September 19, 2008

The Hubble Space Telescope An Idea That Would Not Die

Robert Zimmerman, *Science Author*

The story behind the Hubble Space Telescope is a story of many near deaths and amazing saves. Repeatedly, politicians, bureaucrats, scientists, and even astronomers, made passionate efforts to stop its construction or terminate its use. Repeatedly, these efforts failed, as even those who originally opposed the telescope found that they could not resist its allure. The compelling nature of the unknown that the telescope promised to unveil won out each time. In describing the heroic and unknown story of the men and women who conceived, designed, built, and saved Hubble, award-winning science journalist and historian, Robert Zimmerman, will also illustrate how the telescope's design reshaped our concept of how space exploration should be carried out, proving the necessity of having humans and robots work together in space in order for humanity to successfully explore and colonize the solar system.

8:00pm @ The Main Lecture Hall

October 17, 2008

New Worlds: The Search for Planets Outside the Solar System

Scott Tremaine, *Princeton University*

For thousands of years, humankind has speculated on the existence of planets and life beyond the solar system, but, until recently, astronomers have had only our own planetary system to study. Everything changed in 1995, with the announcement of the first convincing evidence for another planet. Since then, over 300 extrasolar planets have been found, and many more are likely to be discovered. Dr. Tremaine will review what we know so far and hope to learn about planets around other stars. Raised in Toronto, he has held faculty positions at MIT, the University of Toronto, and Princeton University. He is currently the Richard Black Professor of Astrophysics at the Institute for Advanced Study in Princeton.

8:00pm @ The Main Lecture Hall

November 21, 2008

The 1.6 meter New Solar Telescope at Big Bear

Philip R. Goode, *NJ Institute of Technology*

Philip R. Goode, PhD, a distinguished professor of physics at NJIT and director of the Center for Solar-Terrestrial Research, has led the project to build the world's most capable solar telescope at Big Bear Solar Observatory (BBSO), Big Bear Lake, California. For nearly three decades, BBSO has used one of the world's most powerful solar telescopes to advance knowledge of our star. This old telescope is being replaced by one with three times the resolution to enable scientists to probe the fundamental scale of the Sun's dynamic magnetic fields, which can cause storms that destroy satellites, disrupt the power grids and telecommunications. Dr. Goode will discuss how the new telescope is made possible by pushing the envelope of current technologies.

8:00pm @ The Main Lecture Hall

December 19, 2008

Daring Flight of the Phoenix: Icy Jackpot Hit on Mars

Dr. Ken Kremer, *NASA JPL Solar System Ambassador and The Planetary Society*

Experience the sights and discoveries of the daring NASA Phoenix mission to the icy Martian arctic tundra. Phoenix is humanity's first mission to dig, touch and sample life-giving water and to search for a habitable zone on a world beyond Earth. See his custom Martian photo mosaics specially created just days after the landing. Ken is a research scientist and journalist whose articles and space exploration images have appeared in magazines and on websites, including Astronomy Picture of the Day and the covers of *Aviation Week & Space Technology* and *Spaceflight* magazines. His presentations at educational institutions, civic organizations, museums and astronomy clubs aim to educate and excite kids and adults about science and space exploration. Lecture includes 3-D images placing you "On Mars".

8:00pm @ The Roy Smith Theater

January 16, 2009

The Evolution of Galaxies in Different Environments

Jacqueline van Gorkom, *Columbia University*

Since 1988, Dr. van Gorkem and her students at Columbia University have studied the evolution of galaxies in a variety of radio, optical, ultraviolet and infrared telescopes. She will discuss her work exploring the many aspects of gas and galaxy evolution by observing the 21cm neutral hydrogen line. She received her Ph.D. in the Netherlands using the Westerbork Radio Synthesis Telescope, which was one of the first of its kind. She has been interested in radio astronomy ever since, even moving to New Mexico where the Very Large Array radio telescope had just become operational. She then moved to Manhattan, where she has been a professor at Columbia University.

8:00pm @ The Roy Smith Theater

February 20, 2009

Dust in the Interstellar Medium

David Joiner, *Kean University*

Despite making up only a small fraction of the near perfect vacuum between the stars, interstellar dust plays a large role in our observations and understanding of the night sky, because it scatterings and reradiates starlight; it also moderates the gravitational infall in star forming regions, and it provides a surface on which interstellar chemistry can occur. The formation, observation, and chemical properties of interstellar dust will be discussed. Dr. Joiner is an assistant professor of Computational Mathematics and Physics in the New Jersey Center for Science, Technology, and Mathematics Education at Kean University in Union, NJ.

