The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh, Inc.
Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon
Website: 3ap.org

May 2007 Vol. 41, No. 5

INSIDE THIS ISSUE...

TOPIC OF THE NEXT MEETING:

Pluto Smackdown/New Solar System

By Ann Norman

Friday, May 11, 7:30pm at the Carnegie Science Center, Eric Mamajeck of Harvard-Smithsonian Center for Astrophysics will take us "Ringside at the Pluto Smackdown in Prague" and review the recent surprising discoveries, especially in the Kuiper Belt, that set the stage for this smackdown.

"Can you SMELLLLL what the ROCK is cooking?!"

Pluto will be featured along with your favorite planetary contenders, Xena, Buffy, and more!

Eric is a former Pittsburgher and AAAP member. He generously called Bill and Maureen Moutz to volunteer his services to the club. Eric's primary research interest is the formation and evolution of stars, planets, and circumstellar disks. Please come to hear a great lecture and to welcome Eric Mamajek back to the AAAP! (Picture courtesy of NASA).

ELECTION 2007

ED MOSS
PRESIDENT

I'm Ed Moss and I am running for president of the AAAP. I don't really believe in campaigning for this or any other elected office in our club, but I believe I should share with my fellow club members my contributions to the AAAP, as these relate to why I'm running for president. When I took over the chairmanship of the Mingo Construction Committee, I had a vague idea of what it was that I wanted to accomplish with this observatory. Richard Haddad had his vision for the observatory, and I made that vision my own and added a few things I thought would help in accomplishing his vision. I will work to see that vision completed as president

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The following is my record of service to the AAAP:

Member since 1998
President 2006-Present
Star-Cruise committee 1999-2006
Star-Cruise Chairman 2000-2001
Executive Committee 2000-Present
Mingo Construction Chairman 2002-2004
Co-Director Mingo Observatory 2005
Director Mingo Observatory 2006
George Lindbloom Award Winner 2004

ANN NORMAN
VICE PRESIDENT

Hi, it's Ann Norman, running for a third term as Vice President. The Vice President's main job is to find speakers for the monthly meetings. I invite professional astronomers and our own members to share their cutting-edge research/ talents/enthusiasm/new perspectives! As V.P. I've also helped organize two Christmas parties, the Mingo dedication, and Summerfest and helped bring in speakers for two Astronomy Weekends. I wandered into a star party 10 years ago needing to see Mars, the setting of my favorite science fiction trilogy (*Red Mars, Green Mars, Blue Mars*). I enjoy observing with a beautiful 6-inch reflector that was built by (now) Honorary Member Wilma Cherup, and generously handed down through the club. I'm a deep sky observer and big supporter of camp-out star parties. I attended (but did not organize) all but one of the Star Cruises. I'm located in Pittsburgh and split my AAAP time between Wagman and Mingo. I used to be heavily involved with Guide Star, but have not been much help as of late. (Sorry Bill and Maureen!) In "real life" my job is Assistant Editor of the *Journal of Economic Perspectives*. I love this club!

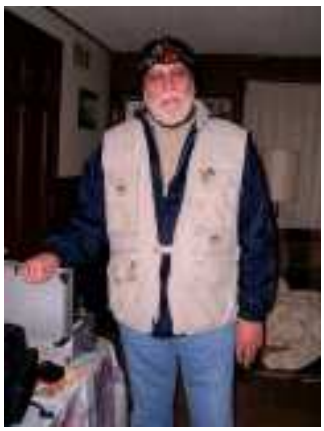
MICHAEL METENEY
TREASURER

I am Michael Meteney and I have been a member of the AAAP for the past seven years. During that time I was active in the planning and construction of the Mingo Creek Park Observatory as a member of the observatory construction committee. I then served as one of the directors of the observatory for two years, and stepped down last fall to assume the duties of the treasurer of the association, but I still remain a member of the observatory committee. Now I am officially running for that position.

