

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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Treasurer

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From the Director

As bright lights usher in the holiday season around our terrestrial neighborhoods, so too are we bedazzled by the arrival of the sky's Winter luminaries.

Like you, this writer fondly remembers being a young astronomer, glimpsing Orion nudging his bow over the eastern horizon on a chilly late Fall night – and saying “hello” – the sighting being “the first of the season.”

Decades later, it's still equally as satisfying to say hello to Orion's arrival. It's with even greater pleasure I introduce him to novice sky gazers. AAAP members did just that with parents, students and teachers at the Millstone School, Plainsboro, November 27th. This was another great success arranged by AAAP Outreach Coordinator Jeff Bernardis. An estimated 50 guests shared scopes supplied by Jeff, Brian Van Liew, David Letcher and yours truly. Mars made his dramatic entrance high in the East, followed by a waning gibbous Moon. Viewers were treated to views of M45, Almach, M31, and, of course, NGC 457 in Cassiopeia (“I can see his eyes!!”). If you haven't participated in a public outreach night, you should make the effort. Many in this hobby consider outreach the most fulfilling, enriching part of amateur astronomy.

Our next outreach event is December 6th (weather permitting) at Princeton's Riverside School. Contact Jeff Bernardis at [redacted]. You don't need to bring a telescope. Just your enthusiasm for astronomy.

Have you been following Comet 17/P Holmes? At this writing, it's about 1.68 AU from the Earth, and appears just south, southeast of Mirfak (Alpha Persei). Although its apparent bright-

ness has lessened considerably, it now portends a tremendous piece of real estate in Perseus. The extended coma makes it currently the largest object in the solar system (far outpacing the diameter of the Sun). Grab those binocs and go see!

While in Borders Bookstore recently, I scanned the stacks of oversized “coffee table” books (you know – the giant hard covers with classic cars or dogs or trains), blocking the cashier's station. One gigantic title contained the word “astronomy” (contrasting the more frequently seen “astrology”), so I took a closer look. Titled, “The Illustrated Atlas of the Universe,” this Buick-sized beauty is authored by Mark Garlick and illustrated by Wil Tirion. Every page (300) is heavily illustrated, and the science is current (2006) and superbly presented. Get this: \$19.99. Run, don't walk for this find.

What are your favorite astro-reads? We've all got them (some of you have very large libraries). Glancing at my bookshelves, these are some most enjoyed:

“The Ever-Changing Sky” (Kaler); “Deep-Sky Wonders” (Houston); “Observer's Guide to Stellar Evolution” (Inglis); “Stars and Their Spectra” (Kaler); “Stars & Planets” (Ridpath Tirion); “The Night Sky Observer's Guide” (Kepple/Sanner); and, the one that got me (and perhaps you) started on this journey, “All About Telescopes” (Edmund Scientific).

Enough writing. Time to pick up one of these books and start reading.

Cheers—John Miller,
Director

Membership Meeting Minutes November 13, 2007

Director John Miller opened the meeting at 8:00pm. Program Director Ludy DeAngelo introduced our lecturer, Edward Belbruno of Princeton University.

After the lecture and recess, the general membership meeting was called to order by Director John Miller at 9:00pm.

Starquest: John thanked those members who made Starquest a success. Those who performed registration, cooking, coffee making, cleanup,

The deadline for the January issue is:

December 21, 2007

Send your submissions to:

editors@princetonastronomy.org

observing activities, door prizes and others who made this Starquest a great event held the first time in October. A decision will be made at the next board meeting to decide if we will use the Hope Conference Center and hold Starquest in October again.

Simpson Observatory: John Church and Gene Ramsey have repair the rotted wood at the Northwest corner of the observatory. The work was performed by splicing a piece of pressure treated wood in place of the rotted wood. They have requested that when closing the observatory for the night to not over tighten the roof hold down turnbuckles. John and Gene also repaired the chain crank for the roll off roof. Rex Parker has reported that he had caught one mouse to date and will release it unharmed away from the observatory.

