

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

Ron Mittelstaedt

Editors

Bryan Hubbard and Ira Polans

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Number 8

From the Director

Here we go! Off to a new season for the Amateur Astronomers Association of Princeton. Forty five years. Wow. The club celebrates its 45th birthday this November.

A lot has transpired in the astronomy world since that inaugural meeting in 1962. This writer was just taking a first look through his father's Questar on a family farm in Califon, NJ. Maarten Schmidt wouldn't make his spectral analysis of quasar 3C273 for another month (why didn't he just call the club?). John Glenn was just getting his land legs back having piloted Friendship 7 for five hours a few months before. The AAAP has seen the Moon become a golf course, our Solar System evolve into the largest laboratory known with which man-made robots could tinker, and read the news about an unexpected expansion of the Universe. Perhaps one of our future members will swing a nine iron in Clavius.

The perceived motion of that golf club reminds me of physics – which often turns to thoughts of ponderings of astrophysics (on the most elementary level, of course) – and occasionally steers to the ever-fascinating realm of black holes. Speaking of that topic, I am delighted that Scott Tremaine will be the AAAP season opener guest presenter. He will be discussing the dynamics and exotic behaviors of massive black holes and their environs. Dr. Tremaine is the Richard Black Professor of Astrophysics at the neighboring Institute of Advanced Study. Prior to his IAS appointment, he was chair of the Department of Astrophysical Sciences at Princeton University. You can read more about Scott Tremaine at the club website. This should prove to be an absorbing and thought-provoking discussion.

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

And thanks to Program Chair Ludy D'Angelo for assembling a stellar cast of guest speakers for the 2007-2008 season. Among

the luminaries are Greg Olsen, who orbited in the International Space Station; Princeton's own Ed Turner, and David Hogg of Columbia University. Orsola DeMarco makes an encore presentation for us next March. And speaking of stellar, remember to mark October 12, 13 and 14 as your StarQuest Weekend. Be sure to send member Don Monticello your reservation form soon (those miniature Hiltons will be filling up quickly!). Forms can be printed from the AAAP web site. Crisp evening air, superb transparency, longer windows of darkness and fields of equipment should make this Fall StarQuest a sensational stargazing and astroimaging experience. Don't miss it!

StarQuest 2007—October 12, 13 and 14

This the AAAP's 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" and there are lots of things to do. Hike, bike, canoe, kayak, attend lectures, read a book under a tree in a bucolic setting to name a few. There are good restaurants nearby.

More info available at: <http://www.princetonastronomy.org>

Look on the left for StarQuest 2007

Or use the application in this issue of the Sidereal Times

Please sign up for StarQuest 2007—it is your party!!!

Simpson Observatory News: During the summer we contracted to have a large section just east of the observatory cleared. This has opened a lot of sky, and establishes a foundation for a number of possible uses. The next step is to ask for your vote to budget for complete stump removal and leveling of the area (it's roughly 2000 sq. ft.). We will also be laying PVC drainage pipe (and probably calling for a few helpers). Eventually, we will look to you, the membership, for recommendations for future development of this clearing. Perhaps concrete pads can be poured for setting up scopes for an evening's use. Possibly we could invest in a small second observatory. There was brief discussion of moving the 12.5" Newtonian reflector from Jenny Jump. That's been tabled for now with the hope of revitalizing use of the Jenny Jump Observatory. Please let us know your thoughts.

This will be another great, productive year for the AAAP. I hope more scope and binocular owners will coordinate mini, on-the-fly, observing sessions. For those of you who don't own optics except those near your nose, these gatherings are terrific for testing scopes and enjoying astro-camaraderie. We have an email list to alert people of these serendipitous junkets. Drop a note if you'd like to be added. Lots of you enjoy explaining the wonders of the night sky to the public; perhaps we can think of novel ways to continue this. Jeff Bernardis, our Public Outreach Coordinator has done some terrific work. Let him know your ideas.

And let's plan for an AAAP Birthday Bash this November.

