

# Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 46 No. 10

October 1, 2009

## **NEXT MEETING 7:30 p.m., Monday, October 5, 2009**

Maturango Museum, 100 East Las Flores Avenue, Ridgecrest, California

## **PROGRAM FOR THE OCTOBER 5 MEETING: PLANETARY NEBULAS**

Our October program will focus on planetary nebulas. If you have pictures of some favorites or tips for observing the objects, bring them along.

From Wikipedia: a planetary nebula is an emission nebula consisting of a glowing shell of gas and plasmas formed by certain types of stars when they die. The name originated in the 18<sup>th</sup> century because of their similarity in appearance to giant planets when viewed through small optical telescopes and is unrelated to the planets of the solar system. They are a relatively short-lived phenomenon, lasting a few tens of thousands of years, compared to a typical stellar lifetime of several billion years.

At the end of the star's life, during the red giant phase, the outer layers of the star are expelled via pulsations and strong stellar winds. Without these opaque layers, the remaining core of the star shines brightly and is very hot. The ultraviolet radiation emitted by this core ionizes the ejected outer layers of the star which radiate as a planetary nebula.

## **DATES TO KEEP IN MIND**

Monday, October 5, 2009: Regular CLAS Meeting at the Maturango Museum, 7:30 p.m.

Friday, October 16, 2009: Next public star party, see details below.

Wednesday, October 21, 2009: Deadline for next Skywatchers Newsletter.

Monday, November 2, 2009: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

## **STAR PARTY SCHEDULE FOR THE 2009 SEASON**

Star Parties will be held on the dates listed below. Star Parties are an activity where members and guests come together to view the skies. If you have a telescope, bring it; if not, come and look through someone else's. They are held at a site in the open desert south of Ridgecrest. To reach the site from Ridgecrest, go south on China Lake Boulevard 6.2 miles from its intersection with Ridgecrest Boulevard. Continue straight across Highway 395 and you will be on Brown Road (Old Highway 395). Follow Brown Road as it curves to the right and goes west. After 2.3 miles, there will be a 30-inch orange cone on the left. Turn left and follow the dirt road marked by 12-inch cones. The CLAS star party is 0.5 miles along this road. Signs and cones will be put out about a half hour before viewing starts. Call Carroll Evans 760-375-5681, or Bruce Churchill 760-375-7247, for more information.

Friday, October 16: Signs out at 7:00 p.m., Star viewing at 7:30 p.m.

Friday, November 13: Signs out at 5:30 p.m., Star viewing at 6:00 p.m.

## **THE SKY IN OCTOBER by Roger Brower**

1. Venus remains in the morning sky during October. It rises in the east-northeast about 2 hours before the sun.
2. Saturn remains in the morning sky this month. Look for it low in the east shortly before sunrise. The rings are closing (getting more edge-on ) so they will become less brilliant throughout the summer. Saturn moves close to Mercury on the 8th of the month and close to Venus on the 13th of the month.
3. Mercury also remains in the morning sky the first couple of weeks this month. Look for it in the east before sunrise.
4. Jupiter remains a fine evening object. Look for it high in the south soon after sunset.
5. Mars rises about midnight. Mars starts the month in Gemini near the stars Castor and Pollux, but by month's end, moves into Cancer and will be near M44, the beehive cluster.
6. The Orionid meteor shower peaks on the morning of October 21st.

## **OUTREACH PROGRAMS**

On Friday evening October 9, Cerro Coso Community College is hosting its annual astronomical star party and barbecue. Details are not yet available, but please set aside time for this event. Our help will be primarily at the college observatory, assisting the public at the telescopes. Carroll Evans will again present "Exploring the Night Skies," a traditional slide show.

On September 17th, CLAS sponsored an outreach program at Gateway school. The students were from Mrs. Jackie Ponek's 5th grade class. There were about 60 students and parents divided into two venues. One was in the classroom where Carroll Evans gave his astronomy slide show and one outside with the telescopes. We had four telescopes and one set of binoculars. Chuck Morgan, Peter Eiserloh, Mac Hope and Roger Brower manned the telescopes. A number of the students and parents had never looked through a telescope before. They observed the planet Jupiter, stars, star clusters, nebulas and galaxies.

