

North Jersey Astronomical Group

The Dark Sky Observer

A Publication of the North Jersey Astronomical Group

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ASTRONOMY DAY

The United Astronomy Clubs of New Jersey (UACNJ) will hold an Astronomy Day event at Jenny Jump State Forest, in Hope, NJ. Speakers, Displays, Observing, will be featured Saturday, May 22, 1999 from 3:00 p.m. through 11:00 p.m. See <http://www.erols.com/njastro/> for more information.

LAST TELESCOPE NIGHT

The Spring season of telescope nights at Montclair State ends Thursday, May 6. Please join us 8:00-9:00 p.m., weather permitting.

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 is produced monthly for NJAG members by NJAG members.

FROM THE EDITOR: Remember the Dark Sky Observer needs your input! Letters, comments, suggestions, and articles are welcomed and encouraged. Contact the editor at a meeting, at (973) 340-5963 or at this address:

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May Skies

All month long the evening sky is dominated by Leo the Lion. Leo is almost directly overhead for most of the month. The easiest way to find Leo is to look for a backwards question mark in the sky. This pattern of stars is often called "the Sickle" because its shape resembles a crescent-shaped farm tool. Leo's rump is marked by a small triangle of stars.

On Saturday, May 1, Jupiter and Mercury huddle close together. They are only 1.5 degrees apart, but it will be quite difficult to spot them in the east as they are only about ten degrees above the horizon at sunrise.

On Sunday, May 2, Venus passes between the horns of Taurus, the bull. Go out and face west at 9:00 p.m. You should be able to spot Venus easily above the treetops. A star marks each tip of Taurus' horns. The names of these two stars should be easy to remember because they rhyme: Beta and Zeta. The one above and right of Venus is called Beta Tauri, while the one below and left of Venus is named Zeta Tauri.

Saturn's conjunction with Mercury is even more difficult to spot than Jupiter's. Facing east at sunrise on Thursday, May 13, the two are only seven degrees above the horizon.

Venus and the Moon are a pretty pair in the constellation of the twins on Tuesday, May 18. Face west at 9:00 p.m. and find the Moon. Venus is the bright point of light to the right of the Moon. Venus and the Moon are side by

side as are the twin stars of Gemini. Look for Pollux and Castor above the Moon and Venus. Note that the bright yellowish star to your right is Capella, while the star to your left is Procyon.

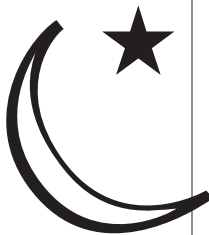
Friday, May 21, the Moon creeps closer and closer to Regulus, the star which marks the heart of the Lion. Look at them at 9:00 p.m. on Friday night. If you watch them over the next few hours you will see the two draw slowly closer together. If you watch them all the way until after midnight you will see the Moon cover Regulus. As the Moon moves in its orbit around the Earth, it will occasionally come between us and a bright star or planet and block it from view. This is called an occultation. This event will probably be the best occultation for 1999.

National Astronomy Day is Saturday, May 22. Celebrate by setting up a telescope in your backyard and enjoy the night sky!

Mars and Spica make a pretty set in the eastern sky. They are close to each other for much of May, but they are joined by the Moon on Tuesday and Wednesday, May 25 and May 26.

The moon is full on Sunday, May 30, and you can see it rising with the bright red star Antares. Face the southeast at about 10:00 p.m. Antares is the red point of light to the right of the Moon. It represents the heart of Scorpius, the scorpion.

For a weekly update on the night sky, call the StarLine at 973-680-8420.



JERSEY ST☆RQUEST '99

MAY MEETING

The May meeting of the North Jersey Astronomical Group will feature our own President Dennis Barlow. Dennis will present "Chemistry in the Cosmos. The meeting will take place Wednesday, May 12 at 8:00 p.m. in Richardson Hall room 226 on the campus of Montclair State University.

UPCOMING SPEAKERS

June 9:
"Space Law"
by Christine Burgess

July 14:
"Cartoon Astronomy"
by Kevin Conod

IN A GALAXY FAR, FAR AWAY...

