

# SIDEREAL TIMES

*The Official Publication of the  
Amateur Astronomers Association of Princeton*

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Treasurer:  
Pete Oppenheim

Program Chairman:  
Mark Lopez

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Secretary:  
Bill Murray

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Number 3

## From 26.4° North Latitude The 2002 Winter Star Party



At night big scanning scopes were transformed into battleship cannons.

Qualified by gray heads, Marian and Marsha claimed lower bunks in Chickee #1 - a thatch-roofed, screened cabin with canvas roll down sides, three bunks and a ceiling fan. Veteran SCAS member "astroMillie" from Hot Springs showed us the ropes. We felt alternately like Guantanamo Bay inmates showing IDs to the deputy sheriff stationed 24/7 at the entrance gate or "ladies of the night" in a red light district (especially interesting with a 5:1 male: female ratio!). Even the communication tower

Four intrepid AAAP members attended the 18th Annual Winter Star Party hosted by the Southern Cross Astronomical Society at Girl Scout Camp Wesumkee in the Florida Keys. Vic and Bill drove the 1400 miles towing a 25-foot trailer. Marian and Marsha used Amtrak and Hertz to join 535 other amateur astronomers from the USA, Canada, Germany, Australia and the Netherlands.

Tents, trailers, RVs, and telescopes jockeyed for prime position among the palm trees. By day the white and silver shrouded scopes lined up along the beachside berm resembled the stone heads on Easter Island.

overlooking the site sported red lights - now that's influence!



Simpson Observatory (609) 737-2575

(WSP 2002, Continued on page 3)

## From The Program Chairman

Greetings fellow star watchers and lovers of all things astronomical. Come join us on Tuesday, March 12 for another journey through the cosmos as we learn about Wolf-Rayet Central Stars of Planetary Nebulae, Massive Wolf-Rayet Stars and Hydrogen Deficient Central Stars from this month's guest speaker, Dr. Orsola DeMarco of The American Museum of Natural History. Dr. DeMarco is currently a research fellow in the museum's Department of Astrophysics. A native of Verona Italy, she received her PhD. in Astrophysics from The University College, London. Her main research interests are as by now I am sure you surmised, Wolf-Rayet Stars and Planetary Nebulae. Dr. DeMarco will be speaking to us about her research in a talk she has titled "Born Agains and Other Weirdoes In A Stellar Geriatric Garden". I have to admit that I did not have any idea as to what her talk was going to be about so I emailed her two weeks ago and asked if she could explain it to me. The following is what Dr. DeMarco sent.

Low mass stars ( $M=1-10M_{\odot}$ ) become giants twice, the first time on the red giant branch, after core hydrogen exhaustion, and the second on the asymptotic giant branch (AGB) after core helium exhaustion. During this second giant phase, the star loses most of its mass via an as yet unclear mechanism. At the end of the AGB evolution the star has a very large structure, and the envelope becomes unstable. This results in the quiet loss of the envelope after which the remaining core heats up. When its temperature passes about 30,000K the core ionizes the material around the star (which comprises all the material lost during the AGB evolution as well as the lost envelope) while at the same time a thin fast wind compresses it. This results in a visible gas shell (often with structures more complex than a simple shell), which we call planetary nebula (PN).

At the end of the AGB evolution, the star has a carbon-oxygen core, a helium burning shell above the core, a hydrogen burning shell above the helium one, and a hydrogen-rich envelope above that. The hydrogen shell burns and provides the stellar energy, but every now and again (with a frequency of  $\sim 100,000$  years) the helium shell ignites, burns for a while, and then switches off again handing over energy production back to the hydrogen shell. These are called thermal pulses.

The stars I study are central stars of PN, BUT have the peculiarity of having no hydrogen. This means that they have lost the entire hydrogen envelope and the hydrogen shell. This is a lot of mass to lose! The mechanism that produces this extreme mass loss is as yet unknown. However, in the late '70s it was realized that the very hot white dwarf remnant in the middle of a PN can have one last thermal pulse (like a late thermal pulse of the same type that characterized the pulses on the AGB). If so then the star would expand, become a giant for a third time, and then re-contract and become a WD again. This is known as a born-again star. This return to the giant phase happens in a matter of years, so that we can witness it in our lifetime. And we have! These stars are candidates to explain the hydrogen deficiency observed in some of the hydrogen deficient stars we observe.