## **FIRE THREATENS MOUNT WILSON OBSERVATORY AND ANTENNA ARRAYS - Carroll Evans**

On Wednesday August 26, a fire began in the Angeles National Forest. This fire started just up the road from a Forest Service fire station, and therefore was dubbed the "Station Fire." This is the most serious fire in California in many years. There was considerable worry about the fate of the Mt. Wilson Observatory, now over 100 years old, and the fate of the multitude of TV, FM and communications antennas on the same mountaintop. As the fire approached almost everyone was evacuated; only two people, Dave Jurasevich and Larry Webster, remained at the observatory site. Also remaining and working faithfully was the Mt. Wilson tower cam. Viewers around the world were able to view the approaching smoke and flames for many days. Eventually fire reached a pull box for the Internet connection, and the camera was lost. Earlier, the peak seemed in imminent danger and all fire fighting personnel, as well as Larry and Dave, had to leave. Later, with the mountaintop still unburned, the fire crews were able to return. Massive efforts to save the facilities seemed to have succeeded, although at this writing the fire is not fully contained. Those of you with Internet access can refer to <http://www.mtwilson.edu/fire.php> for a continual history of Mt. Wilson during the fire. This is a blog by Dr. Hal McAlister, the Observatory's director. The containment efforts included several Hotshot Fire Crews, many drops by aerial tankers, backfires, and just plain good fortune.

Many of you know of the volunteer efforts of my two youngest brothers, Ken and Larry Evans. Thus, I will take the liberty of quoting from Dr. McAlister's blog, with respect to certain activities.

“Fire crews appear on the mountain daily, with Hot Shots from Big Bear and Kings River, CA there yesterday as well as a Bureau of Land Management crew from Palm Springs. The BLM guys jumped right in to assist us with laying a new stretch of fire pipe that had been cut off by a necessary leak repair just before the Station Fire surprised everyone. As seen in the photos added this morning, this involves digging a trench through pretty hard decomposed granite soil, and we are much indebted to the Palm Springs BLM crew for their work, which was overseen by volunteers Ken and Larry Evans who originally discovered the leak and capped it. The Evans Brothers have a long history of volunteer service to the Observatory, and I don't know what we would do without them.”

The fire also was a threat to NASA's Jet Propulsion Laboratory, just north of Pasadena, in the foothills. What follows is from the Jet Propulsion Laboratory webpage.

As the flames of the raging brush fire dubbed the Station Fire threatened the northern edge of NASA's Jet Propulsion Laboratory on Saturday, Aug. 29, the managers of NASA's Deep Space Network prepared for the worst. The Deep Space Operations Center at JPL is the nerve center for the Deep Space Network, an international network of antennas that send and receive information to interplanetary spacecraft. Staffed 24/7, 365 days a year, the JPL hub is constantly active connecting three major antenna sites, numerous mission operation centers run by NASA and an international group of space agencies, and more than 30 spacecraft flying throughout our solar system. "We were more like the nervous center that weekend than the nerve center," said Wayne Sible of JPL, the network's deputy program manager for Deep Space Network development, operations and services. The Deep Space Network operations managers knew that, fire or no fire, time was critical for sending software programs to and downloading diagnostic information from several spacecraft, including the Mars Reconnaissance Orbiter, which had an unexpected computer reboot the day the fire started on Aug. 26, and the Dawn spacecraft, on its way to the asteroid belt. The network's antennas that send and receive information to spacecraft located at Goldstone, in California's Mojave Desert; near Madrid, Spain; and near Canberra, Australia, were never in danger. But Sible and Jim Hodder, the network's operations manager, got word on Friday, Aug. 28, that the Station fire, which started in the San Gabriel Mountains above the Laboratory, was burning towards JPL. Emergency managers and senior JPL administrators called for JPL to be closed, except for essential personnel, on Friday evening. A flurry of phone calls followed -- to the Deep Space Network team, the mission operation centers and ITT Systems Division, the contractor that provides the operators for the operations center at JPL. On a phone call with Hodder, the team decided to move network operators to a facility in Monrovia, Calif., where other support work is normally conducted for the Deep Space Network. The Monrovia building - about 15 miles from JPL -- offered basic access to the critical systems, though the operators would not be able to use personalized computer scripts or notes that facilitate their work.

