

**THE DARK SKY OBSERVER**

The Dark Sky Observer is a publication of the North Jersey Astronomical Group (NJAG), whose purpose is to promote the study and knowledge of the science of astronomy.

The Dark Sky Observer needs your input! Letters, comments, suggestions, book and product reviews, and articles are welcomed and encouraged. Contact the editor at 973-249-1926, kdconod@optonline.net, or at this address:

Dark Sky Observer  
 North Jersey Astronomical Group  
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**VISIT OUR WEB PAGE AT**

<http://njagweb.tripod.com>.  
 Mary Lou West also maintains a web page at:  
<http://www.csam.montclair.edu/~west/njag.html>

**MEMBERSHIP**

Dues are only \$15.00 per year (\$20.00 for family and \$10.00 for student memberships). Benefits of membership include: \$10 discount on subscriptions to "Sky & Telescope" or "Astronomy" magazines ("Sky & Telescope" subscribers also get a 10% discount on all books, maps, and products at Sky Publishing); a subscription to this newsletter; an e-mail list for the latest club and astronomy news; use of our dark sky sites; field trips to local planetariums, science centers, and star parties; a lending library of astronomical books; a Telescope Loan Program; and star parties for special celestial events.

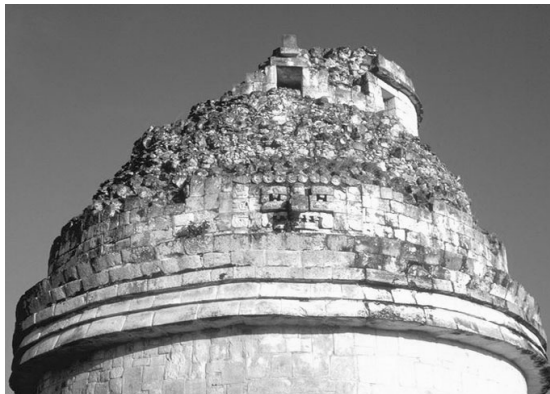
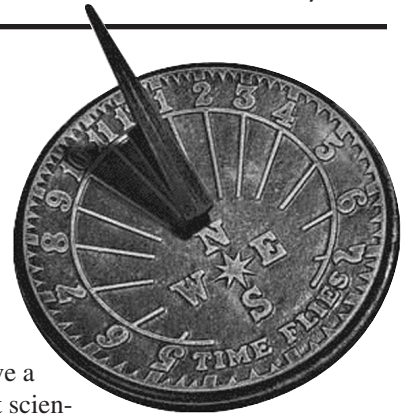
Make checks out to the NJAG and mail to: North Jersey Astronomical Group, P.O. Box 1472, Clifton, NJ 07015-1472. If you have any questions regarding membership, contact our Acting Membership Committee Chair, Kevin Conod at: kdconod@optonline.net or 973-249-1926.

**UACNJ**

The NJAG is a member of the United Astronomy Clubs of New Jersey (UACNJ), a consortium of more than a dozen astronomy clubs, united to better help support, coordinate, and communicate ideas between stargazers in and around the state. The UACNJ operates an observatory at Jenny Jump State Forest near Hope, NJ which serves as the NJAG's dark sky site.

**NEXT MEETING: SUNDIALS**

The next meeting of the North Jersey Astronomical Group will be Wednesday, October 9 at 8:00 p.m. The meeting will take place in Richardson Hall, room 226 on the campus of Montclair State. Light refreshments will be served. Jim Piombino, NJAG Secretary, will give a talk on sundials. The sundial is one of the oldest scientific instruments. Jim will show us some interesting examples of these fascinating timepieces.



**NOVEMBER MEETING: LINDA ZIMMERMANN**

Linda Zimmermann will give a presentation on Ancient Cosmologies on Wednesday, November 13. Ms. Zimmermann is author of Bad Astronomy and several articles in Sky & Telescope and Astronomy magazines. She will look at how astronomy

influenced ancient cultures around the world, and the startling similarities found between them. We'll also see how cultures in ancient India, Greece, Rome, Africa and the Americas viewed the universe, and how their views relate to modern cosmological theories.

**ROAD TRIP!**

It's been a while since we've had an official NJAG field trip. Gigi Inturrisi is investigating the possibility of arranging a trip in the near future, perhaps to the Hayden Planetarium in New York or Fels Planetarium in Philadelphia. Stay tuned for more information...

**CAMPUS CONSTRUCTION**

A new parking deck is under construction at Montclair State. If you're planning to come to a meeting or one of our Telescope Nights, check our web site for directions - there were some road closings and a detour set up early in the semester.



## FALL 2002

### TELESCOPE NIGHTS

At Montclair State University, Upper Montclair, New Jersey

WHEN : 8 - 9 pm Clear Thursdays:  
September 5 to December 12 (except November 28)

WHERE : In front of Richardson Hall, Science and Mathematics Building, next to Science Hall

TO SEE : Constellations, the Moon, Planets, Double stars, Nebulae...the Moon will be featured on September 12, 19, October 17, November 14, and December 12. See Venus in September.