For the past thirty-five years I have been a chemistry teacher at South Park High School. I have also been the science chairman at South Park for twenty-six years and an adjunct chemistry professor at CCAC South Campus for seventeen years. As department chairman, I was responsible for preparing budgets, equipment bids and purchase requisitions, and supervising curriculum development. I also served as our association chief negotiator for twelve years and association president for four years. I have also served on and chaired committees for the Spectroscopy Society of Pittsburgh and the Society of Analytical Chemists of Pittsburgh and was a staff person at several PITTCON conventions. Serving in these positions has given me a perspective of how different organizations do business.

As treasurer, I obviously want to take care of the association's finances. I want to establish a working budget and make sure our regular income matches our regular expenses. Our association is in very good financial condition due to the hard work of our past and current officers and I will do everything I can to carry on that tradition. Thank you.

JOHN MOSER
CORRESPONDING SECRETARY



My name is John Mozer and I am the nominee for Corresponding Secretary, a post that I have held for the past year. My wife, Sheila, and I live in Churchill Borough with two cats. We have two adult children, a daughter living in Denver with her husband and son (our first and only grandchild), and a son living in Savannah. I am fairly new to the AAAP and amateur astronomy and still have a lot to learn from the experienced members. AAAP is a great organization and I have really enjoyed serving as its Corresponding Secretary. I would look forward to continuing in this capacity for another year.

(Continued on page 3)

MARK SCHOMER
MEMBERSHIP SECRETARY

My name is Mark Schomer, and am currently your Membership Secretary . After two years, I'm finally getting the hang of the job, although being human, I still make mistakes. The position has taken on more responsibilities, but I don't mind. I've gotten lots of help and encouragement from previous and current office holders. I just want to do the best job that I can for the organization.

DENNIS DERDA
RECORDING SECRETARY

Dennis Derda remains uncontested in his office of Recording Secretary. For you folks who sit at the back of the auditorium at meetings, he is the owner of the voice reading the minutes. He is also Chair of the Optics and Telescope Making Special Interest Group.

BILL AND MAUREEN MOUTZ
GUIDE STAR EDITOR(S)

Maureen and Bill Moutz have been members of the astronomy club for about 5 years. They enjoy the club so much that they wanted to become more involved and editing the Guide Star they thought would be a good start! We have been the editors for the past year. They especially enjoy the away star parties for private groups and organizations. Bill is also a captain on Nautical Nature, a 45-passenger tour boat on Lake Arthur at Moraine State Park.

Red Alert: Star Trek Convention July 20–22 near Philly!

Space the final frontier . . . These are the voyages of the AAAP trekkers . . . Our three-day mission: to seek out William Shatner and Leonard Nimoy, to take pictures with Connor Trinneer, to boldly go to *Cherry Hill, New Jersey!*

Guest stars include **William Shatner**, **Leonard Nimoy**, and **George Takei** of the Original Series; **Connor Trinneer** and **Dominic Keating** (Trip and Malcolm of *Enterprise*); **Robert Picardo** (Holographic Doctor of *Voyager*); and **Marc Alaimo** (Dukat of *Deep Space Nine*).

AAAPers going to the con:

Already committed (Some would say, "Should be committed"): Eric Fischer, Ann Norman, Kelly and Derek Findlay.

SERIOUSLY tempted: Mark and Judy Schomer, Mark Arelt, Kathy DeSantis, John Holtz.

Hmmm? Sounds interesting: Ed Moss, Terry Trees, Rowen Poole . . . and more!

For all the details go to http://www.creationent.com/cal/stnj.htm or Google "Creation" and "Star Trek convention." If you want to coordinate to go in a AAAP caravan or even possibly a bus, contact me, Ann Norman, at VicePresident@3ap.org, or you know my email address.

(Pictures by Ann Norman, from the Vulkon conference.)