Cheers—John Miller,
Director

Minutes Board Meeting of July 19, 2007

John Miller called the meeting to order at 7:04pm in the lower level classroom in Peyton Hall, Princeton University. Board members attending: John Miller, Director; John Church, Assistant Director; Ludy D'Angelo, Program Chairman; Ron Mittelstaedt, Secretary; and Michael Mitrano, Treasurer. Other Committee heads and committees members present were Archivist/Co-Observatory chairman, Larry Kane; Sidereal Times Co-Editor, Ira Polans, and Starquest Co-Chairman, Larry Smith. Members attending were, Vic Belenger, Saul Moroz, Bill Murray, and Brian Van Liew.

Starquest: Larry Smith had spearheaded the clubs interest of catering the Starquest meal themselves. He has presented a preliminary menu for the three meals served on Saturday, October 13. The board then voted on the motion to continue with the plan of AAAP members to be responsible for Starquest catering. The vote from the board was four yea one abstain.

Larry Smith and Gene Ramsey will coordinate the buying of food, and other items needed for catering. Ron Mittelstaedt will buy the additional needed items at the Hope, NJ location. Ludy D'Angelo volunteered to man the grill for the Saturday morning breakfast. Fees for attending Starquest were discussed and are published on the registration form in the midsummer and September edition of the Sidereal Times.

UACNJ at Jenny Jump: Discussed plans of renewing interest in the AAAP observatory on the grounds of the United Astronomy Clubs of New Jersey located in Jenny Jump State Park. Bill Murray and Larry Smith will survey the condition of the AAAP observatory that houses the club 12.5" Parks Newtonian. Future plans of a AAAP StarParty will be finalized after Bill and Larry's report.

The deadline for the October issue is:

Friday, September 21, 2007

Send your submissions to:

editors@princetonastronomy.org

Treasury: Treasurer Michael Mitrano reviewed the software program he is using to break down the treasury into different categories making the financial picture clearer. The fiscal year was discussed and preliminary decision made to make it from September 1st to August 31st each year. Mike was going to research this further for feasibility.

Publicity: will have to contact different newspapers to announce public observing nights at the observatory and lectures at our membership meetings.

Speakers: Ludy D'Angelo has speakers for all membership meetings except September, May, June and Starquest. There was a suggestion made that Frank O'Brian was available to give a lecture on the Apollo 13 and 14 guidance computer and other aspects of these missions. Ludy will have a report of the speakers already lined up in the September Sidereal Times.

Simpson Observatory: Contact will be made with the landscaper that cleared the area east side of the observatory to request that he lay two inches of mulch to deter any further plant growth in the area already cleared. Brian Van Liew will inspect and purchase PVC pipe for drainage. This will be in addition to the drain already under the road leading into the observatory building. Installation of a donation bottle in the observatory and also at the membership meetings, was discussed.

Sidereal Times: Ira Polans discuss the addition of new columns to the Times. One started last month by Brian Van Liew Titled "Picture This". There was also discussion of renewing Bill Murray's "Sky Hunt" column. A monthly column on what objects are in that months sky and how to find them. Ron Mittelstaedt will continue his column "Observations." A column on his experiences at area StarParties and other events related to amateur astronomy. Announcements on observatory keyholder training and future outreach activities will also be included.

The was a motion passed to send a donation of \$100 to the Humane Society at the request of Louisa Lockett's grand daughter in her name.

Meeting was adjourned at 9:07pm.

Ron Mittelstaedt, Secretary

Treasurer's Report as of June 30, 2007

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 as of the fiscal year end. Beginning this year, we have computerized the AAAP books, which permits more detailed reporting and allows us to relate revenues and expenses with some of the main activities of the association, such as the public lectures and the observatories.

FY 2007 was unusual because no StarQuest took place during the year. The switch to a fall date means that only a small amount of StarQuest expense and no revenue were booked during the fiscal year. Nonetheless, the AAAP had a good surplus for the year of \$990. We ended the year with \$12,200 in the bank plus a \$200 deposit with the StarQuest location for this fall's event.