Jenny Jump Observatory: While attending Starquest, Bill Murray and I inspected the AAAP observatory located at the UACNJ facility at Jenny Jump State Park. We found that a hole has been chewed into the door of the observatory and found several dead mice inside. The 12.5" Parks Newtonian was in good shape with the Mattis drive still in working condition along with the Lumicon drive corrector. The subject of this scope's future will be discussed at the next board meeting.

Larry Kane has announced that key holder training will be held in the near future. Any members who desire this training to operate the Simpson observatory equipment should contact him by phone or email.

There was a discussion of purchasing the new TeleVue 13mm Ethos eyepiece.

This new eyepiece gives 100° field of view rather than the 82° field of view of the Nagler eyepieces. The 13mm Nagler we now own could be sold and used toward the purchase of the Ethos. This was tabled for further discussion until the next board meeting.

On the subject of observing, new member John Wherry asked where and when AAAP and other amateur astronomers in the area observe? He was directed to a couple of websites where amateurs astronomers discuss their observing plans. One site is the STAR Astronomy Club's discussion board. Another is NJ Night Skies forum. John Miller also said that a list of key holders are located on the AAAP website. Members can access this list of key holders and other members after obtaining the password from webmaster.

Public Outreach: Jeff Bernardis has announced several local events from organizations and schools. At this printing the events have already been held. Jeff is still looking for volunteers for future events.

The AAAP has 86 paid members.

Ron Mittelstaedt, Secretary

Treasurer's Report

Membeship renewals continue to come in. As of December 2, the AAAP has received \$3,440 in dues payments for the current fiscal year.

With the successful Starquest behind us and most dues payments received, the AAAP shows a surplus of \$3,420 for the fiscal year to date. This will diminish during the second half of the fiscal

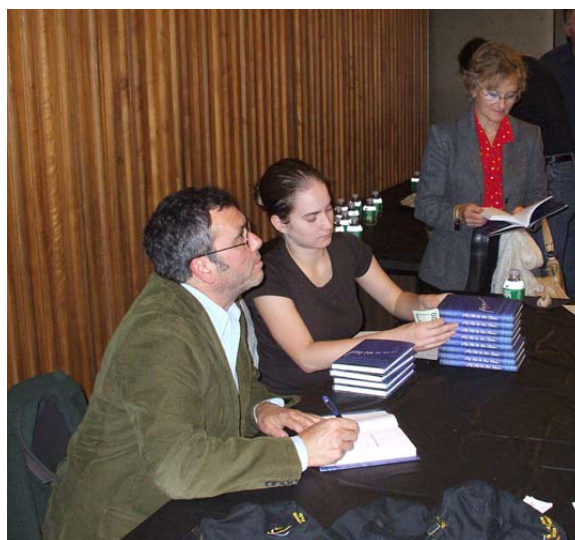
year (which ends in June) as we pay our insurance and other operating expenses

The Association's cumulative surplus at December 2 was \$15,036.

Michael Mitrano, Treasurer

From the Program Chair

We had a great meeting last month with old and new faces in the crowd. Dr. Ed Belbruno gave a very interesting talk about chaos theory and finding low fuel consumption pathways to the moon and beyond. We also had a signing of his book "Fly Me to the Moon". Unfortunately, Ed had to leave on a trip to Washington DC to give a presentation to a NASA meeting. This was a great opportunity for him and he was apologetic for cutting the talk a little short. Ed is willing to come back in the future to give a short talk or to sign more books if anyone did not get the chance to have their copy signed.



Speaker Dr. Ed Belbruno signs his book during the break.

In December, there will be a 10-minute talk by Theresa Moody about Project Astro Nova. Theresa comes to the club on a yearly basis to inform us of Project Astro Nova, what it is, information on volunteering, etc. Her presentation will be followed by a talk given by Dr. Ed Turner of Princeton University.



