



## Upcoming SAAA Events...

### Board Meeting

Thursday, Sept 13 @ 5:30 PM

- *Beechwood Inn Restaurant, 380 Douglas Avenue, Holland*

### Observing Session

Friday, Sept 14 @ 7:30 PM

- *Vivekananda Monastery, 6723 122<sup>nd</sup> Ave, in Fennville*
- *Weather Permitting*
- *Sunset at 7:56 PM DST*

### National Astronomy Day

Saturday, Sept 15 @ 2 PM until 11 PM

- *Downtown Holland next to JP's Coffee and Espresso Bar*
- *Volunteers and Telescopes Needed*

### General Meeting

Thursday, Sept 20 @ 7:00 PM

- *Mac-Bay School's Planetarium*
- *"Basic Understanding of Cosmology" by Rajendra Hemanth*
- *Club Business Update, Member Survey*

## Celestial Highlights:

**Sept 3**

Last-quarter Moon

**Sept 11**

New Moon

**Sept 19**

First-quarter Moon

**Sept 23**

Autumnal equinox; first day of fall in Northern Hemisphere

**Sept 26**

Full Moon; the "Harvest Moon"

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## Return from summer break

To accommodate travel plans and vacation schedules over the summer, there were no executive board or general meetings during the month of July.

## August board meeting

**Date and Attendance:** SAAA officers assembled for a board meeting on August 8, 2007 at the 84-East Restaurant in Holland. In attendance were Mark Logsdon, Robin Hudson, and Jim Reier.

**Treasurer's report:** Mark Logsdon indicated a balance of \$618.49 in the treasury after paying dues for the Astronomical League, the IDA and our State of Michigan Incorporation Fee.

**National Astronomy Day:** Jim Reier discussed plans for National Astronomy Day on Saturday, September 15<sup>th</sup>. The SAAA will setup again on the lawn next to JP's Coffee and Espresso Bar in Downtown Holland. We need volunteers to assist at various times throughout the day.

**Park Township presentation:** Jim Reier reminded board members that we host Park Township on October 18<sup>th</sup>. The program title is "An Introduction to Deep Sky Objects".

**Astronomy handouts for October presentation:** Robin Hudson volunteered to contact Nancy J Leon of NASA's educational outreach program to request materials that will be distributed to children and guests of the Park Township presentation on October 18<sup>th</sup>. Robin said she would also inquire about educational videos that can be incorporated into our presentation.

**T-shirts with SAAA club logo:** Robin Hudson received samples of T-shirts with the Club logo and will bring them to the next board meeting. Robin wants to have shirts available for members to wear at the Park Township presentation on October 18<sup>th</sup>. T-shirts samples and prices will be disclosed to members at the September general meeting.

**WGVU TV sponsors update:** Jim Reier advised the board on the status of WGVU/PBS TV's sponsor request. In June, WGVU asked the SAAA if we would like to sponsor two back-to-back astronomy broadcasts to be aired on September 19<sup>th</sup>. By sponsoring, we would have an opportunity to purchase up to eight 15 second adds promoting our club. After a brief email exchange, we concluded that the sponsor fees were too expensive and declined to sponsor these programs.

**Telescope donation:** The SAAA received a telescope donation from Mrs. Karrie Charles of Zeeland, Michigan. The telescope is a Celestron 114 Firstscope and is in very good condition. The OTA is Newtonian with a 4.5-inch primary that sits on an Alt.-Azimuth mount. Thank you Karrie for the generous donation. Any member wishing to borrow this telescope should contact Jim Reier.

**Astronomical League observing programs:** Jim Reier reviewed several Astronomical Leagues observing programs that would benefit new SAAA members. Jim is pursuing multiple copies of the *Universal Sampler Club* manuals so those members who are new to astronomy are exposed to a sample of many different types of objects that the Universe has to offer for our observing enjoyment. For details about the Universal Sampler Club, go to <http://www.astroleague.org> to learn more.

## More SAAA news

**Van Buren State Park:** The SAAA program at Van Buren State Park scheduled for August 9<sup>th</sup> was cancelled due to clouds and rain. Jim Reier remained optimistic until the very end, but the cloud band that blanketed West Michigan did not recede until well past 1AM. It was one of those occasions where the *Clear Sky Clock* prediction was wrong. Thanks to Peter, Raj and George for their dedication to volunteer that night.

Marty Sell, the Explorer Ranger at VBSP said he had 150 guests and that most were interested in attending our program. He was unable to reschedule the event in August, but asked us to return next summer (earlier in the season). We will definitely have a backup plan next year.

**Member Survey:** We will conduct a member survey shortly to ask your input on meeting topics and other ideas that would make our Club better. Watch your inboxes for an email titled 'member survey' and be prepared to discuss at general meeting on September 20<sup>th</sup>.

**Vice President:** We're still looking to fill the officer position for Vice President.

"What does the Vice-President do?" you ask.