I will conclude the talk on other explanations for hydrogen deficiency in central stars, including spiraling-in planets.

I am sure that you will agree with me that this is a talk that should not be missed. The science behind the stars that we see whenever

we look up into the night sky is truly fascinating. This should prove to be an excellent opportunity to learn a great deal more about the latest research that is being performed by one of the leading scientists in the field of astrophysics. If you would like to enhance your experience on Tuesday, March 12, come join us for dinner. As usual, we will be hosting our guest speaker, Dr. Orsola DeMarco, at The Annex Restaurant, 128 1/2 Nassau St. at 6:00 PM. Please contact me by telephone (609-393-2565) or by email ([mal455@earthlink.net](mailto:mal455@earthlink.net)) if you would like to attend the dinner. Please try and let me know by the evening of March 11. Come and join us! You will have great time! I look forward to seeing you there.

Mark Lopez

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## From the Editor

Hopefully everyone will enjoy our feature article by Marsha and Marian, our potential Pulitzer candidates. I always find it refreshing when we have articles submitted by members writing to us for the first time as they invariably see things differently and bring forth a new view of our hobby. I also hope others will be motivated to attend future major star parties as well as our more regional ones. A little more about our new contributors in the accompanying captioned photo.

Though astronomy takes center stage at these events there's always time to pursue your other favorite avocations. The Keys are a fantastic recreational resource. Some of you may remember that in the 1997 event, my son Jamie, Bill Murray, and I took some time during the day for a snorkeling and SCUBA diving diversion. This year, nothing quite so exotic, I just spent some leisure hours doing a little photography. The results of this were used to embellish the feature article and to provide some of the other captioned photos in this issue.

Due to travel plans, next month's Times deadline has been moved up a week. Please have your material to me by Friday, March 22. The following weekend I plan on being in Myrtle Beach for the Easter Holidays.

Kirk asked me to thank everyone that participated in the opening of the Simpson Observatory on Friday, March 1. It was a super success. He also wants to extend a special thank you to Brian Vanlieu who will be assuming responsibility for coordinating requests for special group activities.

Vic

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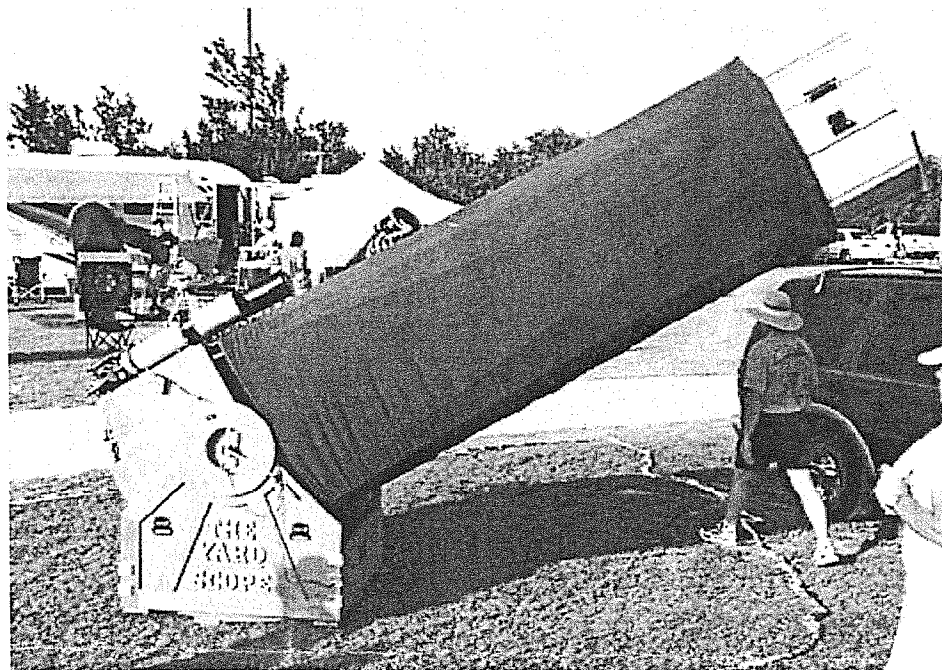
## From the Treasurer

Welcome to two new members, Philip Adler and Ron Schulte. The treasury balance stands at \$8,847.31. **Be sure to check your Sidereal Times mailing label for your membership expiration date and keep your membership current!** Basic AAAP membership is \$30 per year. \$60 includes a one-year membership and a one-year subscription to either Sky and Telescope or Astronomy Magazine. Both magazines with membership is \$90. Renewing members should include their magazine renewal form with their payment. Checks should be made payable to Amateur Astronomers Association of Princeton and mailed to P.O. Box 2017, Princeton, NJ 08543.

