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Safety – Our Number One Value

Four Goddard Employees Receive Presidential Rank Awards

Goddard employees Dr. Antonio J. Busalacchi of Code 970, Dr. John H. Campbell of Code 440, Mary E. Kicza of Code 100 and John A. Hrastar of Code 600 were chosen by President Clinton to receive the 1998 Presidential Rank of Meritorious Executive award.

Dr. Vincent V. Salomonson of Code 900 also was selected by the president to receive the Presidential Rank of Distinguished Executive award.

The Presidential Rank is bestowed to a small number of career Senior Executive Service members who exhibit sustained accomplishments. Only the top five percent of Government-wide career executives receive the rank of Meritorious and Distinguished each year.

NASA Administrator Daniel Goldin will honor the awardees during a ceremony to be held at NASA Headquarters June 30.

Goddard Employee Selected for 1999 Excellence in Programming Award

Don Becker, a Code 930 staff scientist with the Center of Excellence in Space Data and Information Sciences (CESDIS), part of the University Space Research Association, is the recipient of the 1999 Excellence in Programming Award.

The award is given annually by the Dr. Dobb's Journal, which focuses on software tools for the professional programmer. Becker is the eighth recipient of the award. One of the challenges in the realm of scientific computing is to efficiently and affordably handle large data sets. This problem troubles researchers participating in Goddard Earth and space sciences projects. Thus, Becker and an associate launched the Beowulf Project, a

cluster computer consisting of high-performance PCs built from off-the-shelf components, connected via Ethernet and running under Linux.

NEWS FROM AAS:

Goddard space scientists presented a number of scientific papers and talks at the Summer meeting of the American Astronomical Society in Chicago this week. Below are several news items about some of those scientific results.

New Findings Narrow Theories On Cosmic Ray Origin

Where do those fast-flying atoms that pelt the Earth come from? Scientists catching cosmic rays with a NASA spacecraft have tightened the constraints on the evolving theory of how atoms travelling at nearly the speed of light are produced in stars and are strewn across the Universe through star explosions, or supernovae.

Cosmic rays bombard the Earth's atmosphere constantly. These highly energetic particles are not "rays," however, but rather atoms that were stripped of their electrons when they were accelerated to enormous speeds. While many scientists agree that the energy of supernovae is needed to produce cosmic rays, debates rage over the "seed particles," or the actual atoms that are being accelerated. Are the particles accelerated directly from a supernova, like shrapnel in an explosion? Or are they from dust and gas already present in the region between stars, bumped to high speeds by the blast wave of a supernova explosion?

Results from NASA's Advanced Composition Explorer (ACE) suggest that cosmic rays are not accelerated directly from supernovae, as some current models predict. Rather, it is material that has been sitting around for hundreds of thousands of years that gets accelerated by the shock wave of a supernova explosion.

For the full text of this press release, go to:

<ftp://pao.gsfc.nasa.gov/pub/PAO/Releases/1999/99-070.htm>

Images to support this story are available on the Web at:

<FTP://PAO.GSFC.NASA.GOV/newsmedia/AAS/ACE>

In addition to the press release above, two other press releases were issued as a result of the AAS conference:

Trouble Brewing in Eta Carinae was issued on June 2, 1999

Astronomers Capture Galactic Light Show with X-ray Satellite was issued on June 3, 1999

Goddard Employee Receives Lovelace Award for Life Science Accomplishments

Goddard's Office of University Programs Director Dr. Gerald Soffen received the 1999 W. Randolph Lovelace II Award in Detroit May 19.

The Aerospace Medical Association, an affiliate of the Society of NASA Flight Surgeons, selected Soffen for his pioneering work in biomedical research and for founding the Flight Surgeons Medical School when he was the Director of Life Sciences at NASA Headquarters from 1979-1983. Soffen is the first Ph.D. to receive this coveted award which is given annually to a professional who has made a major contribution to the field of aerospace medicine.

"I am truly honored to receive this national award," Soffen said. "It represents the work of countless other dedicated NASA experts whose work continues to be an inspiration to the rest of the world. We pioneered the safety of humans in space."

Soffen's many other outstanding accomplishments include initiating an experimental biomedical flight program for NASA's Space Shuttle missions, founding a research program for Controlled Life Support Systems, initiating the Global Terrestrial Ecology Program and developing a peer review system for flight experiments in biomedical research.

