

SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

Director

John Miller

Treasurer

Michael Mitrano

Program Chairman

Ludy D'Angelo

Assistant Director

John Church

Secretary

Larry Kane

Editors

Bryan Hubbard and Ira Polans

Volume 37

September 2008

Number 8

From the Director

It's show time, ladies and gentlemen. Welcome back to the 2008-2009 meeting season of your AAAP. Our Program Chair has been working throughout the summer to bring you a great lineup of engaging speakers for our meetings. With names like Michael Lemonick, renowned science writer, the very popular Fred Schaaf (you've undoubtedly read his superb columns in *Sky & Telescope* or read one of his many astronomy books) and the Institute for Advanced Studies' Jonathan Mitchell, kicking off the first three months, this is shaping up to be a terrific year.



Of course, it also is shaping up to be an electrifying political season as well. So, here's a thought: Why not blend the two? The mystery and awe of the Universe, together with the intrigue and excitement of a national political battle. I say we propose to the Obama and McCain campaign management teams a debate, staged right here at Peyton Hall. The topic will be, "Is Pluto A Planet or Not?" What say you, AAAP members? Certainly a subject steeped in controversy and breakfast table chatter; a worthy subject for our two heroes to hone their verbal jousting skills.

**Annual Membership Dues (\$40) Are
Payable Now—Please Mail or Bring Your
Check to the September Meeting**

Although the political rhetoric may be obscure and hazy, our local New Jersey skies, of late, have been uncharacteristically

transparent. We have had a string of very successful public nights at Simpson Observatory, resulting in a number of new memberships. My thanks to all the AAAPers who consistently bring their support and enthusiasm to these Friday evening gatherings. I see everyone having a great time showing a delighted public constellations and sundry wonders through the 14" SCT and 6.25" Hastings-Byrne refractor. It has proven a substantial benefit to the club, and a really tangible benefit to the community. I do wonder, however, why more of our AAAP members don't visit these interesting and dynamic Friday night astronomy events. These gatherings present members the opportunity to bring their own scopes or binoculars and share observing, swap equipment talk, and get to know their club colleagues (one night, chatting with Don Monticello, I discovered his interest in tennis. We now hit regularly, and he introduced me to a new county league). There are nine Fridays left in the open house schedule. Why not make that commitment to come out for a few of them?

StarQuest 2008—October 24, 25 and 26

This is the AAAPs fund raiser and fun raiser!

You do not need a scope! You do not need any camping gear!

You only need to bring yourself and maybe family or friends to have a great time!

This is "Beautiful Country" with lots of things to do. Hike, bike, canoe, kayak, attend lectures, read a book under a bucolic tree to name a few. There are good restaurants nearby.

More information at: <http://www.princetonastronomy.org>
Look on the left for StarQuest 2008)

Or use the application attached to this issue of the *Sidereal Times*
Please sign up for StarQuest 2008—it is your party.

As detailed on the AAAP web site and in this issue of *Sidereal Times*, Jersey Star Quest 2008 planning is proceeding under full steam. This year's AAAP star party event will be held October 24 & 25, at the

Hope Conference Center. We've put in a request for crystal clear skies. A number of members are working with product vendors to make the Saturday raffle more valuable than ever. If you have any ideas along those lines (perhaps you own a Lexus dealership



and would like to donate a new car?), we would like to hear from you. Part of the Star Quest agenda is visiting our observatory and UACNJ facility at Jenny Jump State Park. On August 22nd, Bill Murray led a AAAP expedition to Jenny Jump, to use the club's rarely-used 12.5" Newtonian telescope.

Reports were very favorable. I hope Bill's effort has energized interest in this phenomenal telescope and visits to the site occur regularly.

To paraphrase The Happenings' 1966 hit—I'll see you in September.

Cheers—John Miller, Director

Minutes of Board Meeting of August 5, 2007

Director John Miller called the meeting to order.

