

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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From the Director

During the past few days, I've received a number of emails posing questions about comet C/2007 N3, or Comet Lulin (named after the discovering observatory in Taiwan). These emailers were going lulu for Lulin. I bashfully responded to the last email (February 24), that I had yet to venture out under the night sky to hunt down this fast-moving (for your average comet) visitor. I'd like to boast I was driven by sheer curiosity. But, alas, there was a good dose of astro-shame which got me up from the computer, and out to my light-saturated neighborhood to take a gander in the direction of Leo. Because of the prison camp style lighting blinding me from every direction (I waved a white flag to let the friendlies know I was, well, friendly), I thought for sure this search would be fruitless (comet-less). Armed with my Orion 10 X 50s, I wandered around Leo, said



“hello” to Saturn and meandered up through the Great Lion's back, mane and nose. No Lulin. Checked the ephemeris and positional diagrams again. Drew the binocs up under Leo and swept slowly due East, along the ecliptic. BAM! Even with Guantanamo illumination grazing off the twin objective lenses, there was a sizable fuzz ball-perhaps something the cat coughed up? Sorry. I was delighted

this comet was able to show itself with all the photon competition. By the time you read this, Lulin will be in Cancer and heading away from Earth. It leaves the solar system, probably for good, after this one pass.

Jeff Bernardis has been busy coordinating AAAP members with local schools, helping students, teachers and parents learn about the thrill of the night sky. The Lawrenceville School Science Fair went very well, both indoors and out, Princeton's Riverside Elementary got its annual astronomers visit, Burlington County College brought a dozen students to the Simpson Observatory (same night as the Riverside event), scopes are scheduled for setup at the Stuart Day School tomorrow (ack! – I see clouds on the horizon). Thanks Jeff.

The deadline for the April issue is:

Friday April 3, 2009

Send your submissions to:

editors@princetonastronomy.org

**HELP
WANTED**

The AAAP is still seeking a Membership Chair. The pay is lousy, but you'll be helping your organization a lot. We really need someone to step up and help with this very important role. Essentially you will send out a pre-

formatted welcome email to new members (generally once or twice a month), assist with membership renewal coordination, and help answer prospective member questions about the club. You'll get plenty of help from other AAAP committee members. Please send me a note if you can lend a hand with this.

Friday, April 3rd marks the first Simpson Observatory public open house for the 2009 season. Those members who are interested in helping show the public the night sky are enthusiastically encouraged to help out. Prospective keyholders and KHS-In-Training, please coordinate with Larry Kane, Gene Ramsey or Ron Mittel-

staedt (check the web site for contact information). These weekly gatherings can be tremendously rewarding and fun. Bring a scope or binoculars and introduce a family to the universe. It's pretty cool stuff.

Cheers—John Miller, Director

Membership Meeting Minutes February 10, 2009

Director John Miller called the meeting to order

Program Chair Report Ludy D'Angelo reported the schedule for upcoming speakers. He announced that the March, 2009 speaker will be Roger Blake an engineer and amateur astronomer who founded the Virtual Observer Project. A discussion was held regarding having a picnic in lieu of a June meeting. Larry Kane raised the question of having a picnic on a day that had a new moon at night. Ludy pointed out that the important issue was having a picnic. Bill Murray said that he would contact Jay Schwartz at the State Museum/Planetarium to find out when it will be re-opened and available to the AAAP.

Treasurer's Report Treasurer Michael Mitrano provided a more detailed report that will be listed in the February issue of *Sidereal Times*. He stated that at present, our paid membership is equal to the level of last year, at this time.

Secretary/Archivist/Library Report Larry Kane developed an Access database of the AAAP members and their contact information, for the Director.

Outreach Report Jeff Bernardis reported that the first outreach event was held at the Lawrenceville Elementary School. It started indoors, but as the weather cleared, it was moved outside for a half hour of observing. The Stuart Day School is scheduled for February 26. March 20 is Allentown. We have been invited to Plainsboro on March 28 for the "Earth Hour". This will be a day-long event with observing at night. Super Science Weekend is now "Super Science Day" and will be held on April 26.

Observatory Committee Gene Ramsey provided an estimate for the roof work that was supplied by his Contractor. The work will cost \$2,100. John Miller suggested that we get a couple of other estimates and that all estimates be provided in writing. John Church reported that we have a quote for removing the stumps around the side of the observatory. Mike Mitrano suggested that stump removal is a small part of the work that must be done. John Miller stated that he would prepare an email to discuss what should be done after the stumps are removed. It was noted that to approve expenditures of this magnitude, a vote of 15 % of the membership be held at a meeting and that meeting must be noted in the *Sidereal Times*.

