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PISGAH ASTRONOMICAL RESEARCH INSTITUTE

PARI hosts astronomical plate conference

Thirty-two scientists from the U.S, Canada and Europe attended a three-day workshop at PARI to develop a national plan for the preservation of astronomical photographic plates and the future use of astronomy's heritage of historic photographic observations.

Astronomical photographic plates, most of them glass, were the primary means of preserving celestial observations from the mid-1800s to the 1990s. They total about 3 million worldwide with well over half made in North American observatories.

Many of the valuable artifacts are now in danger of being lost

or destroyed without a national plan to preserve them and make them available to scientists and researchers from around the world.



Conference attendees toured the plate preservation vault and inspected some of the 35,000 photographic plates currently housed at PARI.



Conference attendees included Nigel Sharp from the National Science Foundation, Philip Ianna from the University of Virginia, Brian Mason from the U.S. Naval Observatory and Gil Knight from the Friends of PARI.

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Thirty-two scientists from the U.S., Canada, the United Kingdom, Bulgaria, Italy and the Czech Republic met at PARI to develop a national plan for the preservation of astronomical photographic plates.

PARI has been selected as the site of an Astronomical Photographic Data Archive. PARI currently houses more than 35,000 plates and is archiving and making the plates accessible by scanning the images.

Working groups from the workshop were formed to conduct a census of existing photographic data in North America, develop a public awareness campaign in the astronomical community, and identify funding opportunities.

PARI Calendar

December 20	Teachers Evening at PARI: STEM Opportunities
December 21	Evening at PARI "The Christmas Star"
January 12, 19	ROBOTS Professional Development Workshop
January 11	Evening at PARI "Telescope Workshop"
January 26-27	PARI at Astronomy Days at the NC Museum of Natural Sciences
February 8	Evening at PARI
February 16	School of Galactic Radio Astronomy Workshop for Teachers at the NC Museum of Natural Sciences

Congressman Shuler visits PARI



11th District Congressman Heath Shuler toured the PARI campus to learn more about the important role PARI is playing in bringing science education and research to Western North Carolina. Here, Congressman Shuler watches as PARI Science Educator Beth Harris and Rosman Elementary students Timothy Owen and William Partin demonstrate how PARI's "Smiley" radio telescope is used for hands-on learning in classrooms throughout the state.

PARI's Galaxy Walk is open

Cutting the ribbon to officially open PARI's new Galaxy Walk are PARI President Don Cline, Board Chairperson Jo Cline and Friends of PARI President Dr. Joe Phillips. Constructed by Friends of PARI volunteers, the Galaxy Walk is an outdoor display showing planets and other astronomical objects in a scale-model relationship to our Sun.



School of Galactic Radio Astronomy



Using a PARI instrument to detect radio signals from objects on earth and in the sky are (left to right) Alan Lenk, Bruce Hutchinson and Biff Spizak, all teachers in Buncombe County schools. They were attending one of a series of PARI workshops for teachers in Buncombe, Transylvania and Henderson Counties. Funded by a grant from the Perry N. Rudnick Fund of the Community Foundation of Henderson County, the workshops introduced middle and high school teachers to radio astronomy and gave them the opportunity to use PARI telescopes for hands-on classroom learning.

PARI student papers accepted at Harvard library



PARI President Don Cline presents copy of "The PARI 2007 Summer Student Research Proceedings" to Amanda Preston, left, Chief Advancement Officer for the Harvard-Smithsonian Center for Astrophysics, and Donna Coletti, Department Manager of the Center's John G. Wolbach Library. The volume contains work done at PARI last summer by high school and college students, many of them from Western North Carolina, and will become part of the library's permanent collection.

Thad McCall receives Friends of PARI Presidential Award



Thad McCall (left) received the Friends of PARI President's Award for outstanding contributions to PARI. Presenting the award are Friends of PARI President Dr. Joe Phillips and PARI President Don Cline. Thad is PARI's director of facilities and has worked at the campus site since 1962. He received the award during the annual Friends of PARI symposium, which attracted more than 50 people to the PARI campus to honor PARI's most important volunteers and contributors. Attendees were treated to a presentation by Dr. Bob Hatcher of the University of Tennessee-Knoxville, refreshments, behind-the-scenes tours, a viewing of PARI's astronomical plate collection and hands-on activities with optical and radio telescopes.

The Orbit of Mars

astronomer's corner

Dr. Bob Hayward, Astronomer/Educator

Mars has always fascinated us. While intelligent life (but not all life) on Mars has certainly now been ruled out, we still find ourselves fascinated by this planet. Thus, the so-called “Mars Hoax” of recent years.

What is the “Mars Hoax”? First, let’s go back to August 27, 2003, the day that Mars and the Earth came closer together than they had in almost 60,000 years. Both of these planets revolve around the Sun, of course. The Earth makes this trip once every year. But Mars, being farther from the Sun than the Earth, takes 1.88 years to make the trip. Because it is moving more rapidly, Earth laps Mars approximately every 26 months. As the Earth passes by the red planet there comes a point at which it lies directly on a line between Mars and the Sun. We say Mars is at opposition.