Astronomers at the State University of New York, Stony Brook found a magnitude 27.7 blip in Ursa Major that appears to be a galaxy about 14 billion light years away. Information they gathered with the Hubble Space Telescope suggests that the galaxy emitted the light we see today when the universe was only about five percent of its present age and makes it the most distant object yet observed.

WHEN:

Beginning at 5 PM Friday, June 11th and running through 12 PM Sunday, June 13th 1999. Please note: This event will take place regardless of the weather conditions!

WHERE:

Starquest '99 will be held at the Hope Conference and Renewal Center in Hope, NJ (only a few miles from UACNJ's Jenny Jump Observatory) Its our 2nd year at this facility. Its fantastic, lots of room, dark skies, indoor facilities, Swimming, Fishing, Volleyball, Basketball, Hiking and a Game room

REGISTRATION

is \$35 per person, \$30 for meals.

CONTACT:

Greg Cantrell (cantrell@princeton.edu) Phone: 732 308 3488

OTHER EVENTS AND AMENITIES:

- Stargazing at an amazing, dark sky location
- AAAP sponsored "Deep Sky Observing" contests with prizes
- Free space available for astronomical swap meet
- Indoor cabin accommodations (First come, first served)
- Ample space for camping & RV's
- Tour of UACNJ's Jenny Jump observatory
- Hot showers for all
- Five catered meals
- Raffle & Door prizes
- Swimming, Fishing, Volleyball, Basketball, Hiking, Game room

JERSEY STARQUEST SPEAKERS

Speaker	Topic(s)
Jerry Lodriguss NJ Amateur & Astrophotographer	Astrophotography
Mike Carr Princeton University	Inside the SDSS Camera (Sloan Digital Sky Survey)
Michael DiMario Yerkes Observatory	Prediscovery of Pluto at Yerkes Observatory by Amateurs
Michael Lemonick Author & Senior Science Writer Time Magazine	Search for Extraterrestrial Intelligence

NOTE: Speakers are subject to change

LECTURES AT UACNJ's JENNY JUMP OBSERVATORY

Saturdays at 8:00 p.m. (followed by observing weather permitting)

5/1/99 History of Naked Eye ObservingVic Belanger

5/8/99 Archaeo-astronomyKarl Hricko, Kean University

5/15/99 Observing Double OccultationsCraig Small

5/29/99 The Solar SystemSteve Clark



ASTRONOMY TEAMS FIND FIRST MULTI-PLANET SYSTEM, OTHER THAN OUR OWN, ORBITING STAR

by Bill Noxon

The first believed multiple planet system orbiting around a sun-like star has been found by independent teams of astronomers.

In 1996 San Francisco State's Geoffrey Marcy and R. Paul Butler of the Anglo-Australian Observatory detected a near Jupiter-sized planet orbiting the star Upsilon Andromedae. Recently, the scientists, after analyzing 11 years of telescopic observations at Lick Observatory, picked up signals of what appears to be two additional planets within the same system based on newly gathered data. The new data indicates there are at least a trio of planets orbiting this star, making Upsilon Andromedae the first solar system ever found that mimics our own.

These newly discovered planets are more distant from its star than the one discovered three years earlier. The middle planet is estimated at twice the size of Jupiter, and the outermost planet, four times Jupiter's mass. Both orbit its star in elliptical patterns, as in previously known discoveries of extrasolar planets.

For images, see:

<http://www.physics.sfsu.edu/~planet-search/upsand.html>

MARTIAN SUNDIAL UNVEILED AT CORNELL

by David Brand

Bill Nye, the television writer and host of the popular public television children's science program, "Bill Nye, the Science Guy," unveiled the first extraterrestrial sundial at a press conference at Cornell University on Wednesday, April 21.

The sundial will travel to Mars aboard NASA's Mars Surveyor 2001lander. Pictures of the sundial taken by the lander's panoramic camera after its arrival at Mars in January 2002 could make the simple device one of the most photographed objects ever sent to another world. The images will show the passage of the hours and seasons as the sun moves across the Martian sky.

