



CSM OBSERVER

College of San Mateo Astronomy Program Newsletter -Fall 2009

Looking Up *Professor Mohsen Janatpour*

The budget cuts have not been kind to educational programs at the college. For the overall wellbeing of the college all programs will have to sacrifice by avoiding expansion, and indeed cutting some sections, in the near future. Under these constraints, CSM Astronomy Program has strived and will continue to strive to offer the best quality astronomy education to the CSM students as well as San Mateo community. To that end we have availed astronomy students with the state of the art research and experimental tools at the early stage of their astronomy education.

Inside...

- All that jazz.
- *Photo gallery.*



- [Astronomy News](#)

CSM astronomy students, faculty, and staff have teamed up with the professional astronomical community in several research projects. For example, as part of this collaborative effort we meet regularly with Dr. Steve Howell of NOAO, Arizona and San Mateo high school teacher Sally Seebode, whose students will be involved in reducing data collected by CSM students, staff, and faculty at CSM observatory. Also CSM faculty and staff will travel to Washington D. C. at no cost to the college, to present results of the spectroscopic research conducted by CSM students, faculty, and staff on the mystery eclipse of star epsilon Aurigae, which occurs every 27.1 years. *-p.2*

CSM Astronomy visits Adler & AAS

From August 4-7 CSM Professor Darryl Stanford and technician Dean Drumheller attended Summer 2009 Citizen Sky Workshop at Chicago's Adler Planetarium. Darryl and Dean joined a group of amateur and professional astronomers from around the globe, to share ideas and data on type F supergiant star epsilon Aurigae. *-p.2*



Citizen Sky Workshop -Chicago

CSM/SMCAS Community *SMCAS President -Ed Pieret*



Winter months provide a great opportunity to show your children the wonders of the night sky. Darkness falls as early as 6:00PM so children can use a telescope without extending their bedtime. You can find schedules and information about telescope viewing at Crestview Park in San Carlos and at CSM, on our website, www.smcas.com.

The members of SMCAS invite you to our meetings in CSM planetarium on first Fridays of the month at 7:30PM. These meetings feature speakers on the leading edge of space science who come to us from NASA, SETI, UC Berkeley, Stanford, and similar organizations. www.smcas.com/events/meetings/upcoming_meetings/

Looking Up from p.1

Furthermore, our students are involved in taking spectra of B stars to track changes in their H-alpha emission lines, as well as photometric data of asteroids to study their rotational periods.

Finally, as before, our voluntary outreach in projects such as Project Star Gaze, Jazz Under the Stars, second Friday of the month planetarium shows, and first Friday of the month speakers in collaboration with San Mateo County Astronomical Society will continue as before. There is a lot to look up to. *Prof. Mohsen Janatpour*



Spectrum of the B star, beta Lyrae, taken by CSM student Inge Ruano

H-alpha ↑

Adler/AAS from p.1

CSM astronomy department and students are part of a larger team studying epsilon Aurigae, including: Dr. Steven Howell of NOAO in Tucson AZ, Oil City High School teacher Tim Spuck from Pennsylvania, CSM Professor Darryl Stanford, D.W. Hoard of Spitzer Science Center, and San Mateo High School teacher Sally Seebode.

This same team will meet again, at no cost to the college, from Jan 3-7 in Washington DC for the 215th annual meeting of the American Astronomical Society, where we will show and discuss the latest spectroscopic results obtained by students, faculty, and staff. -Obs.

Jazz-Planetarium-SMCAS

There's a lot of astronomy going on at CSM. We currently host 3 popular, **free** events on campus:



“**Jazz Under The Stars**” is a journey to the night sky from our observatory. Stop by from 7-10 PM on Saturdays close to 1st quarter moon. Enjoy detailed views of the lunar surface, and Jupiter's clouds and moons(!), while listening to Coltrane, and other hepcats on campus station KCSM 91.1 FM. For dates and times: <http://collegeofsanmateo.edu/astronomy/jazz.asp>

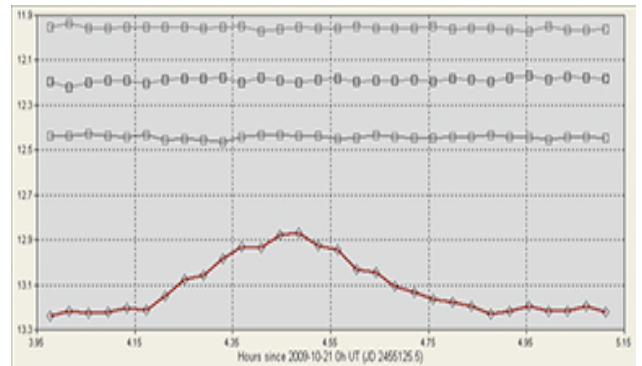
“**The Sky Tonight**” planetarium show is presented by Professor Stanford, and takes place every 2nd Friday of the month with 2 shows: 7:30 and 8:20 pm. Free tickets are handed out on a first come basis. Arrive early for this very popular event. <http://collegeofsanmateo.edu/astronomy/planetarium.asp>