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

Michael Mitrano, Treasurer

REVENUE AND EXPENSES FOR THE YEAR ENDING JUNE 20, 2007					
	Gen'l Ops	Lect- ures	Observa- tories	Star Quest	TOTAL
Ordinary Income/Expense					
Income					
Member Dues	3,950	0	0	0	3,950
Outreach Contributions	600	0	0	0	600
Sale of Equipment	795	0	0	0	795
Sales of AAAP & Astro Items	337	0	0	0	337
Income Not Classified	266	0	0	0	266
Total Income	5,948	0	0	0	5,948
Expense					
Astronomy Calendars	162	0	0	0	162
Books and Publications	30	0	0	0	30
Business License & Fees	25	0	0	0	25
Dues and Subscriptions	125	0	0	0	125
Electricity	0	0	81	0	81
Equipment	0	0	566	0	566
Insurance	0	0	1,447	0	1,447
Miscellaneous	7	0	15	34	56
Post Office Box	50	0	0	0	50
Postage and Delivery	173	6	6	0	185
Printing and Reproduction	301	0	33	0	334
Prizes	0	0	0	111	111
Rent	0	0	1	0	1
Repairs	0	0	32	0	32
Speaker Transp & Meal Expenses	0	408	0	0	408
Telephone	0	0	301	0	301
Telescope Upgrade	0	0	1,015	0	1,015
Web Site Expenses	79	0	0	0	79
Total Expense	952	414	3,497	145	5,008
Net Ordinary Income	4,996	-414	-3,497	-145	940
Other Income/Expense					
Interest Income	50	0	0	0	50
Net Income	5,046	-414	-3,497	-145	990

BALANCES AT FISCAL YEAR END	
	Jun 30, 07
ASSETS	
Current Assets	
Checking/Savings	
Third Federal Checking	9,206
Vanguard Money Market	3,000
Total Checking/Savings	12,206
Other Current Assets	
Facility Deposit	200
Total Other Current Assets	200
Total Current Assets	12,406
TOTAL ASSETS	12,406
LIABILITIES & EQUITY	
Equity	
Retained Surplus	11,416
Net Income	991
Total Equity	12,406
TOTAL LIABILITIES & EQUITY	12,406

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 whole season filled except January, June, and Starquest. Any suggestions the membership may have towards topics and speakers please email them to me or talk to me at the meetings. I'd like to thank everyone who has helped in this process so far and especially: John Miller, Ron Mittelstaedt, John Church, Ira Polans, Bryan Hubbard, Vic Belanger, Rex Parker, Linda Papetti, Richard Fabbri, and anyone else I may have missed.



On September 11th, Dr. Scott Tremaine of the Institute for Advanced Study will provide a talk on "Massive Black Holes in the Universe". Dr. Tremaine is a specialist in astrophysical dynamics, including the formation and evolution of planetary systems, comets, black holes, star clusters, galaxies and galaxy systems. For more info, check out his website: <http://www.astro.princeton.edu/~tremaine/>. I hope that everyone will enjoy the information he brings to us at our meeting.

In the following months, presentations will bring us near earth and way out to the fringes of the galaxy and beyond.

In October, Dr. Arlin Crotts of Columbia University will present a talk on "Transient Lunar phenomenon". Something's happening on the moon; we're going to find out the nature of it.

November brings us Greg Olsen. He will tell us of his experiences on the International Space Station as the third private citizen to go onboard. Greg is president of GHO Ventures in Princeton, New Jersey.

We go out to other planetary systems in December with Dr. Edwin Turner of Princeton University. Although there is no topic as yet, his research interest is in astrobiology and exoplanets.

As of this writing, I have not filled the January slot, but in February, Dr. Jerry Sellwood of Rutgers University will be our speaker. His speciality is the structure and evolution of galaxies, their formation and their dark matter content. Topic to be announced at a later date.

In March Dr. Orsola DeMarco of The American Museum of Natural History will present her research interests in binary star systems and/or planetary nebulae.

April will be far out as Dr. Iro Tasitsiomi of Princeton University will present a topic in cosmology or the evolution of the universe.

In May, Dr. David Hogg of New York University ("I would be pleased to speak at the AAAP, and I have lots I would love to talk about!"), will speak to us on a topic to be decided on at a later date.

June is still open, StarQuest is approaching quickly, and I am still working on speakers for both of those events. I am open to any, and all input concerning speaker possibilities.