### NEW!

#### Kids Telescope Night

On the second Thursday of the month, Telescope Nights will begin at 7:30 p.m.

Telescope Night will be canceled if the weather is cloudy, very cold, or very windy (It is "clear" if you can see the moon or ten stars).

### WEB PAGE NEWS

The new web page on Tripod.com is a hit with members and the public alike. Just in the first 3 weeks of September the page was viewed about 600 times. Some new photos by Gene Faulkner have been added to NJAG's photo gallery. Soon we'll also be adding links to poster and prints from the Hubble Space Telescope in the "For Sale" section. Please visit:

### BLACK HOLES IN UNEXPECTED PLACES

Medium-size black holes actually do exist, according to the latest findings from NASA's Hubble Space Telescope, but scientists had to look in some unexpected places to find them.

The previously undiscovered black holes provide an important link that sheds light on the way black holes grow. Even more odd, these new black holes were found in the cores of glittering, "beehive" swarms of stars -- called globular star clusters -- that orbit our Milky Way and other galaxies.

The new findings promise a better understanding of how galaxies and globular clusters first formed billions of years ago. Globular star clusters contain the oldest stars in the universe. If globulars have black holes now, then globulars most likely had black holes when they originally formed. The new results indicate that the very sedate, elderly environments of globular clusters house these exotic objects, quite unlike the violent cores of some galaxies.

A black hole is an infinitely small and dense region where space is so tightly warped by gravity that not even light can escape. For many years, astronomers have known two types -- "supermassive" black holes at the centers of large galaxies and the so-called "stellar-mass" black holes that result when a star about 10 times the Sun's mass ends its life in a supernova explosion. Both types have been detected and measured.

Visit the Hubble's News & Views page at: [http://www.hubblesite.org/news\\_and\\_views/](http://www.hubblesite.org/news_and_views/)

### SKYWATCH

If you missed our Skywatch on August 12, we will be at Riker Hill Park in Livingston on November 18 from 9:00 p.m. to 12:00 midnight. Saturn, Jupiter and the Moon will be visible. We'll also have a preview of the Leonid Meteor shower.

Note: Our telescopes cannot see through clouds! Telescopes will be set up only if the weather permits.

Cosponsored by the Newark Museum and the Essex County Department of Parks. <http://njag-web.tripod.com>.

### DIRECTIONS to Riker Hill Park

#### From the East

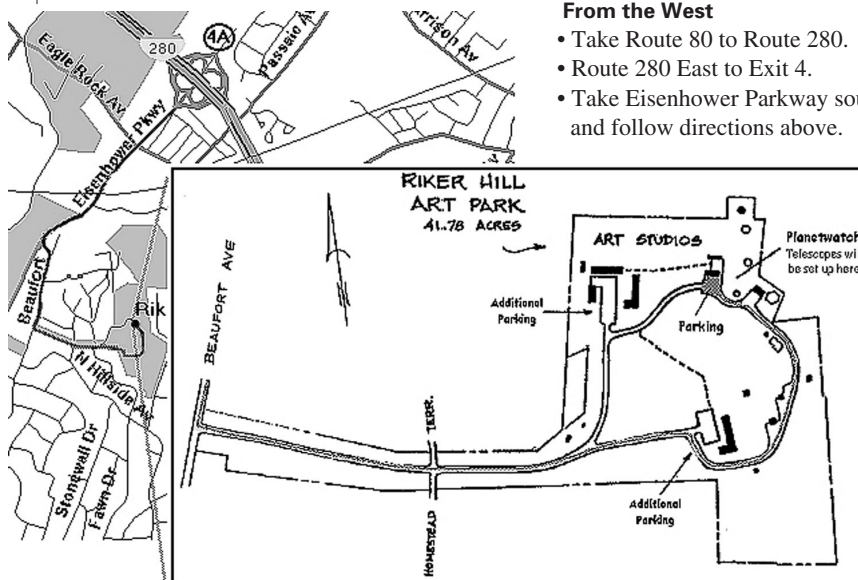
Route 280 is accessible from NJ Turnpike Exit 15W or Garden State Parkway Exit 145.

- Take Route 280 West to Exit 4A
- Take Eisenhower Parkway south. Go straight at the first light.
- Cross the railroad tracks and go up the hill.
- Make a left onto Beaufort Ave.

- Make a right turn to continue on Beaufort. A few blocks down make a left at the sign for Riker Hill Art Park.
- Go straight at the stop sign. Keep to the right at the fork in the road.
- Telescopes will be set up at the very top of the hill.

#### From the West

- Take Route 80 to Route 280.
- Route 280 East to Exit 4.
- Take Eisenhower Parkway south and follow directions above.



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## SPACE MOVIE REVEALS

### CRAB'S SECRETS

Just when it seemed the summer movie season had ended, two of NASA's Great Observatories have produced their own action movie. Multiple observations made over several months with NASA's Chandra X-ray Observatory and the Hubble Space Telescope captured the spectacle of matter and antimatter propelled to nearly the speed of light by the Crab pulsar, a rapidly rotating neutron star the size of Manhattan.

