

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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From the Director

This Halloween proved great for Trick or Treaters, as well as astronomical observers. October 31st was the final Simpson Observatory public night of the season. Even with competition from spooks, goblins and bags of goodies, the observatory crew kept very busy with a sizable crowd anxious to discover some of the mysteries of the universe.

All in all, this season (with 31 scheduled public sessions) met with great success. Many clear nights brought large groups of would-be stargazers. A number of these newcomers followed their newfound excitement by purchasing new Dobsonians and returning to join in observing sessions. What a terrific testimony to the observatory open houses!



With November 2nd seeing the return of standard time, there's more time to return to the eyepiece or CCD. For those of you who hunker down with scopes, charts and notebooks (paper or digital), what old favorites and new challenges will you focus on this winter? I began my seasonal sojourn after members Gene Ramsey and Larry Kane

closed shop for the last public night at the observatory. The sky presented good transparency and Auriga was well above the closed observatory roof. I swung the Orion XT8 over to M37 / NGC 2099 (for the hundred and fiftieth time since my boyhood Tasco days). This dense cluster, discovered by Giovanni Hodierna (along with M36 and M38) in the early 1650s, presented a stunning splash of stars, highlighted by its signature orange ninth magnitude red giant at the center. Estimates place M37 between 3900 and 4700 light years distant and contain roughly 500 members. Considering the open cluster inventory available in New Jersey, this is a favorite target second only to M11 in Scutum.



And what better time to show youngsters NGC 457 ("The Owl," The ET Cluster, The Alien,.) in Cassiopeia, than Halloween Night? Describing the two brightest stars in this cluster as "eyes", quickly brings this asterism into a recognizable shape for young (and older) viewers alike. With Larry Kane's tape player running a recording of Orson Welles' infamous War of the Worlds in the background, having the Alien Cluster stare back at you was a perfect picture for Halloween goose bumps.

All Hallows Eve presented another eye-catching sight at sunset. The three-day-old crescent Moon complimented dazzling Venus low in the West, and later next month, Venus and Jupiter will present a

spectacular conjunction. Speaking of our solar system neighbors, be sure to reserve November 11 for the next AAAP meeting at Peyton Hall. Guest speaker Jonathan Mitchell will discuss Saturn's largest moon, Titan, and its similarities to our own planet. See you there.

Cheers—John Miller, Director

Membership Meeting Minutes September 9, 2008

1. John Miller called the meeting to order
2. **StarQuest**
 - *Door prizes:* Special thanks went to Brian Van Lieu, Rex Parker and Ron Mittelstaedt for their successful work in getting donations. A discussion was held on the best way to handle the books, mirror, mounts and assorted astronomy stuff that was donated. It was suggested that those items in good condition could be sold at the auction, at a swap table, or on the internet. If there are not enough attendees to give away all the prizes, an executive decision will be made at the event whether or not to save some for next year's event. John Miller will do this.

The deadline for the December issue is:

Friday November 21, 2008

Send your submissions to:

editors@princetonastronomy.org

- At the moment, there were ten adult camping reservations, eighteen bunk house reservations and fourteen reservations for food. Don Monticello said that, in prior years, there were between thirty and thirty five people registered by this time. It was suggested that some may be waiting to the end and were willing to pay the \$10 late fee. John Miller recommended that a cut-off to get a registration form in be set for the next Sunday. Those submitting forms, after that day, would not be guaranteed a meal.
- Ira will ensure that all required items such as tape, pens, etc. will be placed in the "BOX" and it will be delivered to Bill Murray in time to do the on-site sign-ins and late registrations.
- Don Monticello said that we have an envelope for cash, but not a cash box. It will be left up to those handling the money to decide into what they want to put it. If they want to buy a "cash box," they could do so.
- J. Miller raised the question of what to do if constant rain is guaranteed. It was decided that the event should be held, rain or shine.
- As of this meeting, a speaker had not come forward with an offer to speak at StarQuest. Various members were suggested to speak. Larry Smith and John Miller suggested having the speaker go to Jenny Jump. Rex Parker suggested that, given the auction and other events

going on close to the speaker's talk, it would not be feasible to hold it at Jenny Jump. John Miller offered to go to the offices in Peyton Hall the next day and ask for someone to serve as the speaker. He would also contact member Bob Vanderbei.