Sidereal Times The next deadline is February 27.

Larry Kane, Secretary

Treasurer's Report

We are still receiving dues renewals, with dues receipts from 100 members which is slightly ahead of last year at this time. Expenses have remained under budget.

The Association's year-to-date surplus is \$3,538. Its cumulative surplus is \$18,481.

Michael Mitrano, Treasurer

From the Program Chair

On February 10th, our guest speaker On March 10th, our guest speaker will be Roger Blake. His talk will be on his current Visual Observer Research Project.



Roger Blake is a retired nuclear engineer with a degree in physics from Drexel University in Philadelphia. He has been an amateur astronomer and astrophotographer for 30+ years. Roger spent his early years in research but then migrated into the nuclear power industry, responsible for the computer modeling and analysis of the reactor physics behavior and thermal margins. He is now

applying his modeling skills to several astronomy related research and development projects, including the creation of the new DARK SKY ATLAS (high resolution, high accuracy light pollution maps) and the VIRTUAL OBSERVER (models what one can see through a telescope).

Please join us in Peyton Hall on March 10th. Prior to the meeting, as always, there will be a pre-meeting dinner at Sotto's Restaurant. Please contact me to reserve a spot and as always send any comments and suggestions to me at

Ludovico D'Angelo, Program Chair

Community Outreach

Well it finally feels as if our Outreach Program is getting into gear this year - we held our first events.

- On Friday January 30, we were at Lawrenceville Elementary School for their annual event. It was an extremely cold night, but most of the evening was held indoors because it was a very cloudy evening. As the night went on, we had a bit of clearing and were able to move the festivities outdoors. Present were Ron Mittelstaedt, Larry Kane, Dee Bosch, John Miller, John Giles, Dave Viscio, Gene Ramsey, and myself.
- On Friday February 20 we had star party for Riverside Elementary School in Princeton. This was a very successful event. It was extremely cold, but clear. We had good views of M45, M42, and for those willing to wait for it, Saturn.
- On Thursday February 26 we were supposed to have a star party for Stuart Country Day School; unfortunately the weather did not cooperate as it was very cloudy. The rain date is Tuesday 3/3.

As is usual we have a few events on our calendar:

- On Friday March 20th we will be at Allentown Elementary School.
- Saturday March 28, 2009 – Plainsboro Township will be participating in the WWF's International Earth Hour. Although this is an all day event, they are only looking for us to be involved after dark (tentatively set to begin at 8:00pm.)
- And finally, Saturday April 25th is Super Science Day at the Trenton State Museum. This is a daytime solar observing event.

If you want to sign up for any of these events, please contact me at

Jeff Bernardis, Outreach Coordinator

Picture This—NGC2174

Also known as the Monkey Head Nebula, NGC2174 is located in Orion and over near the Gemini border. This nebula consists of mostly an emission (H alpha - red) but also a small reflection nebula (blue), similar to the Trifid. A group of young stars is fueling the hydrogen gas cloud to cause it to glow. I didn't notice at first but if you look at it sideways it really does look like a monkey's head.

I started out this evening trying for Comet Lulin, but had to wait for it to clear the trees. Meanwhile I set my sights on this object and once I got things going I kept it snapping along and never got to the comet. I did try for it with binocs but never found it. This image was taken with an Orion ED80 with a WO FF/FRII and an IDAS LP filter. The camera was a Canon modified 350D. Total time was 32 x 5 minutes subs.



Brian Van Liew

Interested in keyholder training?

Contact: or by
cell phone

Sky Quality Measurement Proposal

The quality of the night sky in our region is in decline, I'm sure you'll agree. AAAP members observing over the years at Washington Crossing Observatory have little doubt, yet no objective data are available to show just how much. A few years ago I had found on the IDA website nighttime satellite images of the USA including the northeast, which were surprisingly high resolution and which showed a distinct gradient of nighttime light pollution across Hunterdon and Mercer Counties.

It would be valuable to establish a baseline for local light pollution, from which future trends and the impact of measures such as lighting

ordinances could be evaluated. If we could develop a method to measure and record light pollution for the area around our observatory, such data might be useful not only for AAAP observers, but also for the environmental resource inventories being developed by both Hopewell and Princeton Townships. To approach this goal, we could consider instrumental methods using photometric devices, and subjective/visual assessment techniques such as limiting visual magnitude and the Bortle Dark Sky Scale (as discussed in *Sky and Telescope*).