Please send any comments and suggestions to me at

Ludovico D'Angelo, Program Chair

Picture This—"The Lagoon Nebula: M8"

This month's object is one that can be seen from a semi-dark location with a modest size scope during summer nights. Located in Sagittarius (which looks very much like a teapot to my eyes), the Lagoon Nebula (visual brightness of magnitude 6) is a large cloud of hydrogen gas (apparent dimension 90 x 40 arc minutes). It appears to be suspended just above the spout of the teapot toward the center of the Milkyway. Amongst the brighter portions of the nebula is a star cluster NGC6530 and just to its side is a dark band of dust which visually seems to divide the bright cloud in two. With the aid of an OIII filter, visually observing this dark dust band is even more apparent and more of the fainter nebulosity can be seen.

M8 is rather low in the southern sky so I had to go away from the standard LRGB filter technique, since this area from my home has an ever worsening sky glow from light pollution. In capturing the H-alpha glow of the nebulosity I used narrow band filters to capture a slightly different rendition of the Lagoon. For the luminance and red portion of my image a photographic H-alpha filter was used and for the green and blue portion a photographic OIII filter. This image was taken through a Williams-Optic SD66 refractor using a Starlight Express SXV-9H camera, guided.



Narrow band image of M8

The full-scale composite images are available to those who are interested. The images posted in the Sidereal are reduced to fit the format of the periodical, the actual full size detailed color (when available) images are something not to be missed. If you would like to get the full image electronically please send me a request at brian@vanliew.com and I will put you on my image email list.

Brian Van Liew

Touring the Electric Propulsion Lab at Princeton University

At the invitation of our March 2007 speaker, Princeton University Professor Edgar Choueiri, I led a AAAP member tour on June 21 of the Plasma Propulsion Lab located in the Department of Mechanical and Aerospace Engineering (MAE). Prof Choueiri is the Director and Chief Scientist of the lab, officially designated the Electric Propulsion and Plasma Dynamics Laboratory (EPPDyL). EPPDyL has been at the forefront of research in the physics and application of plasma thrusters for spacecraft propulsion for more than three decades and is currently involved in active space experiments. Lab Website: <http://alfven.princeton.edu/index.htm>

Edgar's elegant AAAP lecture on "Plasma Propulsion and the Exploration of Space" introduced us to his group's research. The EPPDyL lab tour gave us a fabulous and rare behind the scene's view into the nuts and bolts of cutting edge research that can revolutionize our ability to explore the cosmos and unlock her deepest mysteries with futuristic scientific instrumentation.

Research activities encompass performance studies of plasma thrusters, basic research in plasma problems relevant to plasma acceleration and development of probe and optical diagnostics. The activities also include some non-propulsive topics in plasma dynamics like space plasma physics problems.

Prof Choueiri warmly greeted our group of 8 enthusiastic AAAP members including Stuart Warmink, Bryan Hubbard, Ira Polans, Ray Shapp, Steve Krisocki, Paul Amoroso, Tito Bastianelli and myself (see group photo).

The laboratory facilities include an array of large vacuum chambers for operating pulsed and steady-state thrusters under realistic space conditions, specialized optical and probe diagnostics, a broad spectrum of high speed digital data acquisition instruments and computers. Prof Choueiri was quite generous in spending over 2 hours to show us all 4 of the fully operational vacuum facilities and described how they are used in experimental research (see pictures below).

A plasma thruster is an electric rocket that accelerates a plasma to velocities of tens of kilometers per second making it a propulsion option that is well suited for energetic deep-space missions as well as attitude control and orbit raising for near-Earth spacecraft. By contrast, the best of today's chemical thrusters give exhaust velocities an order of magnitude lower (4-5 km/s). High exhaust velocities will be required to efficiently transport large masses of equipment, cargo and some day even people for ambitious missions to Mars and beyond in Deep Space and using as little propellant as possible to do it. NASA's next step in human exploration of the solar system, a trip to the red planet Mars, can be accomplished with one tenth the fuel payload for plasma vs chemical thrusters. That's the reason for all the excitement about high power electric propulsion!

