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Next Docent Meeting Tuesday, January 16

The next docent meeting will be held on Monday, December 18. 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 111
January 2007

KITT PEAK DOCENT

Points of Interest:

- The docent meeting is scheduled for Tuesday, January 16 and features dinner and a speaker.
- January 1: International Lunar Decade begins
- January 3: Earth at perihelion
- January 3: Quadrantids Meteor Shower peak
- January 8: Stephen Hawking's 65th birthday
- January 17 to 21: Deep South Texas Stargaze 2007
- January 27: 40th anniversary of Apollo 1 Fire (Grissom, White, and Chaffee)
- January 31: Deadline to submit name to Selene
- January 31: Asteroid 2006 CJ near-Earth flyby at 0.026 AU

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

INTERNATIONAL YEAR OF ASTRONOMY 2009 WEB PAGE PUBLIC, NATIONAL NODE CHAIRS APPOINTED

The web page for the International Year of Astronomy 2009 (IYA2009) http://www.astronomy2009.org/ has just gone public. The page is the main starting point for the global and local IYA2009 events and everyone interested in IYA2009 can use this page to get in contact with their local IYA2009 National Node. The Communicating Astronomy with the Public 2007 Conference (CAP2007) held in Athens (October 2007) will have IYA2009 as the main theme.

The International Year of Astronomy 2009 (IYA2009) will be a global celebration of astronomy and its contributions to society and culture. It will stimulate worldwide interest not only in astronomy, but in science in general, with a particular appeal for young people. IYA2009 will mark the monumental leap forward that followed Galileo's first use of the telescope for astronomical observations, and portray astronomy as a peaceful global scientific endeavor that unites astronomers in an international, multicultural family of scientists working together to find answers to some of the most fundamental questions that humankind has ever asked.

At the global level the International Astronomical Union (IAU) will play a leading role as a catalyst and coordinator. While the IAU will organize a small number of truly global or international events such as the Opening and Closing Events, the main activities will take place at the national level and will be coordinated by the IYA2009 National Nodes in close contact with the IAU.

The chairs of the National Nodes are also known as IYA2009 Single Point of Contacts, (or SPoCs) have just been appointed and are listed on the web site. They have been recommended to act on a number of points including:

* Setting up a national IYA web page and publish the national strategy and activities

* Setting up a national strategy and as part of that define a national organizational structure, a so-called IYA Node, to plan and implement their IYA activities.

* Doing fund raising at a national level, and recruiting, motivating, and organizing teams of active professional and amateur astronomers to work with the whole national community in communicating IYA2009 to as wide an audience as possible.

* Advising, and collaboration with, the local authorities and local organizations: professional, amateur, public outreach etc. Encourage development of their own projects and ideas.

* Advising, and collaborating with, the national media.

* Get support and endorsement for the IYA activities from the highest possible level.

* Editing their own National Node pages on the main IYA 2009 web site with links to the national web page, and to outline the plans and activities in the country.

The SPoCs will meet March 3rd - 4th 2007 at the ESO HQ in Garching, Germany to discuss IYA2009, see: http://www.communicatingastronomy.org/iya_eso/

Nations or large organizations that are not listed on the overview of National Node pages and who would like to join the work, should submit a letter of interest to: spoc_coordinator@astronomy2009.org

The Communicating Astronomy with the Public 2007 Conference (CAP2007) will be held in Athens from October 8th through 11th and the URL is at: http://www.communicatingastronomy.org/cap2007

Lars Lindberg Christensen
IAU Press Officer
E-mail: lars@eso.org

HOT STUFF ON VENUS! VENUS EXPRESS SEES RIGHT DOWN TO THE HELL-HOT SURFACE

Thanks to ESAs Venus Express data, scientists obtained the first large-area temperature maps of the southern hemisphere of the inhospitable, lead-melting surface of Venus. The new data may help in searching and identifying hot spots on the surface, considered to be possible signs of active volcanism on the planet.

The results, presented today at the American Geophysical Union (AGU) assembly in San Francisco, USA, were obtained thanks to VIRTIS, the Visible and Infrared Thermal Imaging Spectrometer on board Venus Express.

To obtain this fundamental information about the surface temperature, VIRTIS made use of the so-called infrared spectral windows present in the Venusian atmosphere. Through these windows thermal radiation at specific wavelengths can leak from the deepest atmospheric layers, pass through the dense cloud curtain situated at about 60 kilometres altitude, and then escape to space, where it can be detected by instruments like VIRTIS. In this way VIRTIS succeeded in looking through the thick carbon dioxide curtain surrounding Venus and detected the heat directly emitted by the hot rocks on the ground.

We are very much excited about these results, as they represent a very important item in the list of Venus Expresss and VIRTIS scientific objectives at Venus, says Giuseppe Piccioni, one of the Principal Investigators of the VIRTIS experiment, from the Istituto di Astrofisica Spaziale e Fisica Cosmica in Rome, Italy.