Star Quest:

At the time of the meeting, one prize had been donated for the Chinese raffle, an equatorial tripod and mount, per Bryan Hubbard. We need to have a new roll of raffle tickets, since we ran out of tickets last year and could have sold more of them. John Miller suggested that we need a strategy for obtaining prizes. Rex Parker volunteered to contact OPT and Highpoint Scientific. John Miller will contact Saul Moroz for donations from Burgess Optics. Larry Smith suggested we contact Astronomy and Sky & Telescope magazines to donate some things. He also suggested asking "Barlow Bob" and UNCJ to donate something. John Miller will contact Rob Gendler and ask for a donation. Larry Smith suggested asking AAAP members to donate items they no longer use. Rex Parker suggested calling Astronomy Technology Today to donate copies of their magazine. Rex Parker suggested that a notice be put into the September issue to be re-run in October Sidereal Times asking for donations of astro equipment. It was suggested that Rob Teeter be contacted and ask for some donation, now that he is back in the business of making telescopes. All of the contacts and responses will be completed by August 23. Each company making a donation will receive a "hotlink" to their corporate website on the AAAP website. It was pointed out that our website gets 5000 hits per month from all over the world. Larry Kane moved that the Board authorize \$300 to be made available to spend for prizes, the motion was seconded by Larry Smith

A discussion was held concerning food for Star Quest. Larry Smith presented an estimate from last year. Per last year, Friday will be a "BYO." After discussing the number of meals, it was decided to serve a brunch and a dinner to cut down on the amount of time that had to be expended in preparing/serving the meals and the constraints on other activities that serving three meals

exacted. Larry Smith volunteered to be the buyer with the able assistance of Ludy D'Angelo. Help in meal preparation and cleanup will be asked of the members in attendance. Last year the cost was \$30 for an adult and \$20 for children. After some discussion concerning lowering the price, as the result of having two meals, it was decided keep the price at last years level. The cost to us may be slightly lower. It was suggested that we approach member Freeman Dyson to donate his latest book and sign it for a door prize.

STARQUEST RAFFLE

As we have done in the past, we call on all members to consider providing an item for the Chinese Auction we run during StarQuest. Typically we try to obtain items which perhaps you no longer use, perhaps a spotting scope, an OTA, eyepieces; anything which is either new or in good enough condition to pass as new. Also books on astronomy which you may have are good prizes. This is a great revenue generator for your club and creates a great deal of interest during the run up to the evening's stargazing on Saturday.

John Miller stated that StarQuest will be prominent on our website. The link to the donating Company website will be on the website until StarQuest is over in October.

The bunkhouse cost was uncertain and Ludy D'Angelo suggested that we contact the conference center to verify the rates. John Miller offered to call them and try to get the rate we had last year.

Promoting StarQuest

Email the membership; Contact the major magazines-it may be too late already; Ludy D'Angelo will contact Astronomy Magazine; Contact past attendees; Contact all regional astronomy clubs, especially UNCJ; Papers in the area; Packet papers; On-line US 1; Rex knows someone at the Hopewell Packet paper that he will contact.

Registration fees for StarQuest—The money we made came from the food and raffle tickets.

Treasurer's Report provided by Mike Mitrano:

We had a \$2,400 surplus from last year and we have about \$15, 000 in the treasury. We are in good fiscal shape at this point. We mail out eleven copies of Sidereal Times per issue.

John Miller questioned the cost of our telephone at the observatory. We have to have a telephone to provide 911 access in an emergency.

Mike Mitrano suggested that if the dues cycle ended in June, there was a gap in funding until they paid up in October, therefore people joining in January could be pro-rated for six months and those who paid in June, would be members until a year from the next October 1. The \$40 dues will be for one year.

Peyton Hall renovations and alternative meeting locations will be definitely needed for September and possibly for October. John Miller will let everyone know as soon as possible.

Jenny Jump is scheduled for August 22 and about six people responded to Bill Murray. Vic traded observatory duty with Bill Murray for August 22.

The roster on the website is current. Any new member's information should be sent to John Miller so he can update the roster.

It was noted that we need to get new keyholders and Rex Parker volunteered to help in the training process. If we cannot, we may not have enough keyholders to fill every Friday night.

Ludy D'Angelo presented the speakers confirmed for the upcoming season. Other people at the table offered other names to contact for upcoming meetings.

Jeff Bernardis presented a report on Public Outreach and a discussion was held on what and how to ask for donations from schools and other organizations that request our outreach efforts. It was left to Jeff to ask for donations in the manner he feels comfortable. John Miller gave a report on the successful Star Party held in Princeton, next to the library.

Rex Parker suggested that we buy broadband filters for the 1.5 and two inch eye pieces. The vote passed the Board.

Larry Kane, Secretary

as of the fiscal year end. For comparison purposes, you will also see total revenue and expenses for the previous fiscal year and the balance sheet at the end of that year.