Examples of deep space missions using ion propulsion include NASA's successfully completed DS1 (Deep Space 1) which provided the closest view ever of a comet nucleus when it flew past Comet Borelly in 2001 and the upcoming DAWN Asteroid Orbiter set to launch in September 2007. The highly ambitious DAWN mission to orbit 2 asteroids is NOT possible using chemical thrusters. AAAP March 2006 speaker Dr. Marc Rayman from NASA's Jet Propulsion Lab serves as Chief Engineer on both missions. Prof Choueiri and myself co-hosted Dr Rayman when he presented a lecture on both spacecraft and ion propulsion technology at the AAAP March 2006 monthly meeting.

All who attended were ecstatic at the opportunity to experience cutting edge research up close and personnel. We thanked Prof Choueiri, who also appreciated the enthusiasm and knowledge of our group. For those interested in learning more, Prof Choueiri will present his lecture on Plasma Propulsion to the Amateur Astronomers, Inc (AAI) Astronomy Club on 14 March 2008. AAI meets on the campus of Union County College in Cranford, NJ.



The Pulsed High-Power Performance (PHPP) Facility: EPPDyL Lab Director Professor Edgar Choueiri (center) posing in front of the large vacuum chamber with (from left) Dr. Ken Kremer (AAP Program Chair), Bryan Hubbard (AAP Newsletter Editor), Stuart Warmink, Ray Shapp, Ira Polans (AAP Newsletter Editor), Tito Bastianelli, Paul Amoroso and Steve Krisocki. Photo Credit: Tito Bastianelli



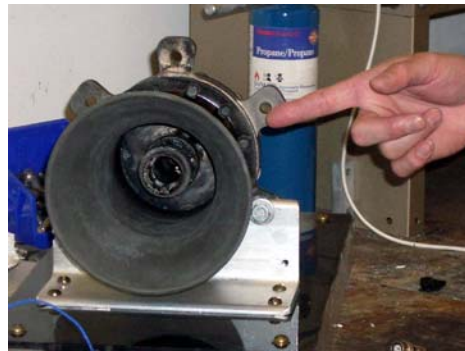
The outer copper ring electrode (the anode) of a thruster before (left) and after (right) intensive firing. The anode has been pitted, scarred, and blackened. Photo Credit: Ken Kremer



Prof Choueiri explains how the Large Dielectric Pulsed Propulsion (LPDD) vacuum chamber facility (orange colored tank at right) contributes to pulsed propulsion and micropropulsion research since being brought online in 1998. Photo Credit: Ken Kremer



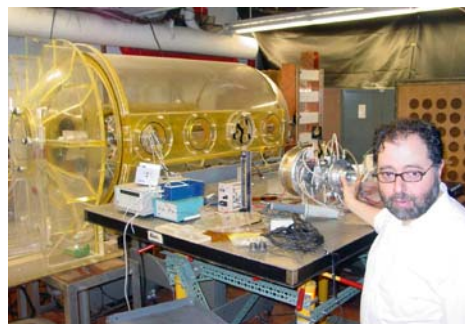
PHPP chamber (side view): Prof Choueiri gives us the "inside scoop" on a brand new research proposal he submitted to NASA on the day of the tour for a Plasma based Spectrometer to detect organic molecules on Mars. Photo Credit: Ken Kremer



Lithium Lorentz Force Accelerator (LiLFA) Thruster: LiLFA is one of the most promising candidates for planetary exploration and heavy payload orbit raising missions. EPPDyL research deals with the basic physics at play in such devices and which require new theoretical models to be developed and tested. These research efforts are supported by The Jet Propulsion Laboratory (JPL) and focus on lithium safety and handling issues, the development of a mechanical liquid lithium feeding system, and integration and demonstration of the LiLFA thrusters. Photo Credit: Bryan Hubbard



The PHPP Vacuum Vessel (internal view): The PHPP is a 2 meter diameter, 5 meter long fiberglass tank with eight optical access ports. A vacuum level on the order of 10^{-5} torr, for mass flow rates on the order of a few grams per second, is maintained by a set of two 1.3 m diffusion pumps each with a pumping capacity of $95 \text{ m}^3/\text{s}$ and each is backed by a roots blower (1340 cfm) and a mechanical pump (150 cfm). Ionization gauges allow continuous monitoring of the vacuum. Photo Credit: Steve Krisocki