The measurements, made in August 2006 over the Themis and Phoebe Regiones in the southern hemisphere of Venus, reveal temperature variations of 30 degrees between lowlands and mountain tops, correlating well with existing topographical radar data from previous missions. The Themis Regio is a highland plateau located on the 270º East longitude and at about 37 deg South latitude. It is a region that has experienced strong volcanic activity, at least in the geologic past.

On Venus there are no day and night variations of the suface temperature. The heat is globally trapped under the carbon-dioxide atmosphere, with pressure 90 times higher than Earth's. Instead, the main temperature variation is due to topography. Just like on Earth, mountain tops are colder, whereas the lowlands are warmer. The only difference is that on Venus cold means 447 deg Celsius, while warm means 477 deg Celsius. Such high temperatures are caused by the strongest greenhouse effect found in the Solar System.

The VIRTIS results represent a major step forward in our attempt to identify specific surface features on the surface of Venus, said Jorn Helbert from the German Aerospace Centers (DLR) Institute of Planetary Research in Berlin, Germany, and a member of the VIRTIS team. By peeling off the atmospheric layers from the VIRTIS data, we can finally measure the surface temperature, Helbert added.

Eventually, the VIRTIS team hopes to identify hot spots on the surface of Venus, possibly stemming from active volcanoes. In the Solar System, besides Earth, active volcanoes have been observed only on Io, a satellite of Jupiter, on Neptune's satellite Triton, and on Saturn's moon Enceladus (in the form of the so-called cryo-volcanism). Venus is the most likely planet to find other active volcanoes.

In order to achieve this, the Venus Express scientists started comparing the maps of the Venusian topography obtained by NASAs Magellan orbiter in the early 1990s with the data gathered by VIRTIS. The Magellan topography maps allow for a rough prediction of the surface temperature, too. Comparing these predictions with the measurements by VITIS allows searching for hot spots that show even higher temperatures than the oven-hot surface, possibly indicative of active volcanism.

This direct interdependence between temperature and topography will allow deriving new topography maps of the Venusian surface from temperature measurements. This will help in complementing the Magellan maps.

Actually, when comparing our temperature map with topographical data from Magellan, we are not only obtaining quite a good agreement, but we can even fill gaps that the Magellan and Venera 15 radar data sets left open, said Pierre Drossart, the other Principal Investigator of the VIRTIS experiment, from the Observatoire de Paris Meudon, France.

Even though Venus is the brightest planet in the night sky other than Earth's moon, and it is the closest planet to Earth, it is extremely difficult to obtain detailed information about its surface from Earth. Even if some evidence of surface thermal emission has been obtained from ground-based telescopes working in the near-infrared since 1990, the spatial resolution of such observations remain very limited.

Venus Express is instead making use of the infrared windows, known to scientists from the middle of the 1980s. In 1990, during the flyby of Venus, NASAs Galileo spacecraft on its way to Jupiter, made a first attempt to make use of these windows.

ESA PIO source:
Monica Talevi
Science Information Manager
ESA - Web Portal
Email: Monica.Talevi@esa.int

January 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Closed *Happy New Year*	2 Joyce	3 Sheila, Gerald, Richard (C)	4 Jerry, Jon	5 Gerald, Vance (C)	6 Jerry
7 Larry L., Eugene	8 Gerald, Larry E.	9 Jon	10 Sheila, Barbara	11 Jerry, Gerald	12 Doug, Don, Vance (C)	13 Jim O., Ken
14 Jerry, Gerald	15 Gerald, Aubrey	16 Joyce *Docent Meeting*	17 Sheila	18 Jerry	19 Doug, Don *Pima C.C.*	20 Jerry, Eugene
21 Ken	22 Gerald, Larry E.	23 *Need Docent*	24 Sheila	25 Jerry	26 Doug, Don, Vance (C)	27 Larry L., Jim O.
28 Jerry, Ken	29 Gerald, Aubrey	30 Joyce	31 Sheila, Eugene			

NEW STATUS FOR OLD DOCENTS

The title of this article might better read "New Status for Experienced Docents," because docents need not be old to qualify. Beginning in January, docents who are deemed by the department to have served at least eight years of continuous service and have fulfilled the requirements of the program during those eight years may qualify for promotion to Docent Emeritus.

Promotion to emeritus status relieves docents of having duty on Kitt Peak while maintaining all the benefits that docents currently enjoy. Of course, docents who attain emeritus status may continue to serve on Kitt Peak if they wish, perhaps on a more limited schedule. They will also have the opportunity to assist with special programs in which they have a particular interest.

Docents Emeritus will receive a plaque in a ceremony held during the monthly docent meeting. They will also receive a twenty-five dollar gift certificate for a local restaurant, astronomy shop, or bookstore, to be selected by the docent.

The purpose of the new status is to recognizes the efforts of those docents who have served the program faithfully for years and contributed to the outreach efforts of Kitt Peak and the department. It is another way of thanking the volunteers who make possible the community's involvement with Kitt Peak National Observatory and who convey to the public an understanding and appreciation of astronomy by sharing their knowledge and enthusiasm.

Eligibility for emeritus status will be determined by the department and extended by invitation.