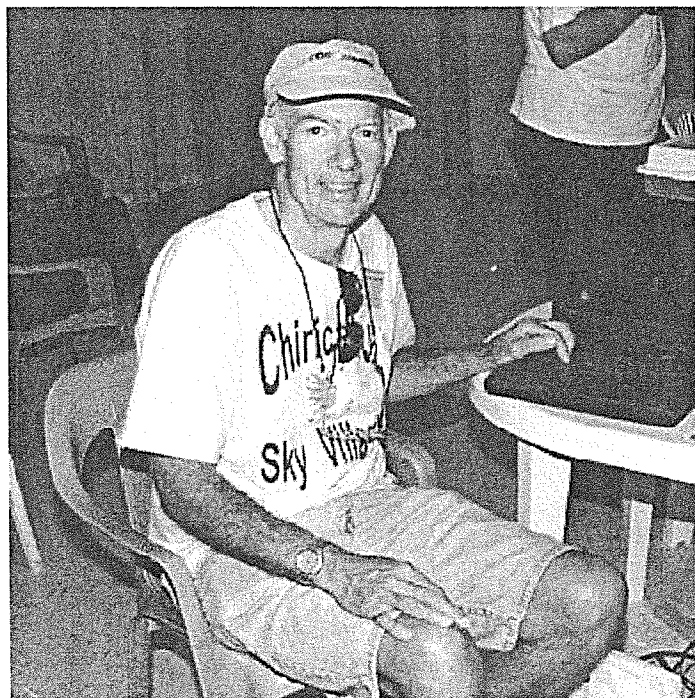
Pete Oppenheim

*(WSP 2002, Continued from page 1)*

The first, and strongest, nighttime impression was - Look at all the stars! The outlines of old friends Orion and Ursa Major were muted by thousands more visible stars despite light spill from Big Pine Key to the south and Marathon to the north. The Milky Way was actually visible without overtaxing the imagination. New to us northerners was the bright star above the horizon below Orion-Canopus! In the "Valley of the Dobs" telescopes from 10" to a 36" diameter "yard scope" permitted comparison viewing of familiar



objects such as the Orion nebula and discovery of new deep sky objects like NGC2359 (impressed?). Overtaken by enthusiasm



*Internationally renowned astrophotographer Jack Newton is a featured lecturer at this annual event.*

even an acrophobic scammed up the 12-foot ladder to move the 36" scope against a stiff breeze. Saturn's rings were never sharper nor Jupiter's bands more colorful.

Daylight hours permitted resting, roaming, resisting the vendors' wares, solar viewing and learning from outstanding lecturers. Don Parker, a researcher on the climate and meteorology of Mars, informed us that excessive SUV use by Martian inhabitants has caused global warming on their planet. Jack Newton's deep sky and solar photography was spectacular. We missed our chance

to have Steve O'Meara autograph our copies of his Messier book. Fred Espenak saved us dollars and frustration presenting NASA's prediction regarding the total solar eclipse of 2002, which will last only 35 seconds with a 7% chance of visibility in Australia. (Try South Africa!)



*Tippy D'Auria founded the Winter Star Party 18 years ago.*

What we learned:

Tippy is not a perky, petite, blonde female  
Key lime pie and pina colodas may be habit forming  
It is hard to be graceful atop a 12-foot ladder  
Key deer are endangered and ibis find little food in parking lots  
Iguanas are ugly and fire ants are nasty  
Star Party T-shirts sell out quickly  
There are no postcards of West Summerland Key  
Someone else always wins the door prize  
Line up for lectures early; there are only 60 seats  
Support IDA and local light abatement ordinances  
Prepare observing goals in advance  
Hang your red light around your neck  
Climb every ladder  
Look through every eyepiece

Plan ahead -19th Annual Winter Star Party is Feb 2-8, 2003

Marsha Smith  
Marian Palmer

*Find other pictures from WSP '02 elsewhere in this issue -- ed*

Deadline for the April Issue  
of the Sidereal Times  
Friday, March 22, 2002

## Simpson Observatory

### 2002 Duty Roster and Public Nights Schedule

#### Weather Policy

- On scheduled public nights the observatory will be open for the scheduled public nights when the skies are clear, partly clear, or partly cloudy.
- When the sky conditions are uncertain, it is the responsibility of the team-members to phone the team leader to decide on the evening's status.

