

# SIDEREAL TIMES

The Official Publication of the  
Amateur Astronomers Association of Princeton

Director:  
Rex Parker

Treasurer:  
Ron Mittlestaedt

Program Chairman:  
Mark Lopez

Assistant Director:  
John Miller

Secretary:  
Mark Jaworsky

Editor:  
Victor Belanger

Volume 33

February 2004

Number 2

## From the Director

**AAAP Regular Meeting Feb 10.** We are excited to host the return of Dr Dale Gary of New Jersey Institute of Technology for the next meeting at Peyton Hall (8:00 PM, Feb 10). Dr Gary, a leader in the field of solar physics, will discuss research conducted at major solar research instruments in the U.S., including Big Bear and Owens Lake facilities in Calif. For more information please turn to Program Chair Mark Lopez's section in this issue.

**Winter Observing.** How to avoid frost-bite while trying to get a view of deep sky objects during these clear but frigid mid-winter nights? Many of our experienced observers can tell you their secrets of cold-weather observing. CCD astronomy is one way that works for me. Once the telescope is setup and polar-aligned, and the CCD hardware is configured, laptop-computer control of the camera allows repeated time exposure images to be captured while the user runs back into the warmth of the house! By this "technique" I captured the image of M42 (see right) despite 5 degrees on Jan. 10.

**Changes in AAAP Dues, Magazines, and Renewal Cycle.** The following changes were recommended at the January Board of Trustees meeting and approved by unanimous vote of the Membership at the January regular meeting. They take place immediately.

- **Annual membership dues now \$40 per year.** We have increased our dues from \$30 to \$40 per year, the first such increase in many years.
- **Sky and Telescope subscriptions will no longer be linked to dues.** However, Sky Publishing has agreed to honor the club membership rate for AAAP members to continue to receive the discount as before. You will need to telephone or write to S & T when you renew your subscription and identify yourself as a AAAP member (their subscription dept will have our current roster) in order to receive this benefit. Unfortunately Astronomy magazine will not offer this discount.
- **Annualized Dues/Membership Cycle.** To streamline the administrative overhead, AAAP annual membership dues renewals will now be payable on October 1 (i.e., paid during



Great Nebula in Orion M31, Tak FS-128 (5 inch)/G-11/ST-10XME CCD w RGB filters (image by RAP)

the month of September) and not the month in which you first joined. There is no family discount. To phase-in this plan, current members 2004 dues for the first three quarters will be payable according to the schedule below. By October 1, all existing members will be synchronized to the annualized plan and should renew by paying \$40 in September (by Oct 1). New members joining in any given quarter will also follow this schedule.

### Phase-In Dues Renewal for Existing Members and for New Members

Q1			Q2			Q3			Q4*		
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Dues \$30			Dues \$20			Dues \$10			Dues \$40		

\* Once synchronized all members pay \$40/yr in September

- **New Appointment – Observatory Co-Chair.** I have appointed Brian Van Liew as Co-Chair of WC Observatory along with Gene Ramsey. Brian (who remains Public Observing Outreach Coordinator) will be responsible for coordinating keyholder activities at the observatory, including  
(Director, continued on page 3)

Simpson Observatory (609) 737-2575

Minutes of the  
Regular Meeting of the AAAP  
December 9<sup>th</sup>, 2003

Director Rex Parker called the meeting to order at 8:04 PM. 49 club members, guests and general public were in attendance, 17 of which stayed for the club activities meeting. Rex's club highlight was: the mention of the recent unanimous passage by the Hopewell Township Committee of a revised Lighting Ordinance. Rex mentioned that the revisions were meant to give the ordinance more teeth and that the first ordinance resulted from a grass-roots effort by members Mark Jaworsky and Rex Parker in 1999. Rex suggested that club members who live in the neighboring communities try to work with their local governments on a grass roots level so that the light pollution encroachment on the Washington Crossing Observatory can be mitigated. Rex mentioned that the grass roots approach could very well be successful but cautioned not to expect someone else to do it for you.