FOR SALE

Finished 10" f/6 full thickness fine anneal Pyrex mirror, 1/10th wv; uncoated: $500

Finished 10" f/8 full thickness fine anneal Pyrex mirror, 1/16th wv; uncoated: $500

Finished 4.25" f/27 Kutter Schiefspiegler optical set, 1/20th wv; coated: $500

3" f/5 refractor, coated Jaeger's doublet, machined aircraft aluminum OTA with Internal light baffles, built-in 20th wv. quartz diagonal, helical focuser, lens shade. Includes a set of machined aluminum collimating/mounting rings. $385

NEW Book: *"Universe" (The Definitive Visual Guide)*, Martin Rees; 500 pages $20

Contact: Bob Schmidt (412) 821-3370

AAAP 2007 ELECTION BALLOT

(CHECK THE LINE NEXT TO CANDIDATE OR WRITE-IN)

PRESIDENT:

____ Ed Moss

____ Write-In:_____

CORRESPONDING SECRETARY:

____ John Mozer

____ Write-In:_____

VICE PRESIDENT:

____ Ann Norman

____ Write-In:_____

MEMBERSHIP SECRETARY:

____ Mark Shomer

____ Write-In:_____

RECORDING SECRETARY:

____ Dennis Derda

____ Write-In:_____

GUIDE STAR EDITOR:

____ Bill & Maureen Moutz

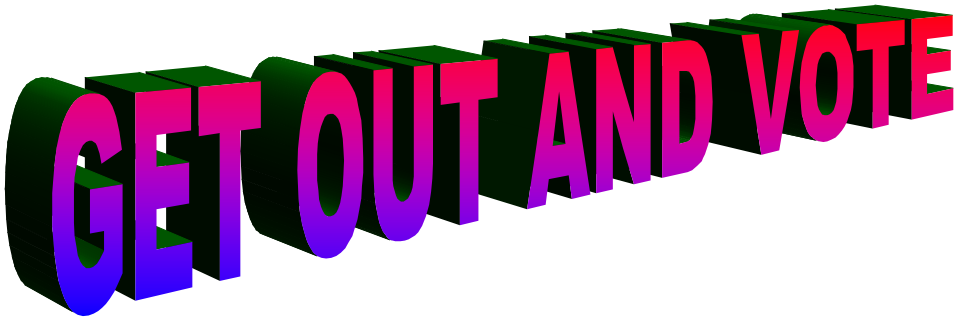
____ Write-In:_____

TREASURER:

____ Mike Meteney

Bring ballot to May 11th AAAP meeting or mail in to:

AAAP Treasurer, 1070 Sugar Run Road, Venetia, PA 15367-1514



Shocking News On the Lunar Surface

By Kathy DeSantis

Many people would get a charge out of standing on the moon, but the extra charge predicted after 2012 could endanger astronauts and electronics in the second half of the next decade. The lunar surface charges up, roughly every eighteen years, due to orbital orientations. During each peak there is a coinciding, repeating, orbital intersect lasting several years, with a thin region in Earth's magnetosphere—the so-called plasma sheet, "middle of the tail", containing many electrically charged particles from the sun. This combination could be a real hazard to astronauts and electronics, electrostatically charging the moon's ultra fine dust, and making it very hard to control. Analysis of the moon's orbital changes, show the Apollo missions occurred during a period of low charging. The United States, Russia, India, Japan and China have announced plans to send manned missions to the Moon around the year 2020—at the time when lunar surface charging is predicted to be high.

MINGO IN THE NEWS

By Kathy DeSantis

Mingo Creek Park Observatory made national environmental education news last month when the National Environmental Education Week's E-Newsletter featured the April 20 and 21 Public Star Parties and planetarium shows for highlighting some problems associated with light pollution, and sharing these with the community, families and children. The E-Newsletter is distributed nationally to schools, colleges, museums, government agencies, and private corporations.