An instrumental method has obvious advantages over subjective assessments. In an attempt to generate some initial data using an instrumental method, I acquired (from OPT) a "Sky Quality Meter", a relatively inexpensive CMOS-sensor based photometric device produced by Unihedron Corp (pictures below). This hand-held unit is calibrated in **magnitudes per square arc-second**, a unit which observers understand intuitively. The unit employs a TSL237 light-to-frequency converter, combining a silicon photodiode and a current-to-frequency converter on a single monolithic CMOS integrated circuit. The optical design involves a small lens which provides a 10 degree field of view for the measurement. Initial readings with this device suggest reproducible data, with values of ~19.5 mag/arc-sec² at my backyard site near WC Park. There are also a couple of published reports which validate the use of the Unihedron instrument.



The Unihedron Sky Quality Meter



10 degree FOV lens and CMOS sensor

To get going with this proposal, the next steps would be to develop a protocol to measure sky quality at selected visual angles, and to begin collecting instrumental data at pre-chosen locations which would be mapped according to GPS coordinates. I would like to enlist the help of a few AAAP members to further develop such a method and start data acquisition. A few nights of similar clarity and atmospheric conditions (which would be logged) over the next several months would enable a pilot study to be done. The subjective technique of evaluating limiting visual magnitudes of certain stars at selected regions of the sky, e.g. at zenith and at a few other angular positions, could be done simultaneously. This takes skilled observers willing to systematically log observations. Taking visual estimates simultaneously with instrumental data collection could allow cross-checks of both methods. If you are interested in helping with this project, flip me a note at

Dark Skies!-Rex Parker

20 Years Ago In Sidereal Times...

SIDEREAL TIMES

Newsletter of the Amateur Astronomers Association of Princeton, Inc.

Director: Jay Albert

March, 1989

Editor Chip Yuill

AAAP Calendar

Fri. 3/10/89 - First of the 3 sessions of John Simpson's Astrophotography course will be held at the AAAP observatory at 8:00 p.m. Please see "Observatory News & Duty" and "ASTROPHOTOGRAPHY: SESSION I" for details.

Tues. 3/14/89 - Meeting at 8:00 p.m. in Peyton Hall. As a special treat, we will have Roger Tuthill talking about the latest in electronic gear for amateur telescopes, including computer assisted digital setting circles, etc.

Tues. 4/11/89 - Meeting at 8:00 p.m. in Peyton Hall. Members night. Please contact Noah Levy if you would like to tell AAAP members about any observing, telescope building or photography projects or gadgets you're involved with.

Fri. 4/28/89 - Special program at the Trenton Planetarium and AAAP observatory for the "gifted and talented" children of the Ewing elementary school system. Possibly 100 or more children are expected and extra telescopes will be needed. Rain date is 5/5/89.

Fri. 5/5/89 - AAAP Star Party at the observatory at 8:00 p.m. (rescheduled from 4/7). Cloud date, 5/6. The star party will run concurrently, but will not interfere with, the last session of John Simpson's astrophotography course.

Note: Pre-meeting dinners will be held at the Tiger's Tale

Restaurant on Rt. 206 just north of the Rt. 518 intersection.

FROM THE DIRECTOR

Although the pace of our activities is picking up, our finances aren't. The current low-key fund drive has apparently been too low-key because only a few members have contributed so far. Don Monticello has volunteered to take over the fund drive and contact members who have not yet contributed. Please be generous when Don contacts you.

Fund drives, however, are not the answer to our long term finance needs. At our February 23rd AAAP Board meeting we discussed this issue thoroughly and came to the conclusion that we needed to have a dues structure that would make us truly self supporting. Money must be set aside not only for current projects, but for long term maintenance and replacement needs as well. With Sky & Telescope and insurance gobbling up most of our current dues, there is little left over for such important projects as a chain drive for the observatory roof. Looking farther down the road, the day will also come when we have to redo the roof. Our current dues are too good a bargain to last if the club is to survive, let alone thrive and grow. The Board feels the dues should be raised to \$40 per year for all except students, who would pay \$30. However, there would be no additional charge for more than one family member. A motion to this effect will be introduced at the March meeting.

FROM THE DIRECTOR (cont.)

We also agreed that we needed to do more to increase our membership. Star parties and participation at special Planetarium events help, but are not enough. We are therefore asking for a volunteer to take on a new position of Membership Chairman. This job will entail developing and coordinating a recruiting program for the AAAP. It was suggested that guest books be present at meeting and the observatory and that the Membership Chairman greet and initiate follow-up contacts with guests. The potential impact of a successful recruiting program on the AAAP is enormous. A larger membership base will significantly increase the kinds of programs and activities our club can provide its members and the community.