Rex then introduced member Ron Mittelstaedt who gave a 10-minute talk on constructing a barn door tracker for wide-field astrophotography from plans published in an old Astronomy magazine issue. With the proper springs (utilizing their tautochronic properties as discussed in the evening's keynote address) a \$2.50 stepper motor can do the job of a \$50 stepper motor. The talk was very well received

As an appropriate segue to the evening's keynote address member Ernst de Haas gave a brief lesson in Danish pronunciation and taught the meeting attendees how to correctly pronounce "Tycho Brahe". Ernst stated that the consonants were pronounced as written with the 'ch' = 'k'. The vowels were mainly pronounced as written 'o' as a long 'ō', 'a' as in father and the 'e' mainly silent. However the difficulty was in the 'y'. Ernst stated that this should be a cross between 'ee' as in meeting and the German 'u', umlaut – 'ü' – to produce "Teetükō Brah".

Program Chairman Mark Lopez then introduced the evening's featured speaker, Dr. Michael S. Mahoney, Professor of History at Princeton University. Dr. Mahoney presented a talk entitled "Christaan Huygens: Clocking Longitude" chronicling the 17<sup>th</sup> century Dutch scientist's endeavors in developing accurate timepieces to measure longitude and the subsequent discoveries that were enabled by this pursuit. The talk was very well received.

The business meeting was called to order at 9:44 PM.

Secretary Mark Jaworsky announced that the email glitch was resolved and that all of the outstanding "tardy" minutes were finally published. Mark also gratefully acknowledged Program Chairman Mark Lopez for ably and expertly filling in as secretary during the November meeting.

Treasurer Ron Mittlestaedt reported a balance of \$xxxxx. The proposal for annualizing the dues structure was also discussed. Ron reported that he contacted both Sky and Tel and Astronomy to see if they would be willing to work with us. Ron said Sky and Tel would but that Astronomy would not. Ron also reported that he and Membership Chair Saul Moroz would work together on a plan to implement the annualization proposal. Director Rex Parker suggested this as an agenda item for the January Board Meeting. \ Program Chairman Mark Lopez announced that the January

meeting would feature Dr. Gillian Knapp of Princeton University, who would present on "Brown Dwarfs". Mark announced that the February featured speaker will be Dr. Dale Gary of NJIT who will be speaking on "Solar Radio Science" and that March would showcase Dr. Louis Lanzerotti also of NJIT speaking on the "Ulysses Spacecraft". Mark also announced that the open "Member's night" will occur in April or May pending speaker scheduling.

The Assistant Director John Miller announced that he will add a site map to the website hopefully before the next meeting. John also volunteered to spearhead collection of all of the current members email address list.

Director Rex Parker announced that the next quarterly Board of Trustees meeting will occur on Thursday January 8<sup>th</sup>, 2004 at 7:30 PM in Room E415 on the 4<sup>th</sup> floor of the Princeton University's Engineering Quadrangle. Rex reported that a major agenda item would be succession planning and appointing a nomination chair to start the process of creating a slate of officers for the annual elections at the May meeting. Assistant Director John Miller suggested that an outline of the Nomination Chair's responsibilities be drafted and sent to all club members via the email list. Publicity Chair Louisa Lockette suggested that members be assigned to duties. Treasurer Ron Mittelstaedt suggested potentially adopting a two-tier membership dues structure – giving those who regularly contribute time and effort to the club a break on their dues.

*Sidereal Times* Editor Vic Belanger was absent but Director Rex Parker reporting in his stead said the deadline for the November issue of *Sidereal Times* would be December 30<sup>th</sup>, 2003.

Washington Crossing Observatory Chairman Gene Ramsey reported that the bathroom at the Washington Crossing Observatory was closed for the winter. Gene acknowledged member John Church's assistance in winterizing the observatory. Gene said the only outstanding item for completing the winterization observatory was to blow out the water lines which was awaiting a fitting repair. Gene reported that John Church has obtained the proper fitting and that the lines would be blown out this week. Gene also requested that keyholders wishing to use the observatory over the winter months be vigilant to snow and ice build up on the computer room/bathroom roof to ensure that the main roof won't jam and damage the chain mechanism. Gene also announced his proposal to build a flap to divert water away from the roof flap over the computer room wall will be completed in the spring. Gene also reported that a "No Parking" sign was reported on the observatory driveway gate by the Park administration in response to member's parking on the road by the observatory during the Park open hours. Gene reported, based on his discussions with the Park Superintendent, that it is OK to park on the road when the Park is closed. However liability concerns of people walking on the road with parked cars on exceptional nights such as the recent Mars mania were discussed. During these nights it was suggested that the on-duty keyholder's station a team member to direct parking at the nature center lot or on the grassy area by the second gate if the Park administration agrees. Director Rex Parker suggested holding a keyholder refresher training session where parking policies would be discussed. Rex also brought attention to the accommodation of non-keyholder member attendance on non-public nights. Secretary Mark Jaworsky suggested keeping an up-to-date-roster at the observatory so that prospective callers could be screened. Ron