LOOKS AREN'T EVERYTHING
Martian Gullies

By Kathy DeSantis

The dry valleys of Antarctica may yield answers to enigmatic streaks on the Martian surface, which appear as "gullies," from our distant view. Seven years after their discovery, scientists still disagree over the water's origin, and over the existence of the water at all. A new comparison to dry valleys in Antarctica, by Brown University planetary geologist, James Head, at the Lunar and Planetary Science Conference March 12-16, 2007, suggests the gully-and-streak conundrum works like the hyperarid and perennially frigid Dry Valleys of Antarctica. The Antarctic streaks, viewed from above, suggest some relief, or depth, but viewed on the surface, there is none. There is simply a difference in color intensity, as subsurface snow melt water runs down slope and is wicked upward upon encountering less porous, finer-grained soil, dampening and darkening the surface.

FIRST OFF-THE-SHELF DIGITAL CAMERA COMET DISCOVERY

By Kathy DeSantis

On March 15, Australian, Terry Lovejoy, discovered a 9th magnitude comet in the southern constellation, Indus the Indian. He used a Canon 350D with a zoom lens set to 200-mm, at f/2.8, shot at 90 second exposures, finding it in 16 frames of an estimated 1000 image fields taken since 2004. Terry's goal was to see a daytime comet (McNaught) and to discover a comet. Comet Lovejoy, a green comet, is too dim for the naked eye, but a nice target for backyard telescopes.

ASTRONOMY WEEKEND THANK YOU

By George Guzik

How do you know that you've just had a very busy time at Astronomy Weekend? You know for certain when you stop at Burger King for takeout dinner after the conclusion of the event, and your car is so stuffed with equipment that you have to try and find room in the car for the Whopper and soft drink you just bought!

I thank everyone who gave so much of their time to our Astronomy Weekend event at the CSC! The CSC hosted about 4,000 visitors during the weekend giving us a prime opportunity to promote astronomy, the CSC, and the AAAP.

Dan Malerbo and the CSC staff built this year's event around the theme, "Everyday Astronomy." The CSC joined a partnership with Astronomy magazine and Meade to promote and support the event as part of National Astronomy Day. In addition, Meade contributed an ETX-80AT telescope, which was raffled at the end of our event, along with 3 free subscriptions to Astronomy magazine. At the national level, some very lucky individual will win the Grand Prize of the partnership's raffles, which is a 10" LX200R telescope.

Dan Malerbo's speaker program for Astronomy Weekend began with a presentation by Dr. Lucy McFadden, Director of Education and Public Outreach for

(Continued on page 6)

NASA's Deep Impact and Dawn Discovery missions. She described Dawn, the first spacecraft ever planned to orbit two different bodies after leaving Earth. Dawn will orbit Vesta and Ceres, two of the largest asteroids in the solar system.

Author and scientist, Dr. William K. Hartmann, provided a "tour" of our solar system from within Buhl Planetarium. Dr. Hartmann is a native Pittsburgher who is an internationally known astronomer, writer and painter. He is the author of "*The Grand Tour: A Traveler's Guide to the Solar System*" and "*A Travelers Guide to Mars*".

While Earth's weather (or at least Pittsburgh's weather) remained cloudy and cool, California University of Pennsylvania's Southwestern Pennsylvania Chapter of the American Meteorological Society educated the Buhl visitors on the weather of other planets.

Dan Malerbo made a presentation of his own on the hotly debated decision by the International Astronomical Union to demote Pluto to a "dwarf planet".

Francis Graham, founder of the American Lunar Society and Professor of Physics and Astronomy at Kent State University, displayed a fragment of a lunar meteorite along with photographs and descriptions of lunar surface features.

Jean Philpott and the staff of the CSC made "comets" (using yarn and aluminum foil) and other "Make and Take" items for the young astronomers. Other CSC staffers gave visitors a chance to see moon rocks and meteorites up close while the Buhl Planetarium and Buhl Digital Dome were kept busy with a good assortment of planetarium shows.

