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Next Docent Meeting Monday, October 16

The next docent meeting will be held on Monday, October 16. The meeting will convene at 6:00 in the main conference room and will feature dinner and a speaker. Docents should visit the docent forum calendar to schedule their hours. Docents who do not have web access may contact Nick Petrosino. See the URL for the docent calendar at lower left.

Kitt Peak Docent Program

950 N Cherry Ave
Tucson, AZ 85719

Docent Forum: http://groups.yahoo.com/group/docentforum/
Docent Calendar: http://groups.yahoo.com/group/docentforum/
Volunteering at Kitt Peak:http://www.noao.edu/outreach/kpoutreach.html

www.noao.edu

KITT PEAK DOCENT

«First Name» «Last Name»
«Mailing Address»
«City» «State» «Zip Code»

Kitt Peak Docent Program

DOCENT NEWS

Number 108
October 2006

KITT PEAK DOCENT

Points of Interest:

- The docent meeting is scheduled for Monday, October 16 and features dinner and a speaker.
- October 4 to 10: World Space Week
- October 6: Asteroid 2006 RZ near-Earth flyby at 0.012 AU
- October 9: Draconids Meteor Shower peak
- October 10: 160th anniversary of William Lassell's discovery of Neptune's moon Triton
- October 13 to 14: Starry Nights Festival, Yucca Valley, CA
- October 17: Mercury at its greatest eastern elongation of 25°
- October 21: Orionids Meteor Shower peak
- October 24: 155th anniversary of William Lassell's discovery of Uranus's moons Umbriel and Ariel

For additional information about these points of interest, visit http://www2.jpl.nasa.gov/calendar/.

PLENTY OF PROGRAMS IN OCTOBER

There is not any shortage of volunteer opportunities this month. From educational outreach to special groups on Kitt Peak, staff will be seeking participation from the docents to keep things running smoothly.

The visitor center lacks coverage for five days in October, one of which is Monday the second. Refer to the calendar in this newsletter for other days in October that lack coverage.

October 5th is the date for the first of four Family Astro workshops for which educational outreach is always seeking participants. Family Astro events are thematic and offer families a chance to learn about astronomy through creative activities and board games. The program works well as an after school event or as a public event in science centers or planetaria. The Arizona-Sonora Desert Museum uses Family Astro to supplement their astronomy nights and Pima County Parks and Recreation has been hosting the program for two years. Docent participation in this program would be welcome. These events may become regular occurrence at NOAO.

Also welcome would be volunteers to assist with the ADASS tour on Sunday the 15th. About fifty conference attendees will be a driven about the mountain to tour various telescopes. Drivers will be needed. Volunteers may contact Robert Wilson for details.

Meteor Madness occurs early on the morning of October 21st for the Orionids Meteor Shower. The visitor center is already taking reservations for this and the Leonids event in November.

Docent assistance for these events is important and much appreciated. Please contact Robert Wilson to sign up for the event of your choice.

FEE CHANGES AT THE VISITOR CENTER

On October 2nd, one day after the start of the new fiscal year, the Kitt Peak Visitor Center will institute a new fee structure for tours. The basic cost will increase and additional categories will be added. Those categories are as follows:

Admission 1 (basic) $3.50 each
Admission 2 (6-12 Years old) $2.00 each
Admission 3 (under 6) Free
Admission 4 (Native) Free
Admission 5 (group) $2.50 each
Admission 6 (2 for 1 Passport Book)
Admission 7 all day pass (all three tours - this is a new category) $6.50 each

There will be new bar codes on the counters by next week and rate information on the web site will be updated. Docents may wish to jot down the new fees to have the information handy if questioned by a guests.

The fee increase reflects the growing need for revenue with which to fund visitor center improvements, including exhibits. New programs are planned as well to appeal to as broad a spectrum of public interest as possible. Existing programs like New Scope Night and Lunar Adventure will remain and be augmented by special programs such as Meteor Madness. The newly developed programs will expand the outreach repertoire and generate additional revenue.

HiRISE CAMERA WILL TAKE FIRST CLOSE-UP PICTURES OF MARS ON SEPTEMBER 29

The most powerful camera ever to orbit Mars will get its first close look at the Red Planet on Friday. The High-Resolution Imaging Science Experiment (HiRISE) camera flying aboard NASA's Mars Reconnaissance Orbiter (MRO) will relay its first low-altitude images to scientists at The University of Arizona beginning Friday afternoon, Sept. 29.

"It's exciting because it's the first time we'll see Mars while the spacecraft is orbiting at about 300 kilometers (roughly 190 miles) above the planet's surface," HiRISE principal investigator and UA Professor Alfred S. McEwen said.

The HiRISE camera is the most powerful telescopic camera ever sent to another planet. The camera took its first impressive test images of Mars when it was as far as 2,500 kilometers (roughly 1,600 miles) away from the planet last March, just before MRO began "aerobraking." Aerobraking involved sending the bus-sized spacecraft through Mars' upper atmosphere 426 times between early April and Aug. 30. The technique successfully lowered MRO close to its final science orbit. This maneuver would have required an extra 600 kilograms (1,300 pounds) of fuel if thrusters had been used.