Per our Club Constitution, the Vice-President has three responsibilities; (1) Fulfill the duties of the president in his absence, (2) assist the President when requested and (3) serve as Program Chairman as authorized by President.

If you are interested in this office, please contact a board member and we setup an election at the next available general meeting.

## Observing Schedule

Here's the observing schedule for through December 2008.

2007		
September	09/07/07	Vivekananda - 7:30pm
September	09/14/07	Vivekananda - 7:30pm
October	10/12/07	Vivekananda - 7:00pm
November	11/09/07	Vivekananda - 6:30pm
December	12/07/07	Vivekananda - 6:00pm

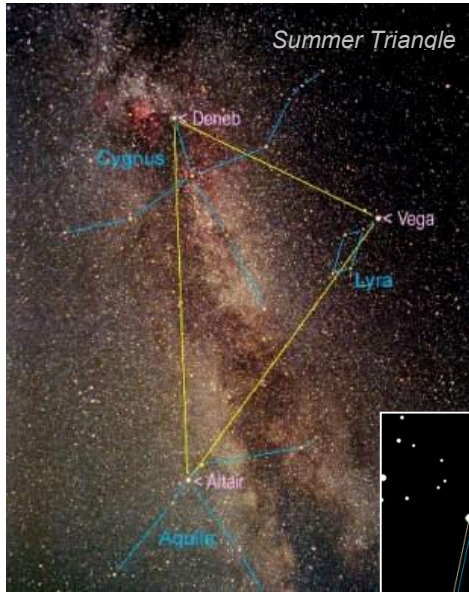
2008		
January	01/04/08	Vivekananda - 6:00pm
January	01/11/08	Vivekananda - 6:00pm
February	02/08/08	Vivekananda - 6:00pm
March	03/07/08	Vivekananda - 8:00pm
April	04/04/08	Vivekananda - 8:30pm
May	05/02/08	Vivekananda - 8:45pm
May	05/09/08	Vivekananda - 9:00pm
June	06/06/08	Vivekananda - 9:30pm
July	07/04/08	Vivekananda - 9:00pm
August	08/01/08	Vivekananda - 8:30pm
August	08/29/08	Vivekananda - 8:30pm
September	09/26/08	Vivekananda - 8:00pm
October	10/24/08	Vivekananda - 7:00pm
October	10/31/08	Vivekananda - 7:00pm
November	11/28/08	Vivekananda - 6:30pm
December	12/26/08	Vivekananda - 6:00pm

# What's up in the sky?

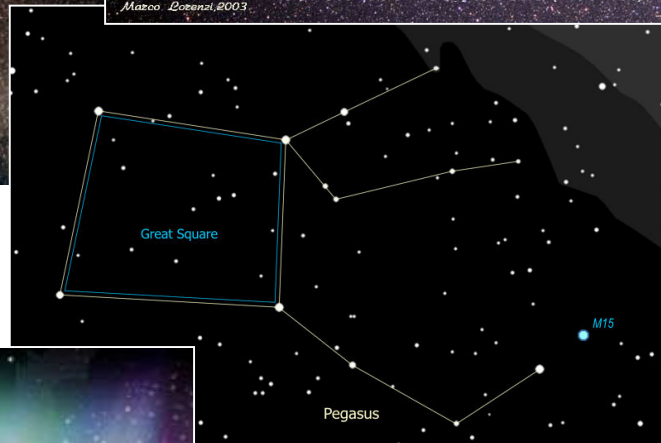
September, 2007

By Peter Burkey

This month ushers in a new season of observing, the autumn constellations being some of my favorites. Overhead Cygnus, Lyra, and Aquila contain the stars, Deneb, Vega, and Altair, which form the summer triangle. Sagittarius (also known as the "Teapot") dominates the south, and the Great Square of Pegasus can be seen high in the east.



Skimming the treetops in the northwest is Ursa Major (the Big Dipper) which can be used as a guidepost to the constellations Bootes in the west and Ursa Minor (the Little Dipper) in the north.



Find the three stars in the handle of the Big Dipper and "follow the arc to Arcturus", the bright star low in the west. In fact, Arcturus is the brightest object in the sky after Jupiter. Arcturus lies at the bottom of the kite-shaped constellation Bootes.

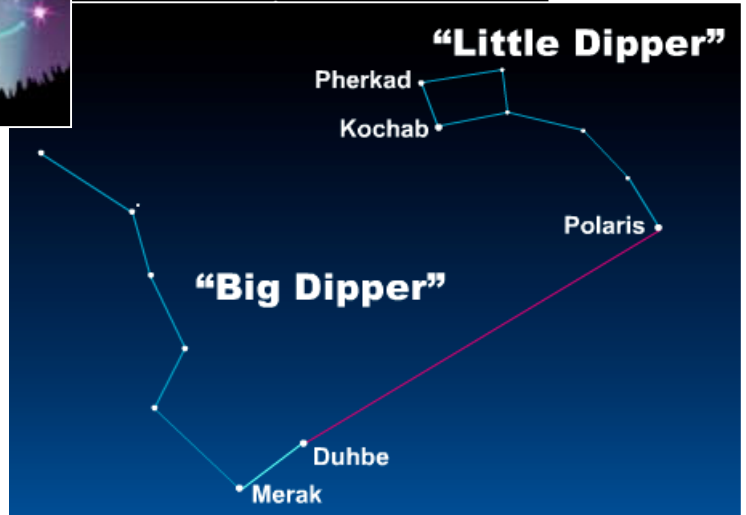


Return to the Big Dipper and find the two stars forming the right-hand side of the bowl. These are the "pointer stars" Merak and Dubhe. Follow a line drawn between them up and to the right and you will come to Polaris, the "North Star".