His talk is titled "**Detecting Extrasolar Planets, Plants and Beaches**". Edwin Turner is a Professor of Astrophysical Sciences at Princeton University and is currently serving as the Chair of the Board of Governors of the Astrophysical Research Consortium (ARC). He has carried out extensive astronomical observations at Mt. Palomar Observatory, Kitt Peak National Observatory, NRAO's Very Large Array, Apache Point Observatory, and the National Astronomical Observatory of Japan's Subaru Telescope and with the Hubble Space Telescope. Working extensively in both theoretical and observational astrophysics, he has published more than 175 research papers with particular concentrations on topics including binary galaxies, groups of galaxies, large scale structures, quasar populations, gravitational lensing, the cosmic x-ray background, the cosmological constant, extrasolar planets and astrobiology. His recent teaching activities at Princeton include courses in cosmology, in astrobiology and in media coverage of science, and he has been a

member of the University's Committee for Statistical Studies since 1992.

I hope that all of you will have very happy holidays this year. After the New Year, our first speaker will be Greg Olsen who will talk about his experiences aboard the International Space Station.

Please join us in Peyton Hall on December 11th. Prior to the meeting, as always, there will be a pre-meeting dinner at Soto's restaurant.



AAAP members and the guest speaker enjoy a meal together prior to the club's meeting.

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 also to socialize with other club members.

Please send any comments and suggestions to me at

Ludovico D'Angelo, Program Chair

Picture This—NGC 598



M33 also known as NGC 598.

NGC598 also known as M33 or the Pin Wheel Galaxy is one of the Local Group of galaxies including our own and M31. M33 lies in Triangulum and is over 50,000ly in diameter and some 3000kly distant. I have found this galaxy is only visually observable from a dark site as its 5.7mag is deceiving as it is spread out so much that it is very faint. When looking at images

of this galaxy whether it be online or in a book, I always seem to see it's pinwheel structure when I take a step back from them. Or maybe I'm just getting old. This image was taken using an SXVF-9H camera with Astronomik LRGB filters. The camera was mounted to an Orion Ed80. The total exposure was 75 minutes using 5-minute subs.

Brian Van Liew

Observatory News

The winterizing of the observatory rest room is scheduled for December 6. Gene Ramsey and John Church will take care of this.

The Editors

Interested in keyholder training?

Contact: _____ **or by**
cell phone _____

Community Outreach

Our outreach year got off to a slow start when the event we had planned for Plainsboro Township was clouded-out; both the primary night as well as the rain date. We promised to do an event for them later in the year.

We were able to hold our scheduled event for the Millstone River School (also in Plainsboro) on the night of 11/27. John Miller, Brian Van Liew, Dave Letcher and I entertained about 40 elementary school students their parents and siblings that night. The conditions were passable; the targets of interest included Mars and the M45; we also looked at various double stars. Towards the end of the evening, the moon made an appearance and M42 finally rose above the school building. I think everyone was quite pleased.

We have one event coming up on our calendar:

- 12/6 (rain date 12/7) at 7:00 - Riverside Elementary School Star Party in Princeton.

We are always looking for interest among the membership in participating in these events. If you think this is something you want to do, please contact me at _____ or _____

Jeff Bernardis

Launching DAWN to the Asteroid Belt

At 7:34 AM EDT on 27 September 2007, I was watching from Cape Canaveral as the DAWN Asteroid Orbiter roared off Launch Pad 17 B atop a Delta II Heavy rocket with 1.1 million pounds of liftoff thrust (see photo below), to begin an 8 year long science mission for the first in-depth investigations of the two most massive asteroids, Ceres and Vesta. DAWN is NASA's newest mission of Planetary Exploration. I attended the launch at the Kennedy Space Center (KSC) with a NASA press pass from Aviation Week & Space Technology magazine and also as media representative for the Planetary Society. It was thrilling to

witness events unfold throughout launch week. As Guest Blogger for *The Planetary Society Weblog*, I filed online reports during launch week which are available in the archives at weblinks listed below. And I have given several talks on my experiences.

At the Kennedy Space Center Media Site just prior to the launch, I secured an exclusive interview with Dr. Marc Rayman, who is Chief Engineer for DAWN at NASA's Jet Propulsion Lab in Pasadena, Ca (see photo and interview link below). In the latest post launch news, Marc told me that all 3 science instruments and all 3 ion thrusters have been "turned on and tested and appear to be in excellent health. We have lots more tests ahead, but for now, we couldn't be happier".