The orbit of the Earth is slightly eccentric, i.e., non-circular, and the orbit of Mars is decidedly eccentric. Thus, if Mars were to come to opposition at the point in its orbit when it is nearest the Sun, called perihelion, it would be closer to the Earth than if it came to opposition at some other point in its orbit. This is what nearly happened on that fateful day in 2003. Mars reached opposition on August 28 and perihelion the 30th and we say that in 2003 Mars came to a perihelic opposition. Because of the orientations of the orbits of both Mars and the Earth, their closest approach was actually on August 27 at a distance of 55,758,006 km. For many days both before and after this event Mars was particularly bright in the evening skies and, through a 75-power telescope, appeared as large as the Moon.

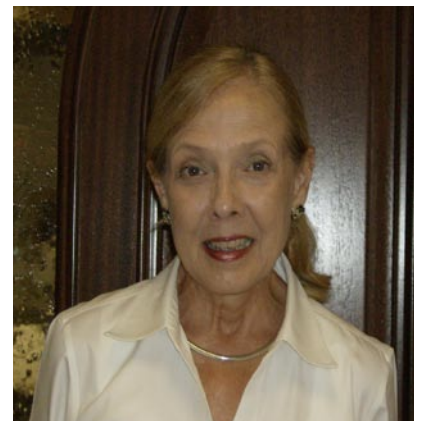
Following the 27th the Earth gradually drew ahead of Mars in their eternal race around the Sun. But, the following summer what should appear on the Internet but a chain letter warning everybody to prepare for the closest approach of Mars in 60,000 years on August 27, 2004!! This false warning pointed out that Mars would be particularly spectacular and would appear as large as the Moon to the naked eye!! People receiving the letter started calling their local planetariums and observatories and some newspapers even published it. The letter, by then dubbed the “Mars Hoax,” reappeared in each of the following summers.

When will Mars again reach another perihelic opposition? The next one will occur on July 27, 2018. Once again Mars will be spectacular in the evening skies and very fascinating through a telescope...but not as large as the Moon to the naked eye!

Bob Hayward's column is a regular feature of our newsletter and an extended version can be found online at www.pari.edu/programs/astronomers-corner/. For additional information, or if you'd like to ask Dr. Bob a question, e-mail askDrBob@pari.edu or, write Dr. Bob at One PARI Dr., Rosman, NC 28772.

PARI Board Update

Rita Fuller, left, and Janet Parks have been appointed to the PARI board of directors. Based at the UNC Center for School Leadership Development, Fuller is statewide director of the NC Mathematics and Science Education Pre-College Program. Parks is a Fayetteville businesswoman who is currently involved with several statewide initiatives, including the NC Arts Council Board.



PARI needs your help!

PARI is a public, not-for-profit foundation. Financially, we are dependent upon contributions and grants for our educational and research programs, and for the many operating expenses associated with maintaining the campus and our facilities.

If you have recently contributed, we thank you for your support. If not, please help support PARI and our mission with a contribution. PARI is a 501 c(3) organization and all donations are tax deductible to the full amount allowed by law.

A financial contribution automatically makes you a member of Friends of PARI. Membership levels and benefits include:

Student Member	\$10.	Member level for full time students. E-mail copy of the PARI Newsletter.
Associate Member	\$50.	Receive Quarterly Issues of the PARI Newsletter.
Member	\$100.	All of the above plus a PARI key chain with light.
Family Member	\$200.	For a family of 4, all of the above plus a PARI coffee mug. Use of the PARI Astronomy Library.
Supporter	\$500.	All of the above plus a PARI hat and a PARI lapel pin.
Mentor	\$1,000.	All of the above plus an invitation to one of the quarterly night astronomy sessions at PARI.
Advisor	\$2,000.	All of the above plus use of the Internet controlled remote optical imaging Space Observatory.
Benefactor	\$5,000.	All of the above plus "Guest Astronomer Program." Spend a day working with the astronomy staff, learning how to operate a radio telescope.

All donors at the level of \$5,000 and above will receive recognition on a plaque at PARI.

Please provide the requested information below and mail it with your contribution to:

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One PARI Drive
Rosman, North Carolina 28772

Name: _____

Address: _____

City State Zip _____

email address _____



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The Pisgah Astronomical Research Institute (PARI) is a not-for-profit public foundation established in 1998. Located in the Pisgah Forest 30 miles southwest of Asheville, NC, the PARI campus is a dark sky location for astronomy and was selected in 1962 by NASA as the site for one of the first U.S. satellite tracking facilities. Today, the 200 acre campus houses radio and optical telescopes, earth science instruments, 30 buildings, a fulltime staff and all the infrastructure necessary to support STEM (science, technology, engineering and math) education and research. PARI offers educational programs at all levels, from K-12 through post-graduate research. The institute is affiliated with the 16-campus University of North Carolina system through PARSEC, a UNC Center hosted at PARI, and is a member of the NC Grassroots Museum Collaborative. For more information about PARI and its programs, visit www.pari.edu.

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