- It was suggested that we have a swap table set up for Star Quest.
3. **The Treasurer**, Michael Mitrano, was not present to make a report, but he did send the information to the Director, John Miller advised the details on his behalf.
 4. **The Secretary**, Larry Kane, reported that he was given checks from existing and new members for dues, and he had some email addresses that needed to be corrected. Larry Smith noted that when he gets his Sidereal Times the attachment that should be there, is not. It was suggested that a notice be sent out that the newsletter is available and to provide a link to it on the AAAP web site.
 5. **Outreach Coordinator**, Jeff Bernardis said that we have one request, the Riverside School in Princeton. It will be held on December 4. A new member, Dee Bosch said that she would like to submit requests for outreach to several schools in the system in which she works. She also commended the group for its prompt response in getting information to her, as a new member.
 6. **Observatory:** It was announced that at last Friday's open house, Brian Van Lieu and his team were on duty and there were over seventy five attendees. People were "lining up outside to the door." Even with the full moon, it was terrific. Everything was in working shape at the observatory.
 7. **Sidereal Times:** Ira Polans noted that copy for the next issue is due 10/31/08.
 8. **Guest Speakers:** Program Chair Ludy D "Angelo noted that the January speaker will be AAAP member Ken Kremer. Several suggestions were made for future speakers.
 9. John Miller adjourned the meeting.

Larry Kane, Secretary

Treasurer's Report

To date, the AAAP has recorded \$2,067 in member dues, which represents about 51 members. We are approaching one-half of last year's dues level. A number of additional dues payments are in transit.

Expenses from July 1 to date for purposes other than StarQuest are modest, totaling less than \$600.

The financial picture for StarQuest is incomplete. \$1,535 in revenue has been recorded to date but other payments are in transit. Food and miscellaneous expenses have been recorded but the facility use has not yet been billed. I expect that all StarQuest revenues and expenses will be recorded by the date of my next report.

The Association's cumulative surplus at this date is \$17,390.

Michael Mitrano, Treasurer

From the Program Chair



On November 11th, our speaker will be Dr. Jonathan Mitchell. The title of his talk is "Saturn's Moon Titan: Earth's Strange Analog" Dr. Mitchell received his PhD from the University of Chicago in 2007 in Astronomy and Astrophysics. He is currently a Member of the Institute for Advanced Study in the School of Natural Sciences in Princeton. The focus of his current research is primarily Titan. In the near term, he is extending his work on planetary atmospheres to extrasolar contexts.

As an astronomer with the training of a geoscientist, his interests are at the intersection of astrophysical environments and planetary phenomena. He plans to address more of Titan's mysteries in future work including the persistence of Titan's methane reservoir over long timescales, the distribution of atmospheric angular momentum, and the role of spin-orbit coupling in the origin of Titan's large eccentricity.

Join us prior to the meeting for dinner with Dr. Mitchell at Sotto's restaurant. Contact me to let me know if you will attend. This is a good way to welcome and meet the speaker in a social gathering.

In December we will have Dr. Jerry Sellwood of Rutgers University give a talk on the dark matter in the universe. In January, Dr. Ken Kremer will provide the club with a presentation on the Pheonix Mars mission and other updates from the Mars missions. He is a NASA/JPL science ambassador and also a AAAP member. In February, Dr. Gino Segre of the University of Pennsylvania will be with us.

Please send any comments and suggestions to me at

Ludovico D'Angelo, Program Chair

distance of some 450 ly. Its size from our perspective is more than half the diameter of the full moon, and its visual brightness is a magnitude 7.3. I can just barely make this out with my 13" DOB using an OIII filter from home. At a dark site this becomes a better target for smaller scopes, but the aid of a filter is still almost a must.

This image was taken over two nights from my driveway. Total time was 2 hours and 45 minutes in 5 minute subs. The camera is a Canon DSLR that has been modified to work into the H-alpha region of light using an ED80 refractor.



Brian Van Liew

Interested in keyholder training?