NEWS BITS

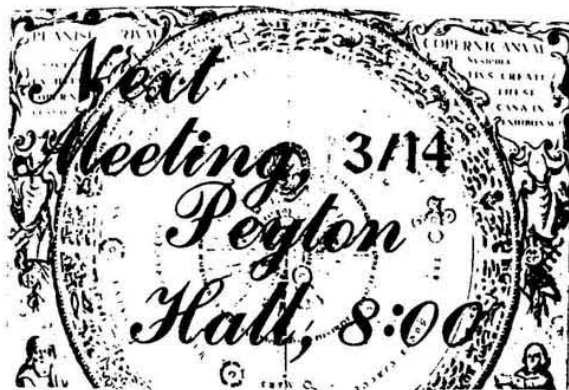
Don Monticello has accepted the position of Nomination Chairman. Nominations for the club's officers will be presented at the April meeting and elections will be held at the May meeting.

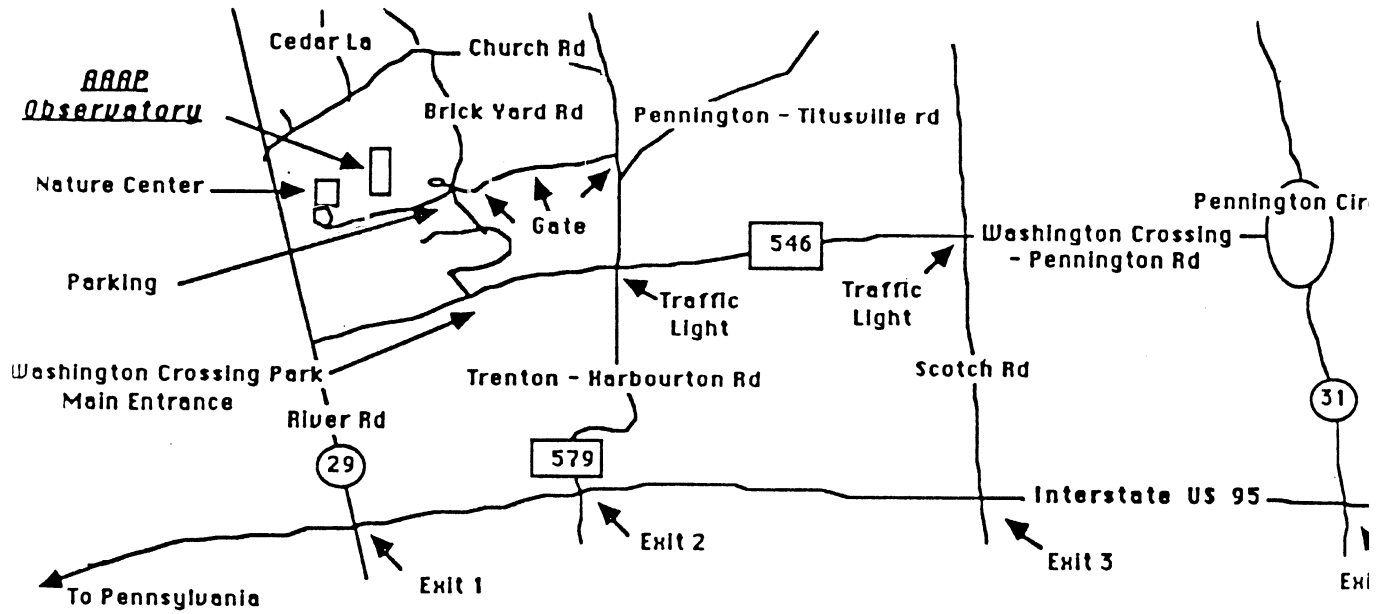
John Simpson and Bill Murray have completed the installation of the new motor and drive corrector for the 12.5" reflector. John says the polar alignment isn't quite perfect yet, but will be after he makes a few very minor adjustments. All will be ready for the astrophotography course.

We are happy to announce that the tube assembly of the AAAP's old 10" reflector has been sold to the amateur astronomers at GE Astro for \$130. It's a good deal for both parties; the AAAP needs the money but not the scope and the GE Astro group gets a well figured mirror (though it must be re-aluminized) in an aluminum tube.

The AAAP will hold a weekend

star party at Beemerville late this spring. Dave Brown has arranged for us to have the dark sky weekend of June 9-11. As the sky darkens, we'll have the last of the spring galaxies while later in the evening we'll have the glories of the summer Milky Way...not to mention Saturn! At an estimated \$40 for the weekend, it's a real bargain. Interested members should contact Dave or Larry Smith.





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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