The Pulsed High-Power Diagnostic (PHPD) Facility: Perhaps the coolest looking chamber is the custom-made plexiglass chamber of the PHPD measuring 1.83 meters in length and 0.92 meter in diameter. The pumps maintain background pressure levels on the order of 10^{-5} torr for mass flow rates on the order of a few grams per second. Recent studies have included mass-injection split, thruster power scaling, discharge asymmetry characterization, anode power deposition and anode-region turbulence investigations. The mass injection system has been operated with various propellants including argon, xenon, krypton, helium, hydrogen and deuterium. Photo Credit: Ken Kremer

For more details please contact me at Email:

Ken Kremer, Past Program Chairman

Exploration Update and Science Outreach

Phoenix Mars Lander: NASA's newest planetary mission set sail for Mars on August 4, rising on the fiery blaze of a million pounds of thrust from the heaviest version of the Delta 2 rocket. She will touch down near the Martian North Pole on May 25, 2008 and touch current Martian water for the first time with a scoop built by Honeybee Robotics. Honeybee Chairman Steve Gorevan spoke at the AAAP as guest speaker in September 2005. For further details on the scoop please see my report from the May 2006 Sidereal Times.

Mars Rovers: Spirit and Opportunity have so far survived a near-death experience caused by the intense global Martian dust storm which began in late June. Science operations are set to resume after a hiatus caused by extremely low power levels.

DAWN Asteroid Orbiter: The launch window opens on September 26 for this first mission ever to orbit 2 bodies enabled via exotic ion propulsion (see accompanying article on Princeton Plasma Lab Tour). Weather permitting I plan to attend the launch and include a report in the next issue.

My upcoming Astronomy talks include:

Plantation Astronomy Club: Leesburg, Florida, Mon, Sep 10, 8 PM. *"Exploring Mars and Asteroids"*

Central Florida Astronomical Society: Orlando, Florida, Wed, Sep 12, 7 PM. *"Exploring Mars (and Asteroids), the Search for Life and a Journey in 3-D"*. <http://www.cfas.org/Committees/programs.html>

Stetson University: DeLand, Florida, Thur, Sep 13, 6:30 PM. *"Exploring Mars (and Asteroids), the Search for Life and a Journey in 3-D"*. Website: <http://www.stetson.edu/calendar/view.php?id=12619>

George Marks Elementary School, DeLand, Florida, Fri, Sep 14

Stella Della Valley Star Party: Ottsville, PA, Sat, Oct 13, 2 PM. *"Exploring Mars, the Search for Life and a Journey in 3-D"*. Website: <http://www.bma2.org/Sdv.html>

Amateur Astronomer's Inc (AAI) at Union County College: Cranford, NJ, Fri, Oct 19, 8 PM. *"Mars, Saturn, Comets and Beyond (in 3-D)"*. Website: <http://www.asterism.org>

Dorothea House: Princeton, NJ, Sun, Dec 2, 5 PM. *"Italian Contributions to Space Exploration"*. <http://www.dorotheashouse.org>

For science outreach presentations please contact Email:

Ken Kremer, Past Program Chairman

Other News...

Vic Belanger wants to let those of you long standing members who remember Jay Albert that they have kept in touch. Jay was Director of the AAAP during the years 1984 & 1985 and again in 1988 and 1989 until his company transferred him to Boca Raton, FL. Vic adds "He has kept in touch with a few of us from time to time but there are others in the club that remember him as one of the best Deep Space Object sketchers in the amateur community. Many of his sketches were published in "Deep Sky" magazine a really fine periodical of astrophotography that ceased publication in 1992".

Jay reports the arrival of their third grandchild, Paige Addison Albert, who was born August 14th to Mike and Ursula. "She was

delivered by C-section two weeks early and weighed in at 8lbs 10.5 oz. Mother, father and baby are all doing well. Fortunately for all of us, Mike moved back to Florida last year and lives only about 20 minutes from our daughter, Haylee, in the Orlando area. Paige will have two cousins to play with and grandparents who will be using the Florida Turnpike far more than we would have imagined just a few years ago."



Paige Addison Albert

SpaceFest 2007

I was fortunate to be able to attend SpaceFest on August 17-19 in Mesa Arizona.