Contact: or by
cell phone

Community Outreach

It's been quiet so far this year – we have yet to have our first event, and there is only one item on our schedule. We have had several inquiries, but nothing new has solidified yet. I expect this to change, though, as the school year progresses

The one item we do have is the following:

- 12/4 (rain dates 12/5 and 12/8) at 7:00 - Riverside Elementary School Star Party in Princeton.

If you are interested in helping out at this event, please let me know and I will forward you additional information.

As usual, we are always looking for more people to help us out here. If you think this is something you want to do, please contact me at

Jeff Bernardis

Picture This—NGC 7293

Also known as the Helix Nebula. This object is a large planetary nebula in the constellation of Aquarius. It is one of the closest at a

Scenes from Starquest 2008



Brian Van Liew discusses astrophotography with Eric and Kim White. Photo by Herb Johnson



Chef Ludy serves a meal. Thanks! Photo by Herb Johnson



Speaker Robert Search from Centenary College. Math Teacher and amateur astronomer gave a very interesting talk on Life in the Solar System. Photo by Herb Johnson



AAPP members visit the club's Jenny Jump Observatory. The observatory houses the 12.5" Simpson reflector. Photo by Herb Johnson



Kim White and Tony Lunn reviewing the auction prizes. Photo by Herb Johnson

Rollback of Space Shuttle Atlantis

On October 20, 2008 I attended the "rollback" of Space Shuttle Atlantis from Launch Pad 39 A at the Kennedy Space Center and back into the Vehicle Assembly Building (VAB) with a press pass. I arrived at the pad in darkness with the Shuttle bathed in floodlights.

Atlantis had been scheduled to blast off on a repair mission to the Hubble Space Telescope. The pad rollback was necessitated when a sudden failure of Hubble's on board science data formatter on September 27 forced a launch cancellation.

The three and one half mile journey lasted 7 hours. Atlantis was perched atop the Mobile Launch Platform (MLP) and moved by the Crawler-Transporter back to the VAB as I watched from just a few feet away. In a rare opportunity, NASA invited us to photograph the final leg of the rollback from inside the VAB with a bird's-eye view on the 16th floor. Atlantis may launch in February 2009.



Atlantis rolls down from Launch Pad 39 A on 20 Oct 08 as water truck douses gravel and rocks. Publishing in December 2008 issue of Spaceflight magazine. Credit: Ken Kremer

Astronomy Outreach

"Mars 3D" Movie Premiere at the Franklin Institute, Nov 12: I will be hosting a free showing of this new 3-D feature film about the Mars Rovers at 9 PM following the monthly lecture of the Rittenhouse Astronomical Society. Details here: <http://www.rittenhouseastronomicalsociety.org/Pages/meetings.htm>

Please contact me for more info or science outreach presentations by email at ken@kenkremer.com
My upcoming Astronomy talks include:

Gloucester County College, Astronomy Club: Sewell, NJ, Nov 17, Mon 8 PM. *"Daring Flight of the Phoenix: Icy Jackpot Hit on Mars (in 3-D)"*. Website: <http://www.gccnj.edu/>

Rockland Astronomy Club at Rockland Community College: Suffern, NY, Nov 21, Fri, 8 PM. *"Daring Flight of the Phoenix: Icy Jackpot Hit on Mars (in 3-D)"*. Website: <http://www.rocklandastronomy.com/>

Riverside Elementary School, Family Astronomy Night: Princeton, NJ, Dec 4, Thur, 6 PM. *"Phoenix and the Twin Mars Rovers (in 3-D)"*.