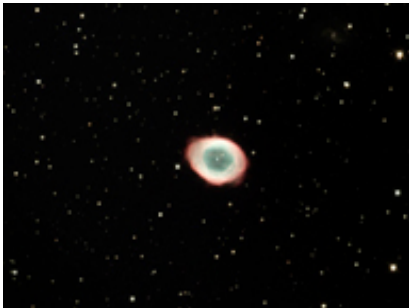
San Mateo County Astronomical Society holds their monthly speaker meeting in CSM planetarium on 1st Fridays of the month. Enjoy great bay area astronomy speakers and general astro conversation with SMCAS members. Meeting 7:30, speaker 8:00 PM. SMCAS meetings are free, and open to the public. <http://www.smcas.com/>

Photo Gallery

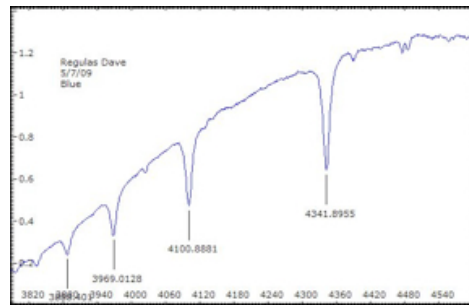
Astrophotography involves many imaging techniques: Photometry allows us to measure a star's brightness over time, while spectra of stars reveals the star's composition, doppler shift, and more. This edition of "Photo Gallery" presents several techniques of astro-imaging used by students in our observatory.



Light curve (in red) of pulsating variable star BL Cam.



M57 Ring Nebula -20" telescope



Deneb Spectra -Student Dave Faleschini



Moon -Hansel Vargas-Machuca

ASTRONOMY NEWS NOTES

Professor Darryl Stanford

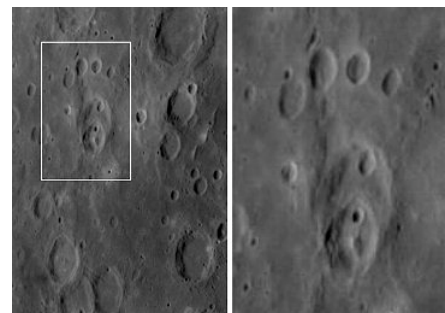
Water on the Moon Three spacecraft, presently orbiting the moon, have found evidence of water molecules mixed with lunar topsoil in the moon's polar regions. How much did they find? Not a lot. Squeezing a ton of moon dust could yield 32 ounces of water! This could give astronauts water to drink, and hydrogen, for rocket fuel. See: http://science.nasa.gov/headlines/y2009/24sep_moonwater.htm

Lava Planet Found A team of European astronomers has confirmed the discovery of a rocky extrasolar planet. Many planets have been found orbiting other stars, but the vast majority of them have been 'hot Jupiters'. These gaseous planets, the mass of Jupiter or greater, orbit insanely close to their parent star. The discovery of CoRoT-7b is the first of these planets with a solid surface. However, the surface temperature of this 'super-Earth' is 3,600 degrees Fahrenheit! Hence the name, 'lava planet'. This planet orbits so closely to its parent star, that a year on this planet is a mere 20 days. Go to: <http://www.skyandtelescope.com/community/skyblog/newsblog/59480512.html>

Bigfoot Found on Mercury! Well kinda sorta. NASA's MESSENGER spacecraft has been taking images of Mercury as it flies over the planet. The MESSENGER probe is using Mercury's gravity, a technique called gravity assist, so that the probe can enter into Mercurian orbit by 2011. This image, that looks like the footprint of the legendary creature, shows a number of craters within craters. For more images, go to: <http://messenger.jhuapl.edu/>

Did You Know?

- One day on Jupiter is less than 10 hours.
- One year on Mercury is only 88 days.
- One day on Venus, is 243 Earth days.





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Sky Sites & Events

Web Sites

- SMCAS
<http://www.smcas.com/>
San Mateo County Astronomical Society
Star parties, astronomy events & activities
- CSM Astronomy Program
www.collegeofsanmateo.edu/astronomy/
Updates & Information on all events
- International Year of Astronomy
<http://astronomy2009.us/>
Global celebration of astronomy

On Campus

- SMCAS monthly meetings –bldg. 36 *free*
General meeting and guest speaker.
First Fridays, 7:30-10 PM in bldg. 36
www.smcas.com
- “Jazz (radio) Under The Stars” *free*
Monthly star party in CSM observatory
Saturdays near 1st quarter moon. Check for dates:
<http://collegeofsanmateo.edu/astronomy/jazz.asp>
- CSM Planetarium Shows *free*
Second Friday of every month 7:30 & 8:20 pm
Prof. Stanford presents “The Sky Tonight”

<http://www.collegeofsanmateo.edu/astronomy/>



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