#### Absences and Substitution Policy

- If you know in advance that you will be unavailable for a duty night, arrange in advance for your own substitution.
- If last minute events prevent your attendance on a duty night, it is your responsibility to contact the team leader before dark.

#### Keyholder Duty Roster

##### Team 1

Kirk Alexander \*  
Gene Ramsey  
Darryl Foyuth  
Pete Oppenheim  
Peter Fireman

##### Team 2

Vic Belanger \*

Chris Moser  
Greg Mauro  
Rich Armington

##### Team 3

Bill Murray \*  
Tim Young  
Pavel Studenkov  
John Miller  
Steve Kescses

##### Team 4

Ralph Marantino \*  
Saul Moroz  
Bill Fesio  
Don Monticello

##### Team 5

Ron Mittelstaedt \*  
George Walker  
Mark Lopez  
Larry Smith

##### Team 6

Rex Parker \*  
Mark Jaworsky  
Nick Hillman  
Manick Rajendran

\* Team Leader

### 2002 Observatory Public Night Schedule

<u>Team</u>	<u>Cycle 1</u>	<u>Cycle 2</u>	<u>Cycle 3</u>	<u>Cycle 4</u>	<u>Cycle 5</u>
1		3-29-02	5-24-02	8-2-02	10-18-02
2		4-05-02	5-31-02	8-30-02	10-25-02
3		4-26-02	6-7-02	9-6-02	11-01-02
4		5-3-02	6-28-02	9-27-01	
5		5-10-02	7-5-02	10-4-02	
6	3-1-02	5-17-02	7-26-02	10-11-02	

#### Important phone numbers

AAAP Observatory	737-2575
Observatory Chairman: Rex Parker	730-0670
Wash Crossing State Park HQ	737-0623
Wash Crossing Park Ranger after-hours	292-7172

## Jersey Starquest '02, June 7 - 9, 2002

## WC Observatory Chair Report

**Baldpate Mountain Observing Trip** We are planning a local expedition to the top of Baldpate Mountain (also known as Kuser Mtn), the highest point in Mercer County (475 ft) and many hundreds of feet above the Delaware River, to test the conditions for observing at this site. This exquisite property comprises over 1250 acres of hills, woods, fields, and a beautiful estate at the top. Recently acquired by a consortium of land trust and local/state agencies, it is in the early stages of becoming a Mercer County Park. Located north of Washington Crossing State Park, bordering the Delaware, and with the Hopewell Valley to the north, it is among the darker and less developed areas in the entire region. Plans call for it to remain in a largely natural state with opportunities for passive recreation only. We have an opportunity to demonstrate the value of this park as a dark sky site, and help influence decisions for the park's development as a minimally lighted, astronomy friendly location. We can envision a role for AAAP in astronomy observing programs at the Park in the future. I've made arrangements with the park naturalist for a group from AAAP to have special access to the park (dates below). The plan is to meet in cars at WC Park at the Rte 579 gate area, and go together to Balpate entrance. Bring your best telescopes to give this a real test!

### **Baldpate Mountain Observing Sessions**

Saturday - April 6 @ 7 PM to ??

Saturday - April 13 (rain date) @ 7 PM to ??

*Please confirm by March 30*

For the latest edition of the Duty Roster and Public Night schedule, see page 4 of this issue.

Rex Parker

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### Minutes of the Regular Meeting of the AAAP February 12, 2002

Before the meeting was called to order, club member Nick Hillman gave a short demonstration of his homemade parallelogram binocular mount.

Director Kirk Alexander called the meeting to order at 8:10 PM. There were 45 people in attendance, of which, 18 remained for the business meeting. Kirk opened the meeting by addressing the membership about the need for more help with upcoming club events. Kirk then asked for a volunteer to be in charge of extra-curricular activities such as having special groups come out to the Simpson Observatory. Club member Brian Vanlieu volunteered to be the coordinator of these activities. Kirk announced that next month, on March 16, a club Messier Marathon was going to be held at the Jenny Jump Observatory. The Director then brought up for discussion the topic of club sponsored field trips. The US Naval Observatory and the National Air and Space Museum were some of the suggestions that were brought up by the membership. It was also agreed upon by the membership that we should be looking to make these trips in the fall of this year.