(Minutes, continued on page 3)

## Cold Weather Observing

Winter is upon us, the warm, muggy-buggy nights of summer are gone. The atmosphere has less haze which makes the sky much clearer to sight constellations and star-hop. You say it's too cold to venture out with your telescope. You can observe as often in the winter as in the summer if you are dressed right and have the right equipment. Who wants to miss the Orion Nebula, the Crab Nebula and the many open clusters the winter sky has to offer.

I can handle the cold, but it's the wind that makes my toes and finger start to numb. The wind makes it hard to stand still looking into an eyepiece for any length of time. My only suggestion is, try to refrain from observing on windy nights because body heat is lost quickly, and it makes the telescope shake on it's mounts where it is difficult to use high magnification. This is the case at Jenny Jump because it resides on top of a mountain and in a saddle point where wind speed is intensified.

The calm, clear, some-what cold nights can be enjoyed comfortably by wearing several layers of clothing. I start with insulated underwear, then a flannel shirt and jeans. I then wear an insulated vest, scarf, and a heavy coat. My gloves are actually mittens that can be folded back to expose my fingers to handle delicate eyepieces, focus knobs, or my sketching pencil. Most of the time my hands are exposed and are kept warm by sticking them in my pockets where each has a solid fuel heater. These heaters can be purchased from K-Mart or Wal-Mart for about four dollars each. I light the solid fuel sticks at each end for maximum heat and where they tend to stay warm for about three hours.

On my feet I find a thin pair of cotton followed by a pair of wool socks works best. Your feet may tend to sweat with the just the wool socks. The cotton is there to absorb the perspiration which cause your feet to loose heat, wet insulation is ineffective. My boots have 1000 grams of "Thinsulate" not so bulky that I can't drive with them on. Lastly wear a hat, most of your body heat is lost through your head (makes you wonder if there's anything up there to stop it). I prefer to wear the insulated baseball caps that sport ear flaps. I also have an Air Force fur hat where the ear flaps can be snapped together with a chin strap. My coat also has a detachable hood which I use when the temperatures really go down.

Take your observing equipment outside before you don the articles mentioned above and let your optical tube stabilize for about fifteen minutes. I sometimes observe with bare fingers and find that if I insulate the bare metal items on my telescope my fingers won't numb so fast. I do this by wrapping rubber bands around the top metal portion of the eyepiece. Another item is my observing chair. When I obtained my Tele-View Air Chair, Ralph already had his. His wife, Betty, made a nice cloth cushion to cover the cold "Nauga-hide" cover. I also bought a heatable pad to fit this chair. The pad can be reheated in a microwave oven and lasts for about three hours, more than enough time for a decent observing session in the winter months.

When observing in the summer, I have found that it takes up to an hour for the 11-inch primary mirror on my Schmidt Cassagrain to reach ambient temperature and the images to become stable. Another quicker way to bring in dry warm air in to the enclosed tube in the summer was found looking on the Astromart website. I found a company, Lymax ([www.lymax.com](http://www.lymax.com)) that sells a product call the "SCT Cooler." The principal is that a tube fits into the

visual back through the baffle tube with a fan on the outside end. This blows in outside air and directs it on the primary mirror. I found the price a bit steep at \$130. A trip to Radio Shack and the local hardware store found that such a product could be made for about \$20. I bought the fan at Radio Shack for \$8 and the balance spent on PVC tubing and adapters. Air Conditioner filter material at the exit end of the fan allows only clean air to enter my scope tube. After observing in cold temperatures and the scope is brought indoors, I also install this unit for about one hour which is more than enough time to allow the mirror to reach room temperature. This allows warm dry air to blow on the primary mirror thus condensation build up is eliminated.