The AAAP had a strong fiscal year, with revenue exceeding expenses by \$2,537. Member dues increased by \$360 (9 members) to \$4,310 for the year. StarQuest had a surplus of \$1,006, and outreach contributions brought in \$400. Interest and money market dividend income added \$410 to our assets. The observatory was our largest cost, with expenses (net of the proceeds from equipment sale) totaling \$2,844. Lecture costs were only \$263.

Comparison with FY 2007 is difficult because StarQuest did not take place during that year due to the change in its schedule.

The Association ended FY 2007 with a cumulative surplus of \$14,943. We are in a sound position to begin the coming year's programs.

Please let me know if you have any questions about the AAAP's finances.

Michael Mitrano, Treasurer

Treasurer's Report as of June 30, 2008

The AAAP's fiscal year ends on June 30. Below is a statement of revenue and expenses for the year just ended and a balance sheet

| | Fiscal Year Ending June 30, 2008 | | | | | Prior Fiscal Year | Change | | Balance Sheet At | |
|---------------------------------|----------------------------------|-------------|---------------|--------------|--------------|-------------------|--------------|-------------|------------------|------------|
| | General Operations | Lectures | Observatories | Star-Quest | TOTAL | | \$ | % | Jun 30, 07 | Jun 30, 08 |
| Ordinary Income/Expense | | | | | | | | | | |
| Income | | | | | | | | | | |
| Contribution Income | 47 | 0 | 0 | 0 | 47 | 0 | 47 | 100% | | |
| Member Dues | 4,310 | 0 | 0 | 0 | 4,310 | 3,950 | 360 | 9% | 12,206 | 390 |
| Outreach Contributions | 400 | 0 | 0 | 0 | 400 | 600 | -200 | -33% | 0 | 14,393 |
| Sale of Equipment | 0 | 0 | 438 | 0 | 438 | 795 | -357 | -45% | 12,206 | 14,783 |
| Sales of AAAP & Astro Items | | | | | | 337 | -337 | -100% | | |
| StarQuest Attendance | 0 | 0 | 0 | 2,650 | 2,650 | 0 | 2,650 | 100% | 200 | 200 |
| Income Not Classified | | | | | | 266 | -266 | -100% | 200 | 200 |
| Total Income | 4,757 | 0 | 438 | 2,650 | 7,845 | 5,948 | 1,897 | 32% | 12,406 | 14,983 |
| Expense | | | | | | | | | | |
| Astronomy Calendars | | | | | | 162 | -162 | -100% | | |
| Books and Publications | 28 | 0 | 0 | 0 | 28 | 30 | -2 | -7% | | |
| Business License & Fees | 25 | 0 | 0 | 0 | 25 | 25 | 0 | 0% | | |
| Contribution Expense | 100 | 0 | 0 | 0 | 100 | 0 | 100 | 100% | | |
| Dues and Subscriptions | 114 | 0 | 0 | 0 | 114 | 125 | -11 | -9% | 0 | 40 |
| Electricity | 0 | 0 | 43 | 0 | 43 | 81 | -38 | -47% | 0 | 40 |
| Equipment | 0 | 0 | 53 | 0 | 53 | 566 | -513 | -91% | | |
| Food | 106 | 0 | 0 | 523 | 629 | 0 | 629 | 100% | 11,416 | 12,406 |
| Gratuities | 0 | 21 | 0 | 0 | 21 | 0 | 21 | 100% | 991 | 2,537 |
| Improvement, Maint & Repair | 0 | 0 | 1,303 | 0 | 1,303 | 32 | 1,271 | 3,972% | 12,407 | 14,943 |
| Insurance | 0 | 0 | 987 | 0 | 987 | 1,447 | -460 | -32% | 12,407 | 14,983 |
| Location Rental | 0 | 0 | 0 | 981 | 981 | 0 | 981 | 100% | | |
| Miscellaneous | 50 | 0 | 6 | 0 | 56 | 56 | 0 | 0% | | |
| Post Office Box | 56 | 0 | 0 | 0 | 56 | 50 | 6 | 12% | | |
| Postage and Delivery | 50 | 0 | 5 | 74 | 129 | 185 | -56 | -30% | | |
| Printing, Reproduction, Folding | 0 | 0 | 0 | 66 | 66 | 334 | -268 | -80% | | |
| Prizes | | | | | | 111 | -111 | -100% | | |
| Rent | | | | | | 1 | -1 | -100% | | |
| Speaker Transp & Meal Expenses | 0 | 242 | 0 | 0 | 242 | 408 | -166 | -41% | | |
| Telephone | 0 | 0 | 301 | 0 | 301 | 301 | 0 | 0% | | |
| Telescope & Equipment Upgrade | 0 | 0 | 584 | 0 | 584 | 1,015 | -431 | -42% | | |
| Web Site Expenses | | | | | | 79 | -79 | -100% | | |
| Total Expense | 529 | 263 | 3,282 | 1,644 | 5,718 | 5,008 | 710 | 14% | | |
| Net Ordinary Income | 4,228 | -263 | -2,844 | 1,006 | 2,127 | 940 | 1,187 | 126% | | |
| Other Income/Expense | | | | | | | | | | |
| Other Income | | | | | | | | | | |
| Dividend Income | 393 | 0 | 0 | 0 | 393 | 0 | 393 | 100% | | |
| Interest Income | 17 | 0 | 0 | 0 | 17 | 50 | -33 | -66% | | |
| Total Other Income | 410 | 0 | 0 | 0 | 410 | 50 | 360 | 720% | | |
| Net Other Income | 410 | 0 | 0 | 0 | 410 | 50 | 360 | 720% | | |
| Net Income | 4,638 | -263 | -2,844 | 1,006 | 2,537 | 990 | 1,547 | 156% | | |