It seemed practical, since activating the emergency control center at the Goldstone complex in California's Mojave Desert would be more disruptive and require some suspension of communications while they moved staff 150 miles to that location. Two of the five Deep Space Network operators on weekend duty were sent to Monrovia, but three volunteered to stay at the control center at JPL, to ensure systems continued to operate normally, to keep connections open with the flight projects, and to maintain the flow of engineering and science data to flight projects and scientists around the globe. The three who stayed at JPL - along with about 40 other mission-critical personnel at any given time - were told not to spend much time outside. Hodder called frequently to check on the health of the crew and to obtain status reports on the network. On Saturday afternoon, Sible and Hodder were ready to pull out those remaining three operators and put further communications with the network on hold if the fire reached the Mesa, a flat helipad and testing site at the northern edge of JPL. That afternoon, the fire burned to within an eighth of a mile of the northern border of the lab. Emergency managers told staff to be ready to evacuate in 30 minutes. Thankfully, with fire department hand crews cutting firebreaks, helicopters and fixed-wing aircraft dropping water and flame retardant, and the wind shifting, the danger passed on Saturday night. An unpleasant haze of smoke settled on the lab, but the air had cleared enough for the network operators in Monrovia to return to JPL Monday evening. The rest of JPL opened as usual on Tuesday morning at 6 a.m. In the end, the Deep Space Network was able to complete its 182 scheduled uploading and downloading sessions with spacecraft over the weekend without interruption. "It went very well," Sible said. "Nobody saw any hiccups whatsoever."

## **MEMBERSHIP INFORMATION**

Basic CLAS dues are \$20.00 per year, which includes the Skywatchers Newsletter. As a benefit of membership, you may also receive Astronomy Magazine and/or Sky and Telescope Magazine. The fee schedule is as follows:

Basic membership	\$20.00 per year
Membership with Astronomy magazine	\$54.00 per year
Membership with Sky and Telescope magazine	\$53.00 per year
Membership with both S & T and Astronomy	\$87.00 per year

Send your check to: Roger Brower, Treasurer, China Lake Astronomical Society, P.O. Box 1783, Ridgecrest, CA 93556.

PRESIDENT – Earl Wilson – 760-876-5455 (email [zearl.email@gmail.com](mailto:zearl.email@gmail.com))

VICE-PRESIDENT – Bruce Churchill - 760-375-7247 (email [rb-churchill@live.com](mailto:rb-churchill@live.com))

SECRETARY – Ted Hodgkinson - 661- 824-2738 (email [ghodkinson@sbcglobal.net](mailto:ghodkinson@sbcglobal.net))

TREASURER – Roger Brower - 760-375-1181 (email [brower@iwvisp.com](mailto:brower@iwvisp.com))

NEWSLETTER EDITOR – Carroll Evans Jr. - 760-375-5681 (email [clevans@ridgenet.net](mailto:clevans@ridgenet.net))

**WESTERN AMATEUR ASTRONOMERS WEB SITE <http://www.waa.av.org/>**

Meetings of the China Lake Astronomical Society are held at the Maturango Museum at 7:30 p.m. on the first Monday evening of each month, except when the first Monday is a holiday.

**SKYWATCHERS, Newsletter of the  
CHINA LAKE ASTRONOMICAL SOCIETY  
POST OFFICE BOX 1783  
RIDGECREST, CA 93556-1783**

**FIRST CLASS**

**NEXT MEETING: 7:30 p.m., MONDAY OCTOBER 5, 2009: “PLANETARY NEBULAS” AT THE MATURANGO MUSEUM, 100 EAST LAS FLORES AVE., RIDGECREST, CALIFORNIA**

**CLAS WEB PAGE <http://www.chinalakeastro.org>**

**INDEX OF CLAS NEWSLETTERS <http://www.ridgenet.net/~clevans/clas/>**