Ron Mittelstaedt

---

*(Minutes, continued from page 2)*

Mittelstaedt said the roster is current as of October 2003 and that he updates it periodically. Director Rex Parker reported that the new mount has not yet been polar aligned and that member Bill Murray is planning to do this over the Holiday break.

Membership Chairman Saul Moroz reported 122 members. Saul also reported that he would be working with Treasurer Ron Mittelstaedt on implementation of the annualized dues structure.

Public Outreach chairman Brian Van Liew reported that the next Public outreach event would be Super science weekend at the NJ State Museum on Jan 10<sup>th</sup> and 11<sup>th</sup>.

StarQuest planning was briefly discussed. StarQuest will be held on June 18<sup>th</sup> to 20<sup>th</sup>, 2004 in Hope Conference and Renewal Center, Hope NJ. Publicity Chairperson Louisa Lockette inquired as to the proposed registration deadline date so she can properly inform the various publicity outlets. StarQuest Chairman Don Monticello stated that the deadline would be June 4, 2004, two weeks prior to the event.

The meeting was adjourned at 10:12 PM.

Respectfully submitted,  
Markian S. Jaworsky, Secretary

---

*(Director, continued from page 1)*

the Duty Roster, and for further developing the keyholder training program. Gene will continue his outstanding work in coordinating instrumentation and facility maintenance and improvements. Brian and Gene will work together with the Keyholders to ensure that the Observatory is a centerpiece of club activities.

**Opportunities for AAAP Members.** In recent issues of ST and at the last meeting I discussed our vision for the future of the AAAP in its three-fold mission of supporting hands-on astronomical observing and imaging, cutting-edge lectures by professional astronomers and physicists, and public outreach and education in astronomy. To bring this vision to life requires hard work and commitment of the membership, for which we have evolved a structure to develop and coordinate the activities in the club. **On page 7 is a Table outlining the current structure and the key people** who spearhead these activities. We really need more help (even an hour a month can help) with all facets of the club's activities. Please think about how you can "give back" to the AAAP, your peers, and to amateur astronomy by contacting a board member or committee chair to help build on our foundation.

Dark Skies! Rex

## From The Program Chairman

As I sat down at my computer sometime last fall, I noticed that the sun had been the topic of many news stories for the past several months. I also realized that the club had not had a guest speaker who talked about this subject for quite some time. To remedy this, I went to the New Jersey Institute of Technology website and found the solution to this problem. On Tuesday evening, Dr. Dale E. Gary, Professor of Physics at NJIT, will speak to us about the latest developments in the field of solar radio science. The title of Dr. Gary's talk is "*Turning Into The Sun: New Developments In Solar Radio Science*".

Our guest speaker received his B.S. in Physics from the University of Michigan and he earned his PhD in Astro-Geophysics from the University of Colorado. Besides handling a full teaching schedule as a professor of physics, Dr. Gary is on the staff of the Center For Solar-Terrestrial Research and he is the Director of the Owens Valley Solar Array Radio Telescope in Big Pines, California. He is also the Associate Director of the Big Bear Solar Observatory and he is a Principal Investigator for the Frequency Agile Solar Array Radio-telescope (FASR) Project. All of these mentioned facilities can be accessed at Dr. Gary's web site <http://physics.njit.edu/~dgary/> or you can visit the AAAP web site at [www.princetonastromony.org](http://www.princetonastromony.org).

Dr. Gary's research interests include Solar Physics and phenomena related to the atmosphere of the Sun and solar-like stars. His work includes the study of solar/stellar flares, sunspots, active regions, filaments and prominences, and quiet Sun networks. This takes in the measurement of physical parameters of the solar atmosphere, such as magnetic fields, density, temperature, and energy distribution of electrons and ions in the photosphere, chromosphere and corona. Radio emission from the Sun and stars, radio emission mechanisms, radio instrumentation and techniques, and microwave spectral imaging of the Sun and stars are also a large part of Dr. Gary's research. High-energy solar physics, including hard and soft X-ray, extreme-ultraviolet (EUV) and gamma ray observations are also very important components of his research schedule.

In addition to his research, Dr. Gary is an active member of the American Astronomical Society where he serves as Treasurer of the Solar Physics Division, and he is also a member of the International Astronomical Union and the American Geophysical Union.