8:00pm @ The Roy Smith Theater

March 20, 2009

First Steps into Space: The Making of Sputnik

Dr. Asif A. Siddiqi. *Fordham University*

In 1957, the Soviet Union launched the world's first artificial satellite, marking the beginning of the space era. Using newly available archival information and images, Dr. Siddiqi will describe the beginnings of Soviet interest in space flight and show how Cold War politics, utopian dreaming, scientific curiosity, and military needs all intersected to provide the conditions for one of the most important technological achievements of the twentieth century. Dr. Asif Siddiqi is an assistant professor of history at Fordham University. He specializes in the history of technology and modern Russian history. He is the author of "Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974," considered the definitive history of the Soviet space program.

8:00pm @ The Main Lecture Hall

April 17, 2009

Measuring Atmospheric Gravity Waves at UACNJ Observatory

Andrew J. Gerrard, *NJ Institute of Technology*

This past year has seen the development and deployment of a spatially scanning molecular-aerosol lidar system at the UACNJ-Jenny Jump State Forest site in northwest New Jersey. This system, optically connected to the 1.2-m NJIT-UACNJ-PSU telescope, permits measuring atmospheric gravity waves from various tropospheric sources; including frontal systems and the urban heat island effect of the Newark-New York metropolitan area. In this talk, Dr. Gerrard will present an overview of the lidar system, show gravity wave measurements, and discuss their role in the atmospheric circulation and in climate change as well as the UACNJ role in these unique observations. Dr. Gerrard is currently an Associate Professor of Physics at the New Jersey Institute of Technology (NJIT) located in Newark, NJ, and is a member of the Center for Solar-Terrestrial Research (CSTR).

8:00pm @ The Main Lecture Hall

May 15, 2009

AAI reserves this month's meeting for speakers gleaned from our membership who would like to share their research, astrophotos/imaging, telescope-making and other activities. The election of Officers will also take place.

8:00pm @ The Roy Smith Theater

After The Meetings...

Following the General Meetings, AAI invites you to join us at William Miller Sperry Observatory for refreshments and a chance to look through our two telescopes (weather-allowing). You can meet our members, ask them questions, view displays and buy from our sales counter. Sperry Observatory is open every Friday evening (aside from the General Meeting nights above) between 7:30pm and 10:30pm. See the other side of this panel for more information.

Amateur Astronomers, Inc.

William Miller Sperry Observatory

William Miller Sperry Observatory began with a $150,000 endowment to Union County College by Mrs. Frederick W. Beinecke and son, William. It was dedicated on May 21, 1967 in honor of her father, William M. Sperry. The east dome holds a 10-inch f/15 refractor and the west dome is home to a 24-inch f/11 Cassegrain reflector. Founded on November 14, 1949, AAI makes its home at Sperry Observatory. With over 200 members, AAI is one of the largest astronomy clubs in the United States. The club supports a wide range of free functions in service of UCC, our members and the general public.

Activities

The telescopes are opened every Friday evening, for free celestial viewing. A presentation for general audiences on some topic in astronomy is given at 8:30 pm. A schedule of events can be found at www.asterism.org. With prior arrangements, special talks for youth groups can be arranged for 7:30 pm. All presentations are free and there is plenty of free parking across from the Observatory.

From September to April, AAI sponsors a talk by a prominent scientist on the subject of astronomy. The talks are given in the Roy Smith Theater or the Main Lecture Hall of the College. Admission is Free.

Public Star Parties

Star parties are informal observing sessions which bring AAI members and the public together to view a wide variety of celestial objects with club and member telescopes. All public star parties are held at Sperry Observatory.

2008		2009	
September 26	January 30	May 29	September 25
October 24	February 27	June 26	October 23
November 7	March 27	July 24	November 13
December 5	April 24	August 28	December 11

Members Only Star Parties

Star parties for AAI members only are held at our Barry Malpas Observatory at the dark sky site of the United Astronomy Clubs of New Jersey (www.uacnj.org), of which, AAI is a member.