Polaris is probably one of the most famous stars in the sky, although there are almost 50 others that appear brighter. Its fame stems from its location. If you extend the Earth's axis straight up from the north pole, that line will point almost directly at Polaris. Thus, all the other stars appear to travel in circles around the North Star due to the Earth's rotation. The next time you're on a playground merry-go-round look up at the trees and you will see the same sort of motion.

This also means Polaris never rises or sets but remains fixed in the northern sky, acting as a cosmic guidepost. For centuries navigators referred to it as the "Lodestar" or "Steering Star", seamen called it the "Pivot Star" and voyagers the Latin "Navigatoria". Authors such as Dante, Wordsworth, Keats, and even Shakespeare make reference to it in their writings. Many ancient temples, such as the Hindu Kandariya Mahadevi Temple in India and the Great Temple of Angkor Wat in Cambodia, seem to be symbolic representations of ancient legends surrounding Polaris.

So the next time you're admiring the North Star, think about all the people throughout history who considered it of great importance. It is but one of many cosmic connections to be found up in the sky.



### This month in history:

- Sept. 3: Last two lunar landings canceled by NASA - 1970
- Sept. 8: Genesis spacecraft crash-lands on return to Earth - 2004
- Sept. 11: Mars Global Surveyor arrives at Mars - 1997
- Sept. 17: First powered flight of X-15 rocket plane - 1959
- Sept. 23: Neptune discovered by J. G. Galle - 1846
- Sept. 29: First launch of a satellite from Alaska - 2001

### Here are this month's viewing highlights:

Planets this month: Mercury visible before sunrise as August begins. Jupiter continues to dominate the southern sky, seen just above the star Antares in Scorpius. Mars high in ESE in predawn hours.



## Cosmic Cockroaches

By Dr. Tony Phillips

Cockroaches are supposed to be tough, able to survive anything from a good stomping to a nuclear blast. But roaches are wimps compared to a little molecule that has recently caught the eye of biologists and astronomers—the polycyclic aromatic hydrocarbon.

Polycyclic aromatic hydrocarbons (PAHs for short) are ring-shaped molecules made of carbon and hydrogen. “They’re all around us,” says Achim Tappe of the Harvard Center for Astrophysics. “PAHs are present in mineral oils, coal, tar, tobacco smoke and automobile exhaust.” Aromatic, ring-shaped molecules structurally akin to PAHs are found in DNA itself!

That’s why Tappe’s recent discovery may be so important. “PAHs are so tough, they can survive a supernova.”

The story begins a few thousand years ago when a massive star in the Large Magellanic Cloud exploded, blasting nearby star systems and interstellar clouds with hot gas and deadly radiation. The expanding shell, still visible from Earth after all these years and catalogued by astronomers as “N132D,” spans 80 light years and has swept up some 600 Suns worth of mass.

Last year “we observed N132D using NASA’s Spitzer Space Telescope,” says Tappe. Spitzer is an infrared (IR) telescope, and

it has a spectrometer onboard sensitive to the IR emissions of PAHs. One look at N132D revealed “PAHs all around the supernova’s expanding shell. They appear to be swept up by a shock wave of 8 million degree gas. This is causing some damage to the molecules, but many of the PAHs are surviving.”

Astronomers have long known that PAHs are abundant not only on Earth but throughout the cosmos—they’ve been found in comet dust, meteorites and many cold interstellar clouds—but who knew they were so tough? “This is our first evidence that PAHs can withstand a supernova blast,” he says.

Their ability to survive may be key to life on Earth. Many astronomers are convinced that a supernova exploded in our corner of the galaxy 4-to-5 billion years ago just as the solar system was coalescing from primitive interstellar gas. In one scenario of life’s origins, PAHs survived and made their way to our planet. It turns out that stacks of PAHs can form in water—think, primordial seas—and provide a scaffold for nucleic acids with architectural properties akin to RNA and DNA. PAHs may be just tough enough for genesis.

Cockroaches, eat your hearts out.

Find out about other Spitzer discoveries at [www.spitzer.caltech.edu](http://www.spitzer.caltech.edu).



*Caption: Using the IR spectrometer on the Spitzer Space Telescope, scientists found organic molecules in supernova remnant N132D.*