Dr. Gary is also an active amateur astronomer. He is a member of the NJIT Astronomy Club, he participates in Project Astro Nova, and he is on the National Science Foundation/ Astronomical Society of the Pacific Initiative to pair up middle and high-school teachers with astronomers in New Jersey.

As I am sure you will agree, Dr. Gary is the perfect choice to give a talk about the new developments in solar radio science. From what I have just described about the professional life of our guest speaker, this is a talk that should not be missed, even if your interest in solar astronomy only surfaces during the rare solar eclipse. For you solar astronomers, this is a rare treat. You won't want to miss this one.

If you would like to enhance your AAAP experience, consider joining Dr. Gary, myself, and other club members for the pre-meeting dinner. We will be dining at The Annex Restaurant, 128 1/2

Nassau St., at 6:00 PM, on Tuesday February 10. If you would like to attend the dinner, you can email me at [mal455@earthlink.net](mailto:mal455@earthlink.net) or you can call me at home at 609-393-02565. Come, you won't be sorry that you did.

For the March 9 meeting, the guest speaker will be Dr. Louis Lanzerotti, also from the NJIT Department of Physics. He will be discussing the Ulysses Spacecraft.

Mark Lopez

---

## 2004 EVENTS

Compiled by Bob Godfrey

<b>April 14 – 18</b>	<b>Delmarva Star Party Tuckahoe State Park, Maryland</b>
<b>April 17 – 18</b>	<b>NEAF Suffern, New York</b>
<b>April 24</b>	<b>Astronomy Day Boston Museum Of Science</b>
<b>June 5</b>	<b>Starconn Wesleyan Univ., Middletown, Ct <a href="http://www.asgh.org">www.asgh.org</a></b>
<b>June 18 – 20</b>	<b>Jersey StarQuest Star Party Hope, New Jersey</b>
<b>July 9 – 18</b>	<b>Rockland Summer Star Party Savoy, Massachusetts</b>
<b>July 16 To 18</b>	<b>Rochester Fest Rochester, New York</b>
<b>August 13 – 14</b>	<b>Stellafane Springfield, Vermont</b>
<b>Aug 29 – Sept 1</b>	<b>Arunah Hill Days Cummington, MA</b>
<b>September 10 – 12</b>	<b>Black Forest Star Party Pennsylvania</b>
<b>September 10 – 12</b>	<b>Connecticut Star Party Colebrook, Connecticut</b>
<b>September 15 – 19</b>	<b>Delmarva Star Party Tuckahoe State Park, MD</b>
<b>No Date Yet</b>	<b>The Conjunction Northfield, MA</b>

Deadline for the  
March 2004  
Sidereal Times  
February 27, 2004

## Super Science Weekend 2004

This year was my 3<sup>rd</sup> year attending the AAAP table at the Super Science Weekend at the NJ State Museum. This has grown to be one of my favorite events. We had 3 to 4 scopes set up to look at the sun through window of the museum. One scope was looking at solar flares and the others set-up for sunspots. The AAAP was represented on Saturday by Ron Mittelstaedt, Gene Ramsey, Saul Moroz, Larry Kane and myself with a brief visit from Ralph Marantino and Bill Murray. On Sunday Ron, Gene, Jane Lanahan and myself manned the table and scopes.

The event runs from mid-morning to late afternoon on both days. We gave out Astronomy Magazine flyers and Sky and Telescope literature to all who passed by (about 9000 according to the Trenton Times newspaper). On Sunday I put a video camera in Ron's H-Alpha scope and displayed the solar flares to a TV monitor for the crowd to see. After all, even



the youngest child knows how to watch TV but usually can't see into an eyepiece very well. This also helped keep the lines shorter since there was only one Ha and a couple of sunspot scopes. I did record the flares to VHS tape during the clear times so I could play it back if it clouded over – which it did briefly. For the most part we had exceptionally clear weather for the entire weekend. One thing to remember for next year is to bring a supply of throat lozengers since you talk from the moment your first visitor arrives Saturday morning until the sunsets on Sunday. Not to mention a short sleeve shirt since it does get quite warm standing in the sunshine - whew.