Observatory Chairman Rex Parker addressed the membership about his ideas on using the new Mercer County Park that is located on Baldpate Mountain (Kuser Park). Rex stated that this site is 2 miles north of Washington Crossing State Park and that it is the highest elevation in Mercer County. Rex is proposing to the

county government that the AAAP be allowed to use the park for observing. He stated that the club members who were interested could set up their equipment on top of the mountain and spend the night observing. He also stated that the club could have private access to this park. Approval was given by the membership for the first night of observing on Baldpate Mountain to be April 13, 2002. Rex informed the club that some of the members would check the site out at night before the April 13 date. It was agreed that this would be coordinated through the Sidereal Times.

Kirk Alexander then asked for two volunteers for some Starquest work. One is needed as a sign painter so that the people attending Starquest would know where to go and where to park and the other volunteer would work on designing the Starquest T-shirt. Kirk then turned the meeting over to Program Chairman Mark Lopez. Mark introduced the guest speaker for the evening, Dr. Charles Joseph of Rutgers University. The topic of Dr. Joseph's talk was Project VIRGO, the Velocity Imager for Resolving Galaxy Origins. The talk ended at 9:35 PM. Kirk then adjourned the meeting for a short break.

After the break, Kirk called the business meeting to order. Kirk once again asked for volunteers for Starquest. No one responded. The Director then turned the floor over to Rex Parker. Rex stated that the County Park ranger also wanted a back up date as to when the club would want to go to Baldpate Mountain. It was agreed that April 6 would be a good back up because the last quarter moon occurs on this date. It was agreed by those present that the two dates for going to Baldpate Mountain would be April 6 and April 13, 2002. Rex stated that final plans would be announced in the Sidereal Times and the Web- site. He also stated that he would go out during the day to check the site out thoroughly and that this would be billed as a member star party. Rex then informed the membership that the observatory schedule for public observing nights has been completed and that March 1 is the first public night. He also stated that the schedule is based on a six team system and that the club had lost some key-holders because they were not able to commit to observatory duty. Rex announced that anyone interested in key-holder training should contact him and that the training would probably start in the spring.

Kirk then stated that the minutes of the January meeting were published in the Sidereal Times.

Treasurer Pete Oppenheim reported that there was a balance of \$8,528.00 in the club's account. Pete stated that he had received the renewal insurance policy for the club and that the premium had been paid. He also stated that he had begun the practice of placing the membership expiration date on the label of the Sidereal Times so that each member would know when their membership ran out and when to pay their dues. Pete asked that the dues be sent in before that date.

Program Chairman Mark Lopez reported that Assistant Director Ralph Marantino had contacted Mike Peeples of Highpoint Scientific to be the keynote speaker for Starquest. Ralph informed Mark that Mr. Peeples had agreed to speak and that the topic of his talk would be his supernova observations.

Membership Chairman Saul Moroz reported that there were currently 150 members in the club and that two more people were going to join that evening.

*(Minutes, Continued on page 6)*



*(Minutes, continued from page 5)*

Kirk announced that the deadline for the Sidereal Times would be March 1.

Website Chairman John Miller announced that the new Bulletin Board is open and that no password is needed.

Starquest Chairman Don Monticello distributed copies of the updated Starquest registration form to the Board members. Don stated that the finished form would be in the Sidereal Times and that his plans are to mail a copy of the registration form to those people who previously attended Starquest. Rex mentioned that we should highlight the fact that swimming is being offered because the club is paying for a lifeguard. Rex also stated that this should attract more families to Starquest. Saul Moroz thought that there should be a line on the registration form stating that a lifeguard will be in attendance for those interested in swimming.