One day prior to the launch I had the privilege of an "Up Close" tour of Launch Complex 17 and stood within inches of a mighty Delta II rocket at Cape Canaveral Air Force Station (photo below). My tour of the Delta II launch facility was graciously arranged by Craig Covault, Senior Editor of Aviation Week & Space Technology magazine (Oct 2005 AAAP Guest Speaker) and by United Launch Alliance which operates the Delta launch vehicle programs, and to whom I am thankful. The complete photo album of my tour is available at link below.



This image was captured moments after Dawn lifts off from my vantage point about 2.5 miles south of the Delta launch pad in Cape Canaveral. Credit: Ken Kremer



Marc Rayman (JPL) and Ken Kremer at the Kennedy Space Center Press Site with an 8 foot long model of the Dawn spacecraft. I hosted Dr. Rayman for the March 2006 AAAP monthly lecture. Image and interview available at: <http://planetary.org/blog/article/00001160>



I am gazing at stacked Delta II with solid rocket motors at the launch pad sitting atop flame duct while awaiting ignition of Solid Rocket Motors. Credit: Craig Covault

The Planetary Society Weblog: Reports by DAWN Guest Blogger Ken Kremer

Dawn launch: Go for fueling! Sep. 22, 2007: <http://planetary.org/blog/article/00001154>

Dawn launch: Delayed to September 27 Sep. 24, 2007: <http://www.planetary.org/blog/article/00001155>

Dawn launch: One-on-one with Marc Rayman at Kennedy Space Center Sep. 26, 2007: <http://www.planetary.org/blog/article/00001160>

Dawn launch: Go Dawn, go Delta! Sep. 26, 2007: <http://planetary.org/blog/article/00001161>

Dawn launch: T minus 1 day: Up close at the Delta II launch pad Sep. 26, 2007: <http://www.planetary.org/blog/article/00001162>

Dawn launch: Terminal countdown begun Sep. 27, 2007: <http://planetary.org/blog/article/00001164>

Dawn launch: 77 minutes and counting, go for LO2 fueling Sep. 27, 2007: <http://planetary.org/blog/article/00001165>

Dawn launch: A brilliant flash and a thunderous roar! Sep. 27, 2007: <http://www.planetary.org/blog/article/00001168>

Dawn launch: Solar arrays deployed Sep. 27, 2007: <http://www.planetary.org/blog/article/00001171>

Dawn launch: Post-launch update Oct. 2, 2007: <http://planetary.org/blog/article/00001175>

Please contact me for more info or science outreach presentations. My upcoming astronomy talks include:

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

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>

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>

Washington Crossing Nature Center: April 12, 1 PM. "Mars, Saturn, Asteroids and Beyond (in 3-D)".

Raritan Valley Community College Planetarium: Somerville,

Ken Kremer

20 Years Ago In Sidereal Times...

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Newsletter of the Amateur Astronomers Association of Princeton, Inc.
(Address: P.O. Box 2017, Princeton, N.J. 08540)

Editor: Art Esposito

DECEMBER 1987

Director: Art Esposito

AAAP CALENDAR

- December 8-----Meeting at 8PM, Peyton Hall/Princeton University. The speaker will be new club member George Briggs and he will talk about his almost-winning entry in the Stellafane telescope-making competition.
- January 12-----Meeting at 8PM, Peyton Hall/Princeton University. The speaker will be Dr. Wolf Heintz and his topic will be "Binary Stars, Nuisances, & Gold Mines."
- January 16, 17---Super Science Weekend at the New Jersey State Museum; 9AM to 5PM on the 16th and 12PM to 5PM on the 17th.
- February 9-----Meeting at 8PM, Peyton Hall/Princeton University. The speaker will be a student of Dr. J. R. Gott, who has given many lectures at our meetings. The topic is "Meatballs, Swiss Cheese, & Sponges." Don't ask me what that means.
- NOTE-----All pre-meeting dinners will be held at 5:45PM at the TIGER'S TALE restaurant, near the intersection of Routes 206 and 518 in Rocky Hill. All lectures will be followed by a business meeting.