Submitted by Ken Kremer

20 Years Ago In Sidereal Times...

SIDEREAL TIMES

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FROM THE DIRECTOR

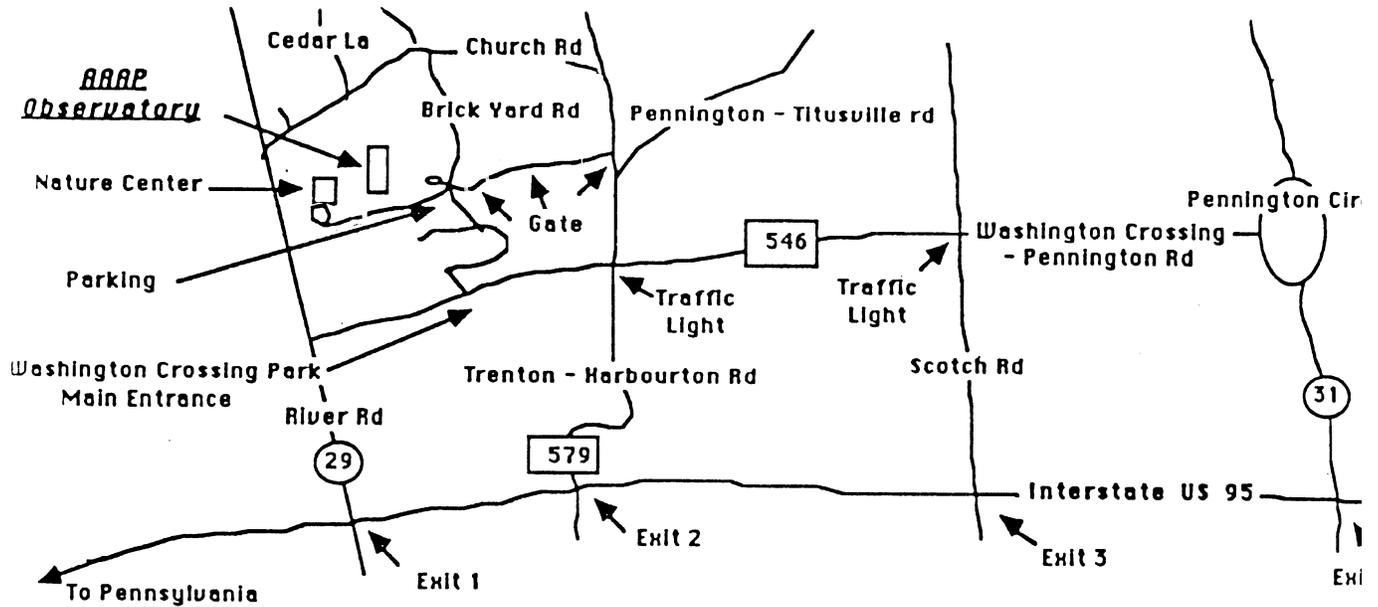
You may recall from last months' SIDEREAL TIMES that we didn't do too well weather-wise on our field trip to the U.S. Naval Observatory. We had our share of problems this month too, but we hung in there and met with some success.

After two postponements due to clouds, eighteen AAAP members and guests met under the big dome of the Sproul Observatory at Swarthmore. The Alvan Clarke* refractor was indeed a beautiful instrument, and the sky was crisp and clear. Unfortunately, those cold, transparent skies that provide good viewing for deep sky objects usually create atmospheric turbulence which makes high resolution planetary observations impossible. Our October 13th night at Sproul was no exception to this rule. Another problem we faced was related to the modern use of electronics for gathering data instead of the human eye. The only eyepiece available for our use was scratchy and there were no neutral density or orange filters to cut the glare. As a result, looking at Mars was like looking into the beam of a spotlight shining up from the bottom of a pool. Nevertheless, our 300X view did show some detail.

We also had a good view of the double star Zeta Aquarii with a separation of 1.9 arcseconds. The 5" finder on the Clarke refractor offered a beautiful view of M31 and M32 in the field while the main scope focused 26" of aperture and 300X on M31s' core. The nucleus was clearly visible as a point source along with other details of that central region.

We had better luck for the star party the night of October 14th. The weather was great and around two dozen members and guests showed up, several with additional telescopes. The view of Mars was considerably better through our 6" refractor than through the 26" at Sproul. The oscillator on the 12.5 inch reflector is operational and a new mirror diagonal is in place on the 6 inch refractor. Both scopes were in use on a large variety of deep sky and planetary objects. Larry Smith used the 6" to photograph a beautiful satellite event on Jupiter. We should also thank Louisa Lockette for bringing us refreshments.

*actually Brashear, designed by Hastings; S&T 3/82, p. 304 [JAC]



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.princetonastronomy.org

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