Brian Van Liew



---

## Observations

On Thursday, Jan. 22nd I received an e-mail from the yahoo message group that a pipe under the kitchen sink had burst from the extreme cold temperatures, in the house at Jenny Jump. There was a scheduled business meeting on Saturday at noon, but members were asked to arrive early to help with the clean up. The damage was rather extensive. The plasterboard ceiling fell down on all of the displays in that area of the basement. The time was mostly spent removing the soaked carpeting in the dining room and basement in both the display and lecture area. There is no estimate on the cost or when the display area will be back to its former condition.

I had ask Barry Malpas a few years ago if our observatory with our 12.5" Newtonian would be covered under an insurance policy with the State of New Jersey? I never got an answer on two different occasions. I then proceeded to insure the observatory at Jenny Jump under the same policy we have on our observatory at Washington Crossing. Members helping with the clean up yesterday ask Barry the same question, "Is the damage covered?" He didn't have an answer and this boggles my mind. Rest assured the AAAP buildings, equipment plus liability are all covered.

So much for the problems with the clubhouse. After the meeting, which adjourned around 2pm, we headed up to High Point Scientific to visit Bob Dogen. We talked to one customer there

who was new to the hobby. He asked about removing dew from his newly acquired Celestron SC8 GPS. Bob told him about the Kendrick dew removing system and the new dew heater controller by Thousand Oaks. We also advised him to acquire a Telrad finder, a necessary accessory for a new scope. We also informed him about Jersey StarQuest which he will be looking forward to since he lives in the area.

We left in time to grab some dinner and arrived back at the jump by 6pm. The conditions were great, but the temperature was 4 degrees with a 10 mph breeze. The first object was Comet Linear C/2002 T7. After some searching off the Great Square of Pegasus the comet was found. On this day the comet was listed at mag 7.8. There was a distinct nucleus and slight tail. I was able to sketch this object even in the frigid weather. We moved on to the Orion Nebula which looked great in the 12.5 Newtonian with a 22mm Nagler T4 eyepiece. The winged gas cloud stretched across the entire field. The weather was growing colder and after a few more objects we stopped at the Andromeda Galaxy. We were able to observe individual stars within the galaxy, a sight not normally seen. We pack it in around 8:30 and drove to the Dunkin Donuts in Washington before returning home.

Ron Mittelstaedt

## Software Review

At the last membership meeting, I asked whether we could have a column in this newsletter, which could provide astronomy related software reviews to the membership. As one might expect, the question was returned to me, in the finest Freudian style, "That's a great idea, why don't you do it?" So, what else could I do, but do it? Therefore, I will launch on this noble endeavor.

When trying to decide which software packages to review, I narrowed the vast choices down to one of two which I would think are of primary importance to the members of the AAAP. They are also the two with which this reviewer is most familiar.

These are, of course, two versions of "The Sky" by Software Bisque. The two versions to which I refer are one for the full sized PC and one for the "Pocket PC." After pondering the cosmic issues involved, it dawned on me that fewer members might be familiar, and, therefore more interested in learning about the Pocket PC version.

Priced at \$49.95 and available at the publisher's website, [www.bisque.com](http://www.bisque.com), this is a 7.3 megabyte, file. It does not come with the T-Point Software which costs about \$100 extra. (More on this, perhaps in a future review) After paying for the program, you get an email from the company that contains a password which allows you to download the file to a PC and then transfer the program to your pocket PC. Before purchase, pay close attention to the types of pocket PC's and telescopes with which the program is compatible. It appears to cover a lot of territory, but don't take anything for granted. Logging onto the Bisque website provides a lot of information about the program and those devices with which is compatible.

What does this program allow you to do? It is, in fact, a mini version of its PC brother, providing stars, Messier, NGC PGC, IC, and SAO catalogue objects, as well as showing real time positions of constellations, minor and major planets and comets. A user can select and save the latitude, longitude and elevation of a "home" viewing site, as well as adding and this information for a "visiting" site. Once you set the date and time, either manually or allowing the program to get this information from the computer upon which it is installed, you can find and display objects with magnitudes of -6 to +30. A user can find any object listed and center it in the star field, with or without constellation boundary lines. As one still learning his way around the cosmos, I prefer using both the lines and names for the constellations. Stars, galaxies, open and globular clusters and nebula, both planetary and otherwise may all be located, and centered in the field of view. Objects may be found by common name, by the name given in one of the six included stellar catalogs, or by the Bayer or Flamsteed methods of stellar nomenclature. Bringing up a description of an object from the program's database is a simple task to accomplish. This may be one of the programs greatest features; having a hand held galactic encyclopedia.