The spacecraft fired six thrusters to reach final science orbit on Sept. 11. The orbit crosses near Mars' north and south poles at altitudes ranging from 250 kilometers (155 miles) to 316 kilometers (196 miles) above the surface.

The HiRISE team has been working at top speed to prepare for the low-orbit images they'll get between Sept. 29 and Oct. 6.

"What makes these next test images exciting for our team is that this time, our effective resolution (sharpness) will be 10 times better," said HiRISE Operations Center (HiROC) manager Eric Eliason. "We're going to see some tremendous detail."

The Sept. 29 - Oct. 6 observing opportunity will be the first time that MRO will use the onboard targeting algorithm and procedures that point the spacecraft at their desired targets. The check-out is designed to test all the observing modes so that there is a smooth start to the primary science phase in November.

"The north polar cap and the Phoenix Mission landing region are our big priority targets for the early science phase, and so we've included them on our targeting check-out," McEwen said.

The NASA Scout-class Phoenix Mission is an international lander mission led by UA's Peter Smith. It is slated for launch in August 2007 for a May 2008 touchdown in Mars' north polar region.

"HiRISE's best chance for photographing candidate Phoenix mission landing sites is in October and November because the sun is getting lower as northern Mars moves into fall," McEwen said. Fogs and hazes will likely degrade viewing by early 2007, he added.

Other imaging targets include about 40 other locations which sample a wide variety of landscapes. The HiRISE team plans to get its first image on Sept. 29 of Ius Chasma, a complex floor that is part of Valles Marineris, a giant canyon system far larger than Arizona's Grand Canyon.

Engineers will turn off the HiRISE camera for a solar conjunction that starts the second week of October. Solar conjunction is when the sun is aligned between Earth and Mars. It will obstruct communications with the spacecraft for about three weeks.

NASA's Mars Reconnaissance Orbiter, launched August 12, 2005, will provide more science data than all previous Mars missions combined. Among its many objectives is a search for evidence that water persisted on the surface of Mars for a long period of time. Other Mars missions have shown that water flowed across the surface in Mars' history. But whether water was ever around long enough to provide a habitat for life remains a mystery.

The HiRISE team uses ISIS-3 software developed and maintained by the U.S.G.S.-Flagstaff for processing its images at HiROC. HiROC is located in the C. P. Sonett Space Sciences Building, 1541 E. University Blvd, on the UA campus.

The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Mars Reconnaissance Orbiter for NASA's Science Mission Directorate, Washington. Lockheed Martin Space Systems is the prime contractor for the project and built the spacecraft. The HiRISE camera was designed, assembled and tested at Ball Aerospace and Technology Corp. in Boulder, Co.

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October 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Larry L.	2 Need Docent	3 Joyce	4 Sheila	5 Richard	6 Aubrey (C)	7 Ken
8 Eugene	9 Aubrey	10 Joyce	11 Sheila	12 Jon	13 Vance, Doug	14 Jim O.
15 Ken ADASS 60	16 Need Docent Senior Grp 20 Docent Meeting	17 Need Docent	18 Sheila, Aubrey (C)	19 Jon	20 Eugene	21 Ken, Jim O.
22 Need Docent	23 Bill	24 Need Docent	25 Sheila, Aubrey (C)	26 Jon	27 Doug	28 Larry L., Kelly, Vance
29 Eugene, Anna	30 Aubrey, Jon	31 Joyce				

CORONADO ARRAY NEEDS OPERATORS

Now that the solar telescopes are open for business, operators are needed to staff the small observatory near the McMath-Pierce from 10:15 to 11:30 in the morning and 12:15 to 1:30 in the afternoon. Currently only one volunteer is regularly attending to that duty.

Seven docents were trained originally in the operation of the Coronado telescopes. Other docents have expressed interest as well. The days of operation are Wednesday and Friday. With two volunteers needed a week and a minimum of seven volunteers involved, no one should have to serve as operator more than once a month. The other two days a month may be devoted to tours.

To avoid confusion on the docent forum calendar, telescope operators are designated as such with a C in parentheses by their names. Other volunteers may sign up for tours on days that have only one docent scheduled with a C. Of course if no other docent signs up for that day, the tours take precedence.

To fill those idle moments in the observatory between visits by the public, the operators may take either or both of the books on solar observing/the Sun to read. One of the volumes was co-authored by Dr. Bill Livingston.

Solar images with captions also adorn the walls of the observatory and may serve as handy visual references for the guests as well as decorative pieces.

The Coronado array offers the public a glimpse through a telescope at Kitt Peak, something many guests ask about. They are also a wonderful educational tool. But without volunteers to operate them, those telescopes will sit idle in the small white observatory. It seems they could be put to better use.