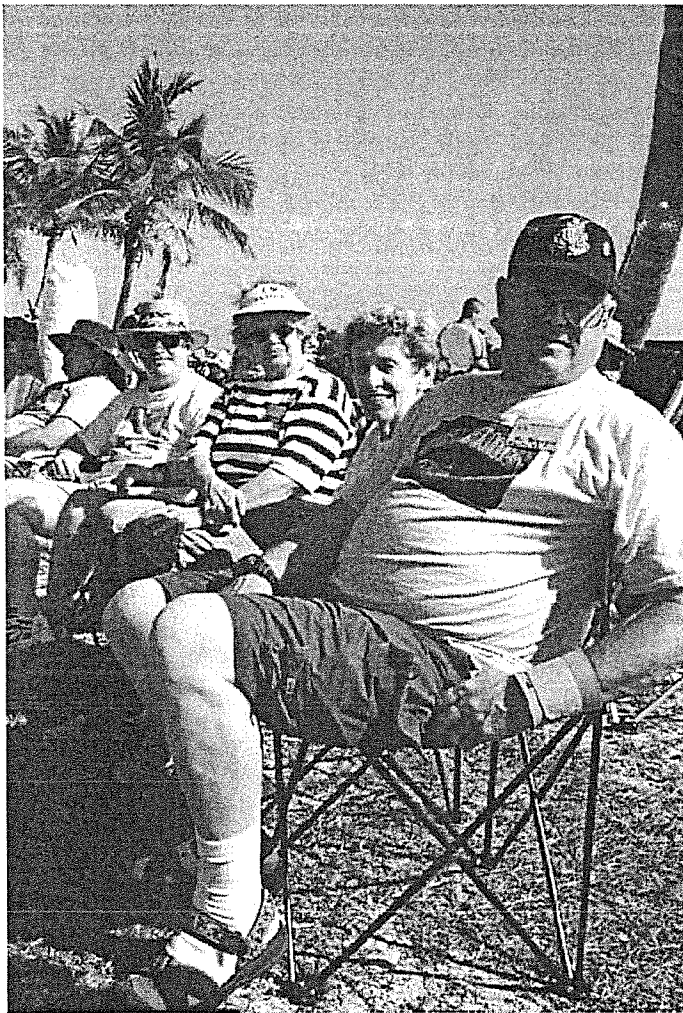
Other New Business- John Church informed the club that he had sent an email to Bill Burgess about the telescope focuser.

There being no more new business the meeting was adjourned at 10:00 PM.

Respectfully submitted,  
Mark Lopez for Bill Murray



*Ibis were common visitors to our camp and seemed not to fear getting too close, providing us great views of these magnificent waterfowl.*



*The AAAP contingent, right to left, Vic Belanger, Marian Palmer, Marsha Smith, and Bill Murray.*



*Meet the authors of our feature article, Marsha Smith (l) and Marian Palmer (r). Both are graduates, Summa Cum Laude of the Washington Crossing Introduction to Amateur Astronomy course (They just had to go through twice).*

THE AMATEUR ASTRONOMERS ASSOCIATION OF PRINCETON

PRESENTS THE 13<sup>TH</sup> ANNUAL

**JERSEY STARQUEST**

Held at the Hope Conference and Renewal Center, Hope, NJ (908) 459-4435  
Beginning at 5 PM Friday, June 7<sup>th</sup>, 2002 and running through 12 PM Sunday, June 9<sup>th</sup>  
(Friday dinner, 6:30-7:30, food will be available for late arrivals)

**Please note:** This event will take place regardless of the weather conditions!

**Featuring**

Stargazing at an amazing, dark sky location  
AAAP sponsored "Deep Sky Observing" contest  
Free space available for astronomical swap meet  
Indoor cabin accommodations (First come, first served)  
Ample space for camping & RV's  
Hot showers for all  
Five catered meals  
Raffle & Door prizes

**Scheduled Lecture Program**

Prominent Experts will conduct Saturday afternoon seminars.  
A keynote speaker will address the group after Saturday night dinner.

**Other Planned Activities Include**

Solar Observing  
Demonstration of Laser Collimating  
Field Trip to AAAP Observatory at Jenny Jump  
CCD Demonstration

**Plus**

Swimming (life guards provided), Fishing, Volleyball, Basketball, Hiking, Game room  
Boating on two lakes adjacent to property, and on the nearby  
Pequest, and Paulins Kill rivers— bring your own kayak or canoe.