From the Program Chair

Greetings everyone, I hope your summer has been wonderful for all of you. This season I hope to bring a wide variety of topics and speakers to our AAAP meetings. I have the following slots filled so far: September, October, November, December, and February. As always, any suggestions the membership may have regarding topics and speakers, please email them to me or talk to me at the meetings.

Please note, that while Peyton Hall is still under construction, we

The September 9 general meeting will be held at 8:00 P.M. in **Friend Center 101 (the auditorium)**, Princeton University, *not* Peyton Hall.

For Friend Center location and directions visit the AAAP web site or Google, 'Friend Center-Princeton University'

will be meeting at the **Friend Center** near the Engineering quad.. Our May meeting was there if you will recall. We will also continue to have our pre-meeting dinners. I encourage all of you, especially new members, to come out to one of the dinners this season. It's a good way

of meeting the guest speaker and other club members in a more relaxed setting. Experience in astronomy is not required to sit at the table.

On September 9, Michael Lemonick, freelance science writer and senior science writer for TIME magazine for 20 years is expected to give a presentation on his experiences. He currently is a guest lecturer at Princeton University. I hope that everyone will enjoy the information he brings to us at our meeting.

In October, Fred Schaaf will give a talk titled “The People and the Stars: Dark Skies, Public Outreach, and the International Year of Astronomy” Mr. Schaaf is a contributing editor of Sky and Telescope magazine and has written many books.

November brings us Dr. Jonathan Mitchell from the Institute for Advanced Studies. Dr. Mitchell’s research currently concentrates on the atmospheres on the Jovian moon Titan.

In December, Dr. Jerry Sellwood of Rutgers University will be our speaker. His specialty is the structure and evolution of galaxies, their formation and their dark matter content. He was scheduled with us last year, but a snowstorm cancelled our meeting. His talk title will be “The Dark Side of the Universe”.

In February, Dr. Gino Segre of the University of Pennsylvania will be with us, the topic will be announced later.

Please send any comments and suggestions to me at

Ludovico D’Angelo, Program Chair

Picture This—NGC6853

AKA the Dumbbell Nebula or M27. This planetary nebula lies in the constellation Vulpecula some 1200 ly away. The nebula is a gaseous emission nebula created by a dying star lying at its center. The Dumbbell is an easy small telescope target in semi dark skies. From my home I can see it in my 80mm scope. With the aide of an OIII filter the nebula will become even more apparent for visual observing against a light polluted sky. This is another target that is great for learning to star hop to as one learns the summer night sky.

This image took 180+ minutes total time with a modified Canon 350 DSLR through an IDAS LP filter from my yard. The scope used was an Orion ED80 refractor. This final image was reduced and cropped from the original.



Brian Van Liew

The deadline for the October issue is:

Friday September 29, 2008

Send your submissions to:

editors@princetonastronomy.org

NASA News...