It was a mind-boggling gathering of Apollo astronauts including Duke, Aldrin, Cernan, Scott, Bean, Mitchell, Young, Cunningham and Schweickart. Also on hand were Scott Carpenter, Jack Lousma, and other NASA astros. In addition there was a screening of *The Wonder of it All*, dealers and lectures by the likes of David Levy, Andrew Chaiken, Phil Plait, Chris McKay and Cassini mission head Carolyn Porco.

Attendees had ample opportunity to get up close and personal with speakers and guests at this equivalent of a space Woodstock as you can see by the pictures below. The only thing that could possibly have added to the event was nighttime observing. The gathering was attended by over 500 guests from across the US and over 16 countries.



Apollo astronauts (clockwise from top left): Charlie Duke, Edgar Mitchell, Rusty Schweickart, Gene Cernan, Walt Cunningham, and author Andy Chaiken..

Ken Levy

Google Sky

Member Surabhi Agarwal recommends taking a look at the new Google Earth sky review. From our perspective, this site looks like a winner.

<http://earth.google.com/sky/skyedu.html>

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)

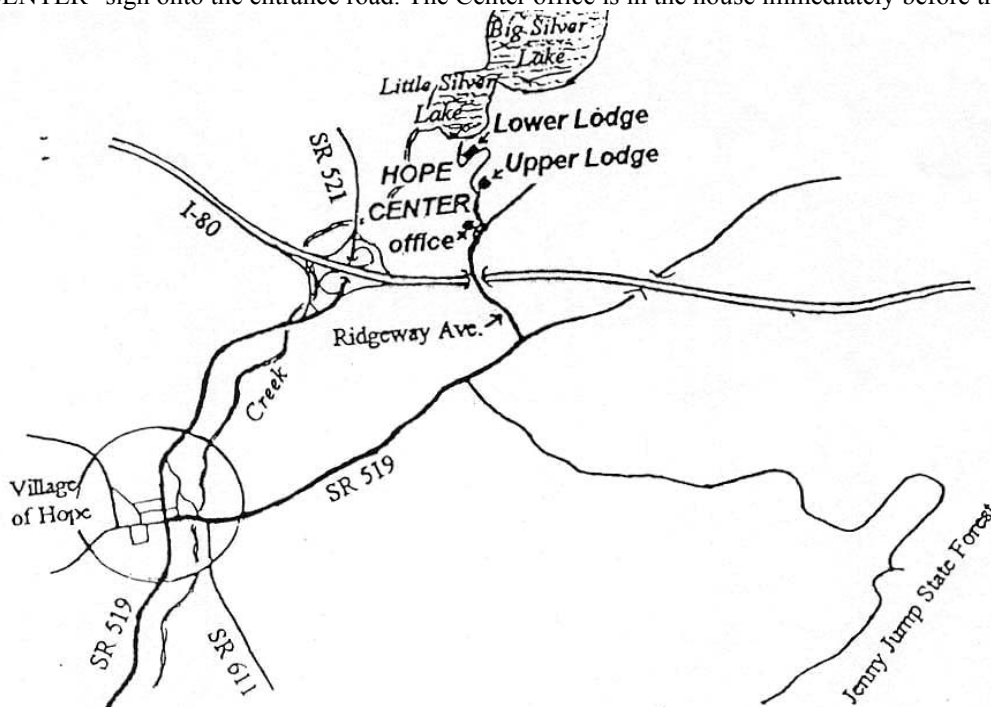
Take State Route 519 North, off of US 57 on the east side of Phillipsburg. Follow 519 North, across US 46 (near Belvidere & Butzville, NJ) to "downtown" Hope NJ marked by a flashing red light. Turn right at this light, continuing on 519 North. FOLLOW "From Downtown Hope" below

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

**THE AMATEUR ASTRONOMERS ASSOCIATION OF PRINCETON
PRESENTS THE 18TH ANNUAL**

JERSEY STARQUEST

Held at the Hope Conference and Renewal Center, Hope, NJ
Beginning at 5 PM Friday, **Oct. 12th**, 2007 and running through 12 PM Sunday, **Oct. 14th**
Please note: This event will take place regardless of the weather conditions!