**Registration Fees**

Camping and RV -- \$35.00 per person (\$45 after May 24<sup>th</sup>)  
Bunkhouse -- \$45.00 per person (\$55 after May 24<sup>th</sup>)  
Family Registration Discount -- After 2<sup>nd</sup> paying family member, subtract \$5.00 per child, 6-12  
Children under 6 years of age -- Free

**Meals**

(Friday dinner, Saturday breakfast, lunch, and dinner, Sunday breakfast)  
(Friday dinner, 6:30-7:30, food will be available for late arrivals)  
Adult -- \$33.00 per person  
Child (ages 6 – 12) -- \$18.00 per person  
Children under 6 years of age -- Free

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

Jersey Starquest Registration

Need more information? Send email to Anthony Monticello

## **JERSEY STARQUEST REGISTRATION FORM**

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

EMAIL (will be used for registration confirmation) \_\_\_\_\_

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):**

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)

Registration (per person)	\$35.00 _____	(camping or RV)
	\$45.00 _____	(bunkhouse)
	\$10.00 _____	(late fee after May 24)
Meals (Adult)	\$33.00 _____	
Meals (Child, ages 6 – 12)	\$18.00 _____	

FAMILY DISCOUNT - \$5.00 \_\_\_\_\_  
(after 2<sup>nd</sup> paying family member, per child 6-12)

TOTAL ENCLOSED \_\_\_\_\_

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

Need more information? Send email to Anthony Monticello

**IMPORTANT – Registration Deadline is May 24, 2002**

**Please Note –** Pets are not permitted at the site.

This event will be held regardless of the weather conditions.

**Sorry -- No Refunds for Cancellations received after May 24, 2002.**



### **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)**

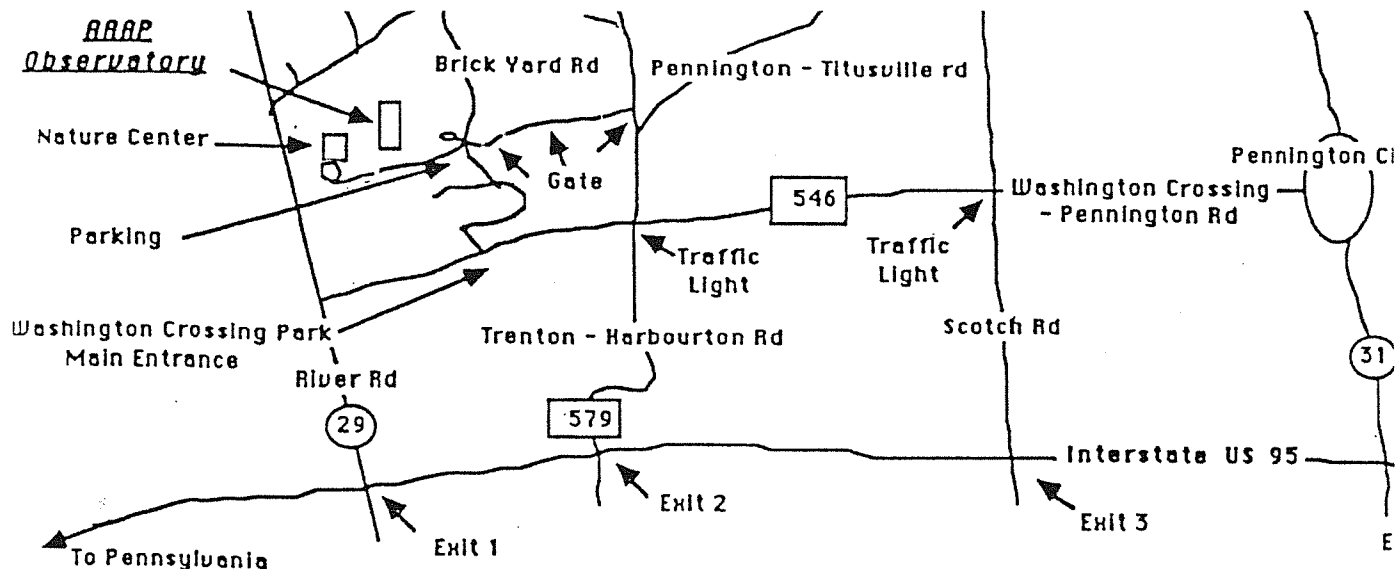
Take I-80 to Exit 12 in NJ. Exit onto State Road 521 south to Hope. In about two minutes arrive in downtown Hope, marked by a flashing red light. Turn left at this light onto St Route 519 north. FOLLOW "From Downtown Hope" below

#### **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.





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.

March 2002

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