AAAPers contributed their own talents and knowledge to Astronomy Weekend. As in years past, we made "First Contact" with the CSC visitors and distributed information on star parties, gave away gently used astronomy magazines, and encouraged visitors to join our organization.

Fred Klein had his scope aimed through the CSC windows at terrestrial objects and also had an assortment of his exquisite astrophotos. Larry McHenry arranged his usual "half-dozen table" display of astronomy information and video presentations. This year he brought a telescope with a video camera aimed to view Pittsburgh buildings. Bob Kalan set up his telescope, computer, and web cam to give visitors a view of live images of "dahntahn" landmarks. Ed Moss had his scope set for "eyepiece" observations of city architecture.

The Yorkshire family brought their always-popular Cosmic Face Painting activity to the CSC on Saturday and they were busy with the crowd of children that gathered at their tables.

Ed Moss, Kathy DeSantis, and Barb Lafon presented NASA Night Sky Network to the visitors through video, PowerPoint presentations, and demonstrations.

The Amateur Telescope Makers contingent was represented by Yours Truly. I brought my own Dob and the (still) unfinished 4.25" mirror that I started grinding at Astronomy Weekend 2003.

Richard McLaughlin set up models and displays depicting the solar system and brought them to life using a flashlight to provide "sunlight." Dave Smith brought his scope and gave tours of interior objects in the CSC. Shirley Caseman, John Mozer, and Bill Moutz also used their telescopes to view the city and Mount Washington. Gene Kulakowski, Bob Novack, Eric Fischer and Joyce Osborne Fischer provided much-needed relief and support.

Putting on an event like Astronomy Weekend takes much planning and a lot of work. Astronomy Weekend is a great opportunity for us to provide information to several thousand people in just 2 days. Again, I thank the AAAP members and the CSC staff who gave so generously to make this event possible and I thank the members who attended the event!

Photos by Shirley Caseman

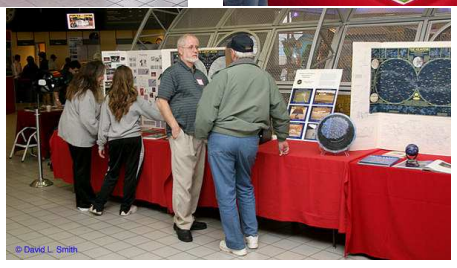


Photo by Dave Smith

VISIT TO THE VERY LARGE ARRAY NEW MEXICO

By Bill Cooley

While in New Mexico recently, we had the chance to visit the Very Large Array, a massive radio astronomy center completed in 1981. There are 27 giant radio antennas located there with 82 foot diameter dishes.

These 230-ton antennas are on railroad tracks so they can be configured in different ways depending upon the desired resolution. In the largest configuration, each of the 3 arms are spread out 13 miles from the center, and actually cross highway 60.

This day they are in a small configuration, which allows them to study the overall structure of a galaxy, for ex ample. The high resolution is used to probe the inner core of a galaxy.

Here you can see how the maintenance workers can get up into the control center of each antenna, where the inner core is cooled to a minus 427 degrees Fahrenheit to reduce internally generated noise. These pans of the current installation give you a sense of the area.

Their visitor center, open every day, includes exhibits on the work of the center and some of the radio images produced.

The VLA is a great stop if you are ever in the neighborhood. Here is the link to my video on YouTube http://www.youtube.com/watch?v=k220p2Mg0B8.

Photo by Dave Finley, courtesy NRAO/AUI

OBSERVATIONS

Al Paslow: Friday and Saturday evenings were quite busy at Mingo with the star parties. I ran the 10-inch D & G refractor on Friday night with Dan McKeel assisting on Saturday evening. The sky was quite clear and with a quick break for a moment in the number of visitors on Saturday evening, I snapped this image of the moon with my Nikon 990 digital camera.

I used only a 20 mm Plossl with an adapter to keep the camera mounted to the eyepiece to provide an equivalent magnification of approximately 150x.