Featuring

Stargazing at an amazing, dark sky location
DOZENS OF ASTRONOMICAL TELESCOPES IN OPERATION
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
Three catered meals
Raffle & Door prizes

Scheduled Lecture Program

Exciting Afternoon Guest Speaker!

Other Planned Activities Include

Solar Observing (H-alpha)
Astrophotography Presentations and CCD Demo's
Field Trip to AAAP Observatory at Jenny Jump
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 Sept. 28), children (6-12yrs.) \$25
Bunkhouse -- \$45.00 per person (\$55 after Sept. 28), children (6-12yrs.) \$35
Children under 6 years of age -- Free

Meals

Great Food Catered by AAAP Chefs, for Saturday ONLY
Volunteers needed to help the Chefs

Saturday breakfast, lunch, 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:

Jersey Starquest Registration

Need more information? Send email to Anthony Monticello at

JERSEY STARQUEST REGISTRATION FORM

NAME _____

ADDRESS _____

EMAIL (for information about future events) _____

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 Sept. 28)
Meals (Saturday; breakfast, lunch, 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:

Jersey Starquest Registration
C/o Anthony Monticello
270 Fieldboro Drive
Lawrenceville, NJ 08648

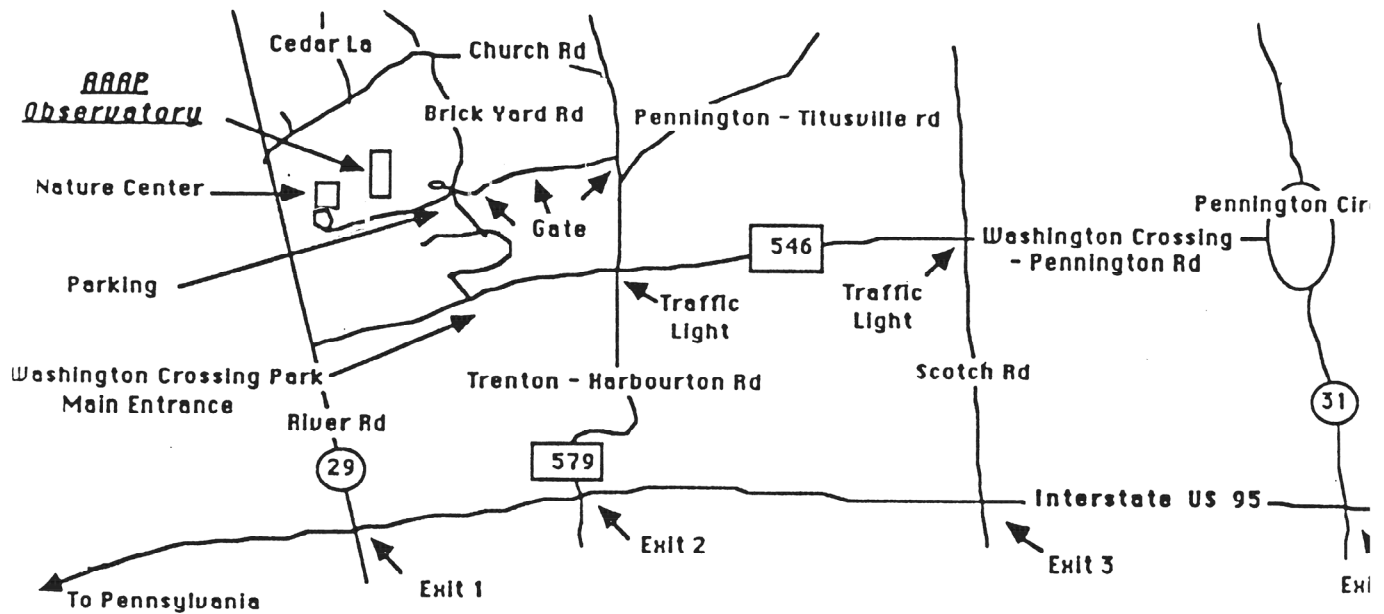
Need more information? Send email to Anthony Monticello

IMPORTANT – We may not be able to accommodate meal requests for registrations received after Sept. 28.

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 Sept. 28.



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.princetonastrometry.org

Amateur Astronomers
Association of Princeton
PO Box 2107
Princeton, NJ 08543

September 2007