STUDENTS INVITED TO PARTICIPATE IN A 2001 MARS ODYSSEY

by Susan Lendroth and Jeffrey Oslick

The Planetary Society, in cooperation with NASA Jet Propulsion Laboratory, invites young people worldwide to submit prototypes for the first student-designed experiment on Mars -- a 2001 Mars Odyssey: the Student NanoExperiment Challenge.

The Mars Environmental Compatibility Assessment (MECA) team proposed that a student experiment be incorporated the MECA experiment package on the Mars Surveyor 2001 Lander mission, scheduled to launch on April 10, 2001. Entrants must be pre-college students, 18 years old or younger as of March 1, 1999, to be eligible to enter.

Some of the MECA experiments will test how the Martian environment affects patches of different materials, including spacesuit fabrics. The selected student experiment will be placed with these patches, becoming part of an experiment designed to help us better understand how humans will one day be able to survive on Mars.

To enter the Student NanoExperiment Challenge, students must design and build a prototype experiment, and submit it along with a written summary of the experiment that is 350 words or less. Each student must also maintain a journal that documents the development of his/her experiment, which also must be submitted upon request to the Student NanoExperiment Challenge judges.

The Student NanoExperiment Challenge judging committee, comprised of staff members from the Planetary Society, scientists and engineers from the MECA team, and educators, will select

ten finalists from all qualifying entries.

The MECA team will then select one or more experiments from among the ten finalists to be constructed for flight-readiness testing. If it passes all mission requirements (detailed in the Challenge guidelines), the experiment selected by the MECA team will be integrated into the MECA experiments on the Mars Surveyor 2001 Lander.

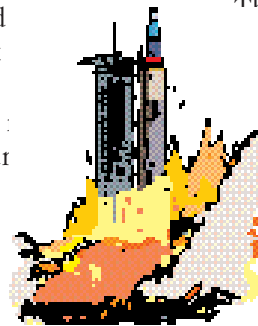
The Student NanoExperiment Challenge will teach students how things can come in small packages. Students must construct nanoexperiments, extremely compact designs that can fit within a cylinder that is one and a quarter (1.25) centimeter in diameter by one (1) centimeter in

height. Total mass allowance is three (3) grams or less. The experiment must also be self-contained, since no power from the lander will be available to power the student experiment.

The results of the student experiment must be something that can be observed by the camera located on the robotic arm of the lander. Since the student prototypes will not be flight-qualified, the Planetary Society will fund the building of the actual flight unit, including the cost of materials, construction and testing.

The contest deadline is July 31, 1999. Entry forms and complete Challenge guidelines are available from the Planetary Society at 65 North Catalina Avenue, Pasadena, CA 91106 or on the Society's website at <http://planetary.org>.

For more information or Challenge guidelines, contact Susan Lendroth or Jeffrey Oslick at (626)793-5100 or by e-mail at tps.sl@mars.planetary.org for Susan; nanoexp@planetary.org for Jeff.



“When lilacs last in the dooryard bloom’d,
 And the great star early droop’d in the
 western sky in the night...

Walt Whitman

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May Sky Calendar

- 1 Mars closest to Earth
- 5 Eta Aquarid meteor shower peaks
- 6 NJAG Public Night at Montclair
- 8 Third Quarter Moon
- 9 Mother's Day
- 12 NJAG Business Meeting, 8pm
- 13 Mercury passes 0.7° north of Saturn
- 15 New Moon
- 15 Armed Forces Day
- 13 Moon passes 0.9° north of Aldebaran
- 18 Moon passes 6° south of Venus
- 20 Jupiter at perihelion
- 22 First Quarter Moon
- 26 Moon passes 5° north of Mars
- 30 Memorial Day
- 30 Full Moon
- 31 Memorial Day observed
- ★ NJAG PUBLIC NIGHT

 May '99						
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9	10	11	12 ☾	13	14	15 ●
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23 30 ○	24 31	25	26	27	28	29