This is another no drive used image, even thought the moon quite rapidly moved across the field of the big 10-inch instrument!

http://al-paslow.smugmug.com/photos/146009510-L.jpg

The image clearly shows Vallis Rheita, as well as craters Metius and Fabricus well defined. Steinheil and Watt are also contrasted and interesting.

Using a refractor telescope with digital photography can cause problems with colors because of the fact that achromats do not focus all light at the same points. Hence, a brilliant star or the moon, or bright planets will have a fringe of color around them.

This, of course, may be a problem unless software or other methods are employed to remove this false color.

A simple method was used to correct for this aberration. The image was first converted to grayscale to remove the yellowish overlay of color that appeared when using a large achromatic doublet.

Then, AAAP member & friend, Paul Campbell, tweaked the final image a bit in Photoshop. The result is a nice ,clean image with no hint it was ever taken with a refractor telescope. Imagine the detail that could have been captured if a drive was used!!

Tom Reiland: We had another fine night at Wagman Observatory with milder temperatures and a light breeze. There were some scattered cirrus clouds, but they didn't cause any problems. We had at least 300 visitors and about 25 members at tonight's event. One member counted 125 cars on the hill and I saw more parked on the side of the road and in the small area across from the gate. We had a group from Venture Outdoors tonight and we had one or two scout and/or school groups last night. We were able to show our guests another ISS pass, a NOSS grouping, a pair of geosats that Flac located with the Brashear Refractor, some Lyrids, including one about the brightness of Sirrus. Comet Lovejoy has brightened by almost a quarter of a magnitude. I could see it with my 10 X 50's using averted vision. I took another look at Nova Sagittarii and it was slightly brighter than 10th mag. I've logged more observing time in the past three nights than the first three and a half months. *(continued on Page 8)*

I had a lot of fun with the nebular filter again. I'm amazed at how much it improves the view of emission-type nebula. I hope to see many of yinz again in May.

Glen & Sheri Rockhill: Observation Report: 21APR07; 22:00 Aspinwall, PA; Transparency: 8 Seeing: 7; Visual Magnitude: 2.5 (Light pollution and a 3-day old moon)

It was a beautiful weekend day and night. Temperatures were perfect for casual observing and the skies were clear and steady. Sheri and I were entertaining a few guests for the weekend and as such, could not make time to join other club members at Wagman Observatory for April's Star Party; but we didn't squander the great opportunity to get in a little observing and share some views of the night sky with the half-dozen friends we had at the house.

At 10 pm I set up an ad-hoc light screen out of a thick blanket strung between two stepladders to shield us from traffic running up and down our block. Then came the 8" f/7 Discovery Dob and several EP's. I tried to keep the targets simple because the local light pollution makes finding stars to begin a hop to find some faint fuzzies very difficult. I started with Saturn, as it is always a crowd pleaser whether it is the first time they have seen it or the fiftieth. Easy to find and point out, I gave each of our guests the opportunity to view the giant, ringed gas giant for the span of time it took for it to move out of the field of view. I pushed the scope and my eye-pieces to capture Saturn at 50x, 130x and finally 250x. I was ecstatic to find that I could not only identify Titan, but also tease out the smaller satellites Tehtys and Dione. Past experience with my 4.5" reflector never showed me any of the smaller moons, and now I can watch the moons of Saturn dance like I can do with the moons of Jupiter.

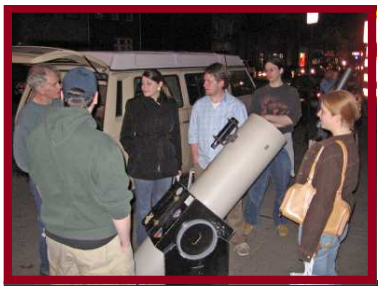
From Saturn, I turned east because the skies west of Saturn were blocked by trees. I followed the feet of Bootes to Alpha Coma Berenices then eked the scope up and away to find the faint blur of globular cluster M53. We viewed it at 50x only because it didn't take well to magnifying the image to 130x. The object was not resolving into anything but a faint blur at that magnification and was much more pleasing to the eye with more contrasting space around it.