FROM THE DIRECTOR

This month marks the winter solstice and the longest observing night of the year (weather permitting). It also should be noted that one of our members (and a very avid observer), Ellis Cohen, is leaving our club and this area to take a new job in the Tampa, Florida area. Ellis was the prime mover in getting together our club exhibits at Super Science Weekends in January and July and the Quakerbridge Mall Community Booth in September. We will miss his enthusiasm and contribution to the club and wish him and his family well in their new endeavor.

Wes Walton did some searching and came up with the following roster, or "honor roll", of club directors. Wes says that the club was formed in 1962 and we would like to find out who were the directors before 1970.

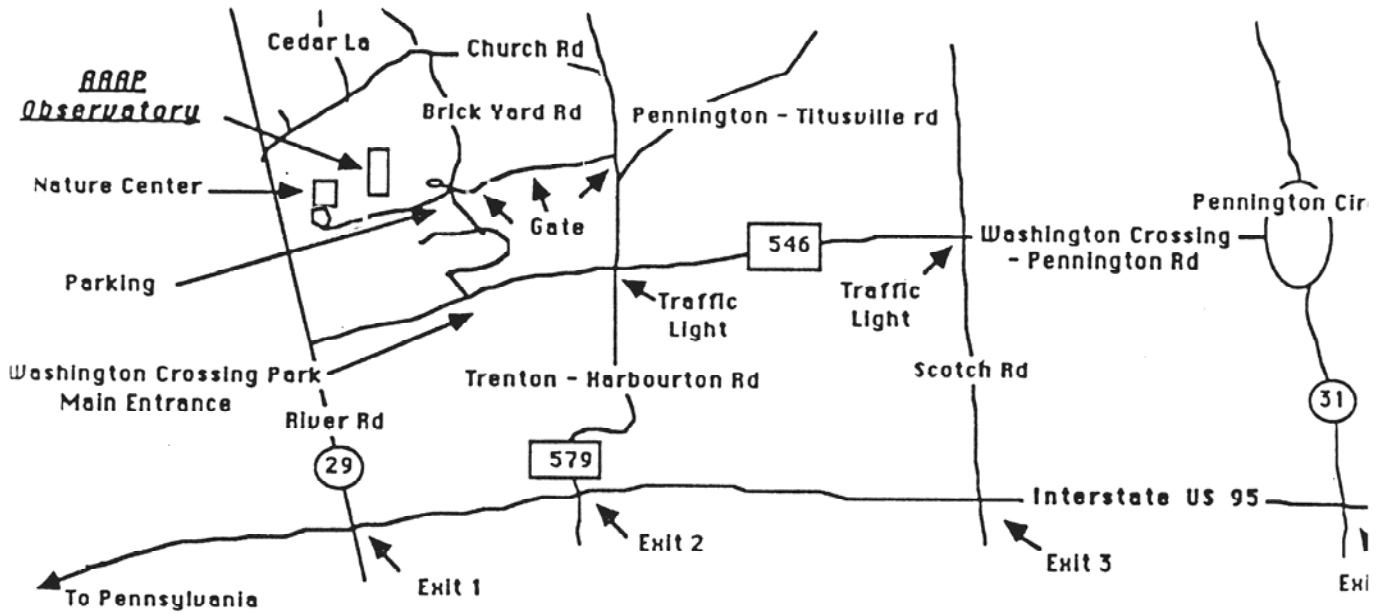
	BARRY HANCOCK	1970-72	ROXANNE PEERY	1980-82
	NORMAN SPERLING	1972-73	KURT GOEPFERT	1982-84
1973-75	JOHN CHURCH	1974-76	JAY ALBERT	1984-86
75-78	DICK PEERY	1976-78	ART ESPOSITO	1986-88
	LEITH HOLLOWAY	1978-80		

We have audited our membership roster and found out that some members are way overdue on renewing their memberships. For those of you that have been contacted about your dues being in arrears, please let us know whether you intend to continue your membership in the club ASAP.

DUES STRUCTURE

Family-----\$35
Student----\$21

Single-----\$30
Senior Citizen---\$21



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.princetonastromy.org

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