2008		2009	
September 27	January 24	May 23	September 19
October 25	February 28	June 20	October 17
November 29	March 28	July 25	November 14
December 27	April 25	August 22	December 12

Membership in AAI

Anyone 12 years of age or older who has an interest in astronomy may apply for membership. Annual dues are $21 with Sustaining ($31) and Sponsoring ($46) levels available. There is a one-time $3.00 application fee for new members. Additional family members who live at the same address may apply for $5.00 each. Group rate subscriptions to *Sky & Telescope* and *Astronomy* magazines are available.

Officers of the Corporation (2008-2009)

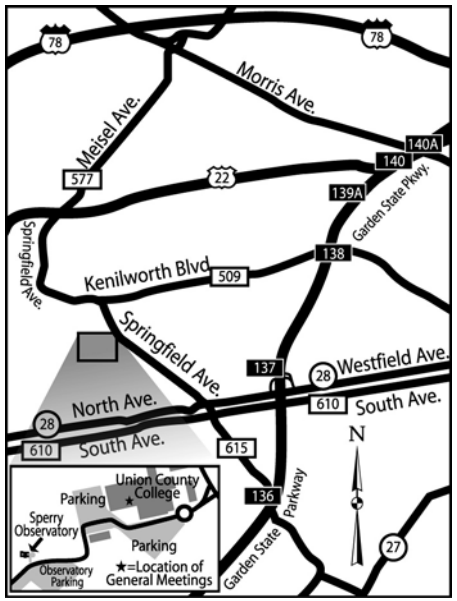
President	Vice President	Treasurer
Joseph Arcaro	Gordon Bond	Marcus Valdez

Recording Secretary	Corresponding Secretary
Alan P. Witzgall	Dr. Lew Thomas

Board of Trustees

Chairperson, 2006-2009 .....Elvira Pratsch
2007-2010.....Vince Henderson
2008-2011.....Kathy Vaccari

Visit www.asterism.org for more info!



William Miller Sperry Observatory

Hours Open to the Public

Fridays 7:30pm to 10:30pm

Admission and Parking

All programs are presented FREE of charge. Plenty of free parking available across from the Observatory.

Location and Directions

AAI's William Miller Sperry Observatory is located on the Cranford Campus of Union County College (see map above). Monthly General Meetings held at the Roy Smith Theater or Main Lecture Hall at the College (see map above for location and inside brochure for specific meeting venues).

For More Information

Visit our website: www.asterism.org
Tel. No. & Sky Info Hotline at 908-276-STAR (7827)
Mailing Address: AAI, P.O. Box 111 , Garwood , NJ 07027-0111

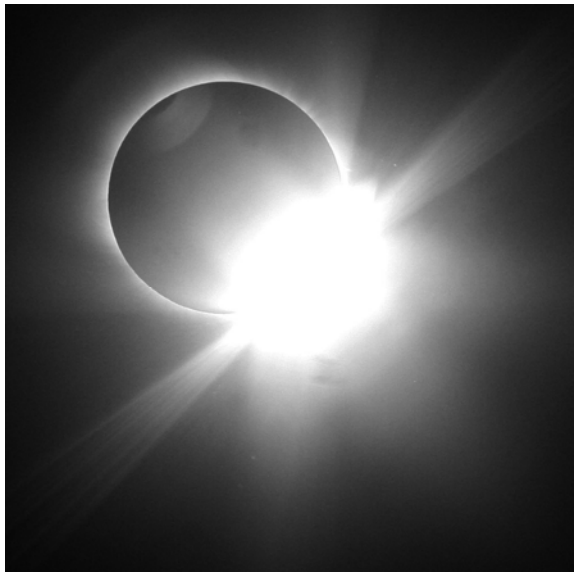
About the Cover Image

A solar eclipse occurs when our Moon passes between us and the Sun, but you have to be in the right place to be in the lunar shadow. AAI member, Wayne Augenstein, traveled to Jinta in China's western province of Gansu to record the total solar eclipse of August 1, 2008. In this image, the rays of light passing through valleys on the edge of the Moon create the stunning "diamond ring" effect. Augenstein used a Canon 20D camera through an Orion 80ED f7.5 telescope on August 1, 2008 at third contact at 7:15 PM local time (7:15 AM EST).

Amateur Astronomers, Inc.

2008-2009

General Meeting & Speaker Schedule



The "diamond ring" effect caught by AAI member, Wayne Augenstein during the August 1, 2008 eclipse from China. Read the details on the back panel of this brochure.