From M53, I slid down to Corvus the Crow, below Virgo. Keying off a line from Epsilon through Delta, I put the telrad in about the spot where M104, the Sombrero Galaxy should lie. I wasn't sure if I would be able to pull it in with the moon up and the light pollution, as I had failed to locate any of the Messier galaxies lying below the belly of the lion. But sure enough, with a little searching, I stumbled across a fuzzy line in the sky with a noticeable bulge in the middle. It was a first time for seeing M104 for me and I was very excited to share it with our guests. I pulled it in first at 50x, and then at 65x with the 18mm UA EP.

It was getting late so I wrapped the night up with an easy double star. At 130x with our 9mm Expanse EP, I easily split Epsilon Bootes, Izar, into its two bright, white components. It was a nice little hour-long session out under beautiful skies with our friends.

Sidewalk Observing on the Southside

By Phil M. Breidenbach



It was a beautiful night on the Southside. The temperatures were comfortable and lots of people were out on the town. Fred Klein and Dave Smith were on their respective corners when I arrived around 9:00. I took a couple pictures and then hung around for an hour or so, enjoying the night and the people passing by. It is fun dragging the people in. Some are afraid to even look at you, others are amazed that they would come across something like this on a downtown street. Ann Norman showed up a little after I did and Jim stopped by and pulled a small scope out of the back of his car and joined the group. Jim wasn't a member, but he had been to a few star parties. It was nice having another brave soul joining the crew. The Moon and Saturn were the objects of the evening. Everyone that looked was satisfied!

STAR PARTIES

May 12 Mingo
May 12 Norwin Grade School Star Party
May 17 North Allegheny Grade School Star Party
May 17-18-19 Cherry Springs
May 18-19 Wagman

Astronomy Camp

Ages 13 - 17

The Mountain Institute

www.mountain.org
1-800-874-3050

SUMMER 2007

WHICH WAY TO THE CENTER OF THE GALAXY?

Get ready for a stellar experience! Come to one of the darkest places in the east to learn more about your universe. We will explore galaxies, star clusters, and nebulas in the heart of the Monongahela National Forest. Want to learn how to use our telescopes or identify the summer constellations? We will take a field trip to the Greenbank Radio Astronomy Observatory to help us understand the different ways of interpreting and understanding our sky. We also have a portable planetarium just in case the weather doesn't cooperate. There will be plenty of time to explore the beauty of our universe as well as the beauty of Spruce Knob by hiking, caving, and canoeing.

Where: Spruce Knob Mountain Center, Circleville, West Virginia
(Site of the *Almost Heaven Star Party*)

When: July 8-14, 2007

For Registration Information Call: 1-800 874-3050 or **(304) 567-2632**
or visit: http://www.mountain.org/work/mtlearn/summer.cfm for a printable application or write to: Nathan Hayes
HC 75 Box 24
Circleville, WV 26804

Amateur Astronomers Association of Pittsburgh, Inc.

Founded June 9, 1929 by

Chester B. Roe and Leo J. Scanlon

2006-2007 Executive Officers:

President:	**Edward Moss** president@3ap.org
Vice President:	**Ann Norman** vicepresident@3ap.org
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Guide Star Editors:	**Bill & Maureen Moutz** gseditor@3ap.org

AAAP Member Dues*:

AAAP Dues:	$18.00
Junior Member (under 18):	$13.00
Sky & Telescope Magazine:	Add $33.00
Astronomy Magazine:	Add $34.00

***Basic Procedure for Paying Dues:**

1. Make check payable to "AAAP Inc."
2. Send check to Michael Meteney, Treasurer, 1070 Sugar Run Road; Venetia, PA 15367-1514

RETURN ADDRESS:
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