Hubble

The battle has been won. When we heard several years ago that no more servicing was expected and Hubble would be decommissioned before the next telescope went into orbit, the uproar could be heard from not only the astronomical community, but all areas of research on which it would have some impact. The date is October 8 2008, and STS-125, Space Shuttle Atlantis will have the honor of doing the final service. This will extend Hubble’s life until 2013, by which time the James Webb Space Telescope should be in orbit. The mission will last 11 days repairing and improving the observatories capabilities, including new batteries, gyroscopes and thermal blankets.

Interested in keyholder training?

Contact:

cell phone

or by

Solar Sails

You may remember that a partnership of The Planetary Society and Cosmos Studios hoped to demonstrate the technology with its Cosmos 1 mission in 2005, but the mission did not make orbit as the launch vehicle failed. It was to have been the first spin-stabilized, free-flying solar sail to fly in space Now two more missions are in the works, Cosmos 2 which is in the design stage at the Russian Space Research Institute. They are also making a study to determine the probable configuration and vehicle for the launch. Once again their goal is a controlled flight under sunlight pressure.

The other mission is nearing completion by NASA. NanoSail-D is a small solar sail slated for launch any time now perhaps as you read this issue. A little history here adds an interesting side use of the solar wind. You may remember that Mariner 10, on a trip to Mercury, had a problem when it ran low on the gas used for the attitude control jets. Faced with no control but plenty of sunlight the controllers came up the idea to use it to see if the solar arrays could be used to affect attitude control. Although the amount of pressure exerted by the solar wind was very small, it did demonstrate that it was a practical application, and gave food for thought for possible future missions. Between 2001 and 2005, NASA developed two 20-meter solar sails of different design and made by different companies. They were tested on the ground under vacuum conditions, and were considered robust enough for deployment in a one atmosphere, one gravity environment, and scalable to much larger perhaps as much as 150 meters on a side.

Meanwhile, NanoSail-D will orbit onboard a SpaceX Falcon 1 rocket, to be launched from Omelek Island in the Pacific Ocean.

Submitted by Bryan Hubbard

JERSEY STARQUEST

Hope Conference & Renewal Center: <http://www.camphope.org/> 908-459-4435

Directions to Hope Conference & Renewal Center

Hope Center is about 3 hours from Phila, 2 hours from NYC & Reading, and hour or less from Lehigh Valley. 1.5 Hours from New Brunswick

From the South & Southeast (Trenton NJ)

Take State Road 31 North from I-95 on the north side of Trenton. Follow to its end at US 46 its Butzville, NJ. Turn left (west) on US 46 and at the end of the next light go right (north) onto State Route 519 to the flashing light in Hope. FOLLOW "From Downtown Hope" below

From the Southwest (Phillipsburg, NJ)

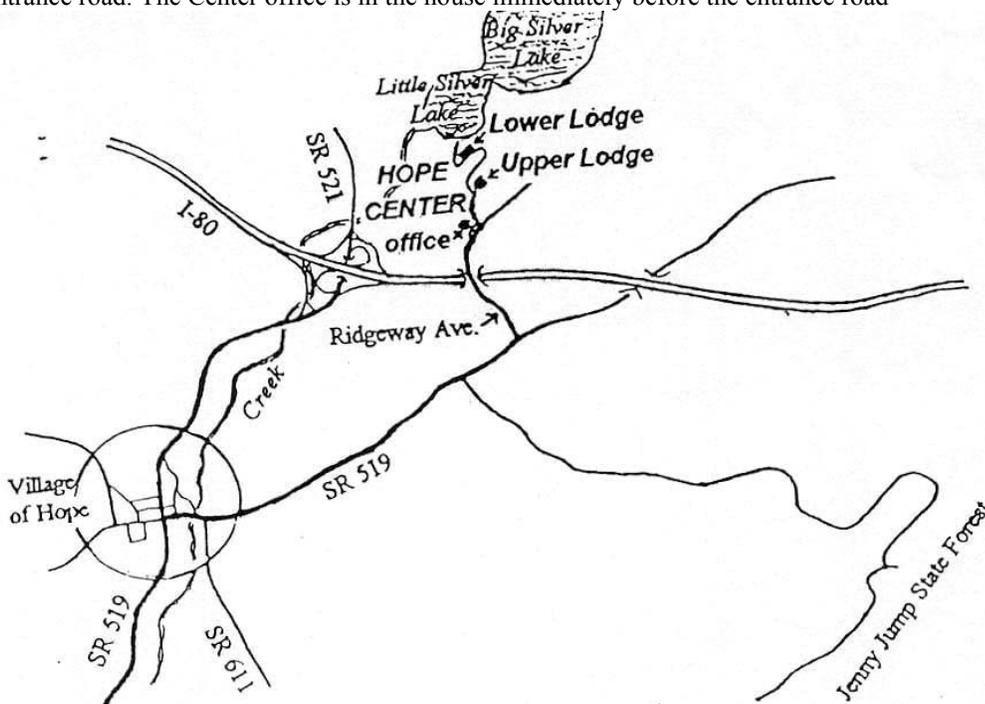
Take State Route 519 North, off of US 57 on the east side of Phillipsburg. Follow 519 North, across US 46 (near Belvidere & Butzville, NJ) to "downtown" Hope NJ marked by a flashing red light. Turn right at this light, continuing on 519 North. FOLLOW "From Downtown Hope" below

