it was well delivered by an experienced and knowledgeable astronomer, and totally absorbing.

Bryan Hubbard

Scenes From Starquest 2007



Rob Teeter and his Teeter 17



Bill Murray and TeleVue scope



Ludy and Brian cook up a storm



Philip Blanda, cub and big refractor



Bill Murray gives keynote presentation



Brian Van Liew with refractors

Photos by Larry Kane and John Miller

Exploration Update and Other News...

Descending Into Victoria Crater on Mars The Mars rovers are now 45 months into their 3 month mission. Opportunity has descended several dozen feet down into Victoria Crater onto about a 25 degree slope and reached the bright band of light toned exposed rock on 27 September 2007 (Sol 1307).



*Opportunity Rover has descended several dozen feet into Victoria Crater onto a 25 degree slope to the bright band of light toned exposed rock. Sol 1307 27 September 2007
Credit: Ken Kremer, Marco Di Lorenzo NASA/JPL Aviation Week & Space Technology*

My team has published two new rover images in Aviation Week. Photo: Ken Kremer and Marco Di Lorenzo with NASA/JPL data. Reprinted courtesy of Aviation Week & Space Technology Magazine, 8 Oct 2007 issue, p. 4 and 39.

My upcoming astronomy talks include:

Rittenhouse Astronomical Society (RAS) at the Franklin Institute: Philadelphia, PA, Wed, Nov 14, 8 PM. *"Cassini and Titan's Lakes"*. Website: <http://www.rittenhouseastronomicalsociety.org>

Dorothea's House (Italian Society): Princeton, NJ, Sun, Dec 2, 5 PM. *"Italy Unveils Cosmic Masterpieces: Italian Contributions to Space Exploration (in 3-D)"*. Location: 120 John Street, near YMCA. Website: <http://www.dorotheashouse.org>. Program Brochure: <http://www.dorotheashouse.org/DHbrochure07-08.pdf>

Riverside Elementary School: Princeton, NJ, Thursday, Dec 6, 6:30 PM. *"Twin Robots Explore Mars (in 3-D)"*.

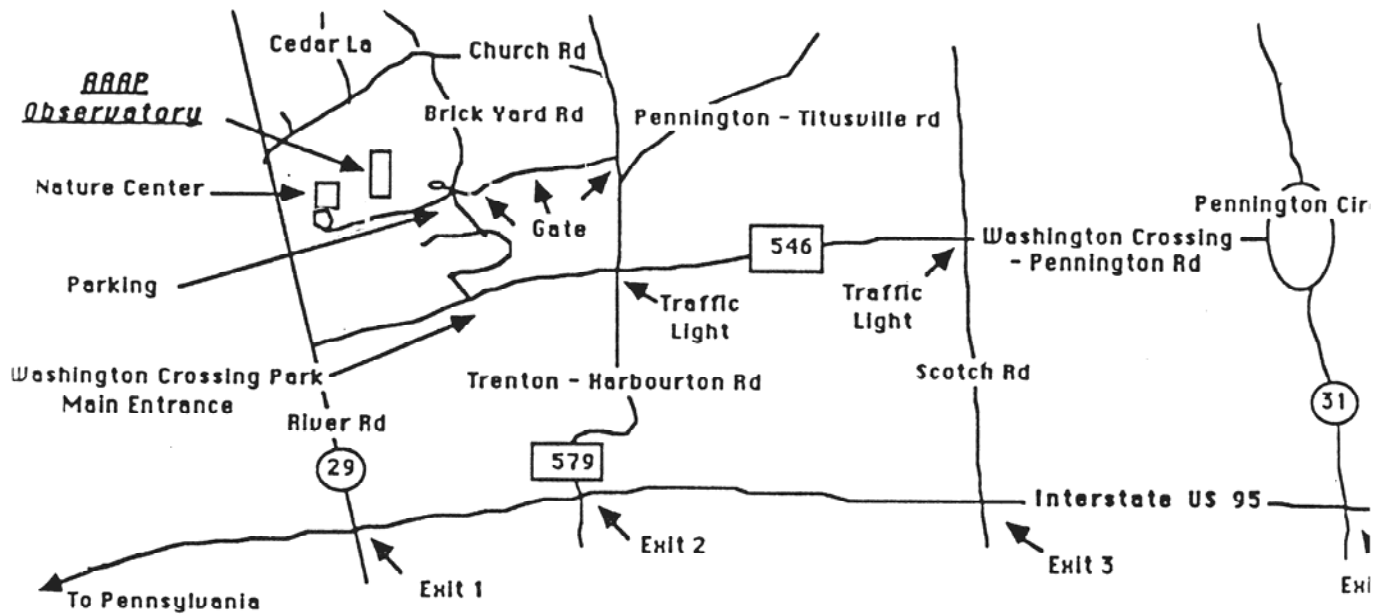
Astronomical Society of Long Island (ASLI): Old Westbury, LI, NY, Wed, Mar 26, 8:30 PM. *"Exploring Mars and Asteroids (in 3-D)"*. Website: <http://www.asliclub.org>

Raritan Valley Community College Planetarium: Somerville, NJ, Wed, Apr 2, 7:30 PM. *"Launching DAWN (and Phoenix): From Behind the Scenes at Kennedy Space Center"*. Website: <http://www.raritanval.edu/planetarium>

Washington Crossing Nature Center: April 12. *"Mars, Saturn, Asteroids and Beyond (in 3-D)"*.

For science outreach presentations please contact Email: kremerken@yahoo.com

Ken Kremer



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. The Simpson (AAAP) Observatory's phone number is (609) 737-2575.

See us on the Web: www.princetonastrometry.org

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