There are a variety of fields of view from which to choose. These go from a Telrad view to 4 inch and larger telescopes with different eyepieces to a variety of CCD cameras. The program also allows the user to zoom in and out of a field of view as well as align the sky to face each of the four directions and toward the zenith. If one prefers, coordinates may be input manually and the program will then show that part of the sky. The program is capable of

displaying in a "night visions" mode, as well as showing a white background with black objects.

Like its bigger brother, The Sky for Pocket PC, when connected to a "Go To" drive, or any one of fifteen different telescope drives, will slew a telescope to a selected target. The accuracy of the slewing will be, as you might have guessed, more dependent on the telescope's alignment and drives than on the software. Be advised that the cables required for a connection will vary with the pocket PC and the type of drive being used. Once connected, slew rates and tracking modes may be set via the program.

In Summary:

Pros

- VERY portable
- Fairly versatile

Cons

- Will work with Windows for Pocket PC only. It will not work on a device with a palm operating system.
- Depending on your pocket PC, it may be hard to read.

Larry Kane

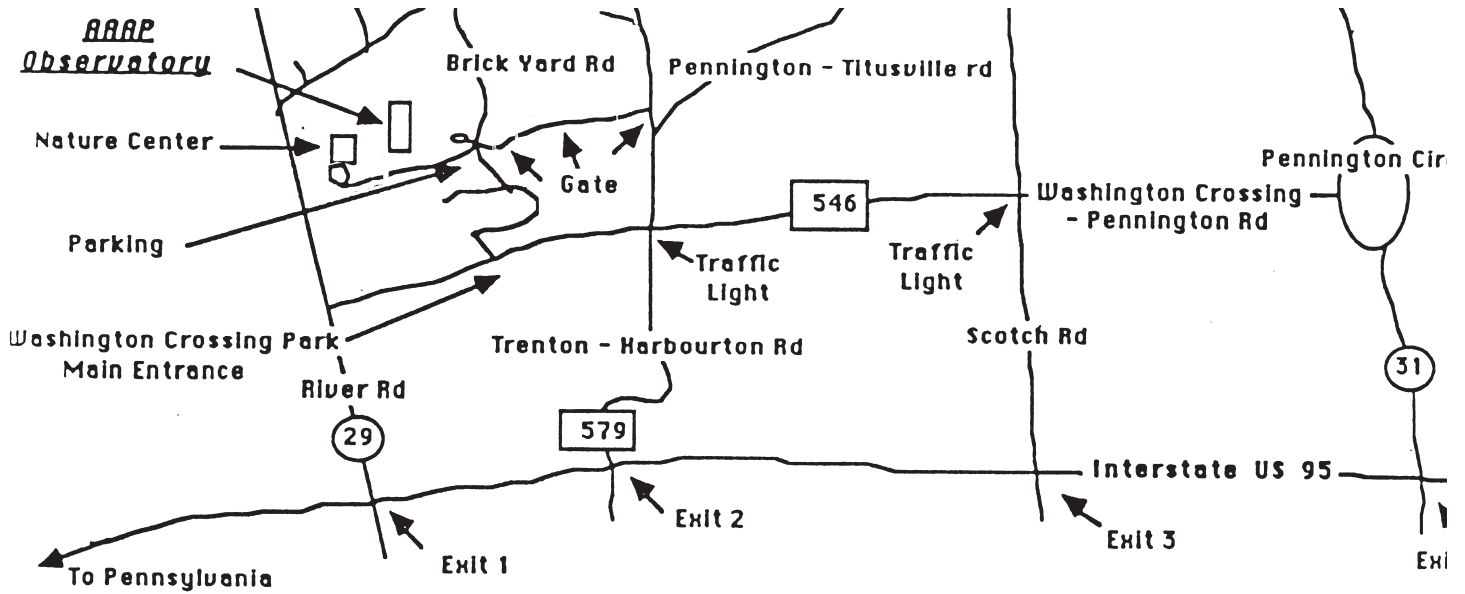
---

## Its Time to Start Planning

For.....

**Jersey**

StarQuest '04  
June 18 - 20



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.

February 2004

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