From the North, Northwest & East (I-80)

Take I-80 to Exit 12 in NJ. Exit onto State Road 521 south to Hope. In about two minutes arrive in downtown Hope, marked by a flashing red light. Turn left at this light onto St Route 519 north. FOLLOW "From Downtown Hope" below

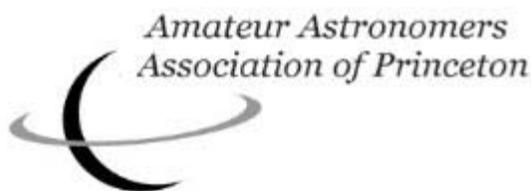
From Downtown Hope

Take State Route 519 North for 1.3 miles from the flashing red light (if you go under I-80, you've gone too far). Turn left onto Ridgeway Ave (you can only turn left) and go .5 mile, passing over I-80. Turn left at the "HOPE CENTER" sign onto the entrance road. The Center office is in the house immediately before the entrance road



PLEASE NOTE: NO WHITE LIGHTS AFTER DUSK. IF YOU ARRIVE AFTER DUSK, PLEASE MAKE PROVISIONS TO EXTINGUISH YOUR HEADLIGHTS.

PLEASE NOTE: NO GREEN LASER POINTERS



**PRESENTS THE 19TH ANNUAL
JERSEY STARQUEST**

Held at the Hope Conference and Renewal Center, Hope, NJ
Beginning at 5 PM Friday, **Oct. 24th**, 2008 and running through 12 PM Sunday, **Oct. 26th**
Please note: This event will take place regardless of the weather conditions!

Featuring

Stargazing at a star-filled, dark sky location
DOZENS OF ASTRONOMICAL TELESCOPES IN OPERATION
AAAP-sponsored "Deep Sky Observing" contest
Free space available for astronomical swap meet
Heated cabin accommodations (most with private bath; first come, first served)
Ample space for camping & RV's, hot showers for all
Saturday full meals
Spectacular Raffle & Door prizes

Scheduled Lecture Program

Intriguing Afternoon Guest Speaker!

Other Planned Activities Include

Solar Observing (H-alpha)
Astrophotography Presentations, Tutorials, and CCD Demo's
Field Trip to AAAP Observatory Facility at Jenny Jump State Park
Workshop: Learning to Use Your New Telescope

Plus

Fishing, Volleyball, Basketball, Hiking, Game room
Kayaking/canoeing (bring your own) on two lakes and nearby Pequest and Paulins Kill Rivers

Registration Fees

Camping and RV -- \$35.00 per person (\$45 after October 10), children (6-12yrs.) \$25
Bunkhouse -- \$45.00 per person (\$55 after October 10), children (6-12yrs.) \$35
Children under 6 years of age -- Free

Meals

Scrumptious Food Catered by AAAP Chefs, for Saturday ONLY
Volunteers needed to help the Chefs
Saturday brunch, and dinner: Adult -- 30.00 per person
Child (ages 6 -- 12) -- \$20.00 per person ; Children under 6 years of age -- Free

Please send registration form and your check or money order (payable to AAAP) to:

**Amateur Astronomers Association of Princeton
Jersey Star Quest 2008 Registration
P.O. Box 2017
Princeton, NJ 08543**

JERSEY STARQUEST REGISTRATION FORM

NAME _____

ADDRESS _____

EMAIL _____

TELEPHONE _____

CLUB _____

TOTAL NUMBER OF ADULTS IN YOUR PARTY? _____

TOTAL NUMBER OF CHILDREN (Ages 6 – 12)? _____

TOTAL NUMBER OF CHILDREN UNDER 6 YEARS OLD? _____

ACCOMMODATION PREFERENCE(S):

Note: indoor accommodations are single sex (males in one set of cabins, female in another set of cabins).