The Crab was first observed by Chinese astronomers in 1054 A.D. and has since become one of the most studied objects in the sky. By combining the power of Chandra and Hubble, the movie reveals features never before seen in still images.

By understanding the Crab, astronomers hope to unlock the secrets of how similar objects across the universe are powered.

Images and additional information are available at: <http://chandra.nasa.gov>



*The most famous local meteorite fell in Peekskill, NY on October 9, 1992. The impact punched a large hole in the back of a parked car.*



### WHAT'S THE DEAL WITH THAT METEORITE?

*Kevin Conod*

Recently, I received a phone call from a gentleman who thought he had found a meteorite in his front yard. I had a long conversation with him, explaining to him some of the features and properties to look for, and how rare it is to find a meteorite in New Jersey.

It is so rare in fact, that the only known meteorite to have fallen in the state was seen after midnight way back on August 15, 1829. According to the August 21st issue of "The New Jersey Eagle," a meteor of "unusual and intense brightness was observed in New York...A stream of fiery particles followed in its train, tapering off to a point like a cone." A Morristown newspaper reported that "many of our citizens were roused from their slumbers by a report similar to the discharge of a piece of heavy artillery succeeded immediately by a whizzing noise resembling that made by a cannon ball passing through the air. Some two or three persons who saw the meteor described it as being a large ball of fire passing rapidly through the air a little south west of this village."

Observers in Long Branch, NJ noted that it was brighter than an almost full Moon and also heard noise similar to gunfire. Although there were many reports of meteorites landing all over the area, only one was ever recovered at the farm of John West in Deal, NJ. This sample was triangular in shape and about three inches long. The largest part of was taken to New York by John West and presumably sold to a collector. Some pieces of it found their way to other countries, but this larger part of the Deal meteorite has gone to whereabouts unknown. A smaller remaining piece (about 21 grams) of New Jersey's only meteorite remains in the collection of the Academy of Natural Sciences in Philadelphia.

There have been other reports of meteorites in the Garden State. The roof of a shed in Red Bank was supposedly punctured on March 14, 1936 by a stone from the sky, but no one seems to know if it was really a meteorite. Two lifeguards on Long Beach Island claimed they saw a meteorite land in August 1999. They describe a "sizzling-hot" egg shaped rock plopping onto the sand. This was never confirmed as a real space rock.

Despite my story of the rarity of meteorites in New Jersey, the gentleman insisted that his rock was really "from the sky." I offered to examine it for him and if necessary send it for further testing. I didn't hear from him for several weeks and so thought that was the end of it. Then one morning I found an odd package on my desk. I'm surprised the post office delivered it, for the fellow had jammed the rock into a regular business envelope, scribbled the address on it and wrapped it in a heavy layer of packing tape.

I knew what it was before even opening it. I smelt a whiff of tar as I carefully opened the envelope, confirming my suspicions. What is black, sticky, smells like tar and contains chunks of black stone? Asphalt! The poor fellow had picked up a bit of pothole filler which probably dropped off a passing truck, perhaps even flew off the NJ Turnpike (which lies only a meteorite's throw from his house). Oh well, scratch another Jersey meteorite! Some day, someone, somewhere in the state is bound to find a real one. Wouldn't that be neat?



**SKY CALENDAR**

**October**

- 02 Moon near Jupiter (dawn)
- 05 Mars & Mercury near Moon before dawn
- 08 Draconid meteor shower
- 10 Mercury and Mars closest (dawn)
- 13 Mercury in east (dawn)
- 25 Saturn near Moon
- 30 Jupiter near Moon (dawn)

**November**

- 02 Mars near Moon (dawn)
- 05 Capella in northeast at 7:00 p.m.
- 15 Orion in east at 8:00 p.m.
- 17 Leonid meteor shower
- 20 Venus near Spica (dawn)
- 21 Mars near Spica (dawn)
- 22 Moon near Saturn
- 24 Moon near Pollux

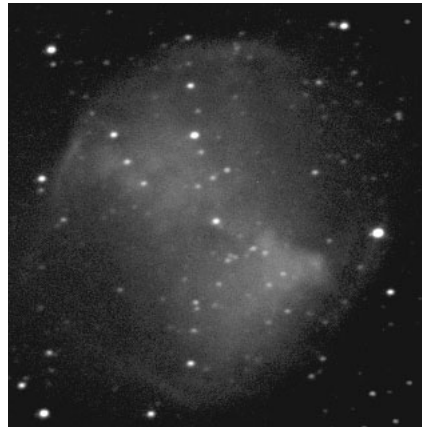
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**STUMP THE ASTRONOMERS**

Have a question about astronomy?  
 Send it in to Kevin Conod at the address on page 1  
 or to [kdconod@optonline.net](mailto:kdconod@optonline.net)  
 and we'll try to have an answer in the next newsletter.

★ ★

*NJAG member Gene Faulkner has been busy on these clear fall nights capturing some splendid images. Some of his photos are featured on the NJAG website. At left is a 240-second exposure of M-27, and at right is, of course, the moon. Do you recognize the crater?*



The Cone Nebula