There are a few accommodations for families that do not want to be split up. This is on a first come, first serve basis.

INDOOR _____ TENT _____ RV _____

Would you like to enter into a “Deep Sky Observing” contest? _____

Will you need space to set up an astronomical swap table? _____

FEES:

(No charge for children under 6 years of age)

\$35.00 _____ PER ADULT (camping or RV)

\$45.00 _____ PER ADULT (bunkhouse)

\$25.00 _____ PER CHILD 6-12 (camping or RV)

\$35.00 _____ PER CHILD 6-12 (bunkhouse)

\$10.00 _____ (add late fee **after October 10**)

Meals (**Saturday; brunch, and dinner**)

Meals (Adult) \$30.00 _____

Meals (Child, ages 6 – 12) \$20.00 _____

TOTAL ENCLOSED _____

Please send completed registration form and your check or money order (payable to AAAP) to:

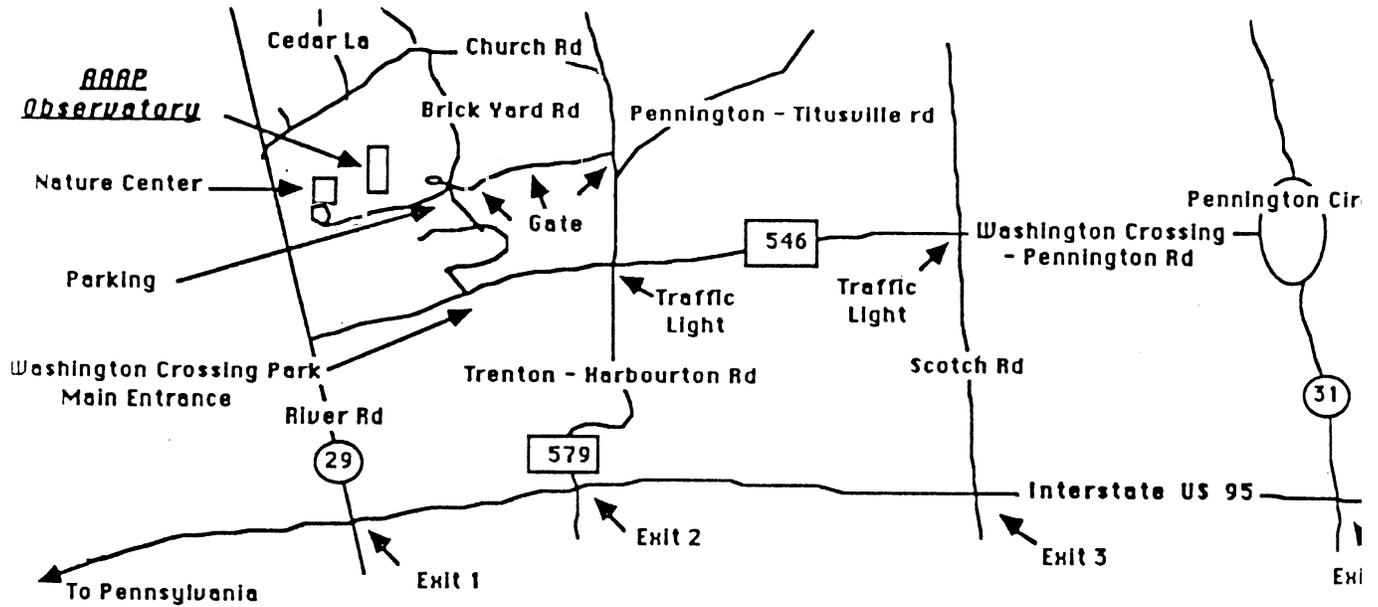
**Amateur Astronomers Association of Princeton
Jersey Star Quest 2008 Registration
P.O. Box 2017
Princeton, NJ 08543**

IMPORTANT – We may not be able to accommodate meal requests for registrations received after October 10.

Please Note – Pets are not permitted at the site.

This event will be held regardless of the weather conditions.

Sorry -- No Refund for Cancellations received after October 10.



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

Amateur Astronomers
 Association of Princeton
 PO Box 2017
 Princeton, NJ 08543