The Lovelace Award has 22 former awardees include Story Musgrave, M.D., Honorable Harrison Schmitt (former U.S. Senator and astronaut) and seven other NASA Space Shuttle astronauts who are medical doctors.

Soffen's award citation reads, "This award is given for a significant contribution to the practice and advancement of aerospace medicine or towards extending human capabilities in extreme environments where personal risks demand excellence."

Warmer, Wetter Winters In Europe, Western North America Linked To Increasing Greenhouse Gases

Why are winters warming up so much faster over Northern Hemisphere continents than over the rest of the globe? A new study by NASA researchers in the June 3 issue of the journal *Nature* is the first to link the well-documented large degree of North America and Eurasia winter warming and the associated wind changes to rising greenhouse gas levels in the atmosphere.

Drew Shindell, an atmospheric scientist from NASA's Goddard Institute for Space Studies and Columbia University, NY, found that the large warming that has occurred during Northern Hemisphere winters over the last 30 years — up to nine degrees Fahrenheit, a full 10 times warmer than the global average 0.9 degree

Fahrenheit warming — is likely a result of human activities that increase greenhouse gases. Warmer winters will bring more wet weather to Europe and Western North America, Shindell said, with Western Europe the worst hit by storms coming off the Atlantic.

For the full text of this press release, go to:
<ftp://pao.gsfc.nasa.gov/pub/PAO/Releases/1999/99-072.htm>

NEWS FROM AGU:

Goddard Earth scientists presented a number of scientific papers and talks at the Spring Meeting of the American Geophysical Union in Boston, Mass. this week. Below are several news items about some of those scientific results.

New Results From Monsoon Study Move Researchers a Step Closer To Forecasting, Reducing Losses

New results from the South China Sea Monsoon Experiment (SCSMEX) have moved researchers one step closer to being able to forecast the summer monsoon and help flood planners, water managers, and farmers reduce losses of life, livestock, agriculture and property.

Researchers working on this international scientific field campaign have uncovered clues to the cause, timing and evolution of the massive East Asian summer monsoon, unusual variations of which can cause devastating floods in Southern China. Results from the study that included Asian, American and Australian scientists, were presented at a June 2 press conference during the 1999 American Geophysical Union spring meeting in Boston.

"The study found a connection between the disastrous 1998 Yangtze River flood and the timing and strength of the summer monsoon," stated William Lau, a senior atmospheric scientist from NASA Goddard and co-chief scientist of SCSMEX. "In 1998, the South China Sea monsoon came late and with less than its usual punch, a possible warning of the intense rains over South China and the deadly floods that followed." The 1998 flooding of the Yangtze killed several thousand people and damage was estimated in the billions.

The scientific experiments uncovered clues announcing the arrival of the summer monsoon based on sea surface wind patterns seen in satellite data over the Indian Ocean and the South China Sea.

For the full text of this press release go to:
<ftp://pao.gsfc.nasa.gov/pub/PAO/Releases/1999/99-063.htm>

In addition to the press release above, two other press releases were issued as a result of the AGU conference:

Scientists Discuss Consequences of Climate Change Across the Continent was issued May 28, 1999

Scientist Prepare New York City for Future Climate Change was issued on June 4, 1999

Safety Courses Offered at Goddard

Have you ever wondered how much radiation exposure you can get from natural background radiation? Or what amount of radiation exposure will cause detectable changes in your body? And what is the difference between ionizing and non-ionizing radiation?

Answers to these and other safety questions can be obtained by contacting the Goddard Radiation Safety Officer at 6-8482. More specific information can also be obtained by attending any of the regularly scheduled Basic Ionizing Radiation Safety Courses. The courses, which are presented by the on-site Parallax, Inc. health physics staff, last about three hours each and are given on the first and third Wednesdays of every month. Seating is limited, so reserve your seat today by calling the safety office.

Starshine Deployment Set For June 5

Space Shuttle mission STS-96 launched May 27, marking the 94th flight overall in NASA's Shuttle program. Discovery paid the first house call on the International Space Station, now under construction, hauling about 4,000 pounds of supplies and equipment to orbiting outpost.

But the other highlight of the mission was the deployment of a spherical, mirrored satellite called Starshine that students helped build, and will observe and track for several months. Deployment of the Starshine satellite is set for 3:10 a.m. EDT on June 5. Replay of the deployment will be aired on NASA TV at 4:10 a.m. EDT.

For more information on this payload, visit the following web site:

<http://www.azinet.com/starshine/>

Upcoming Goddard Missions

QuikSCAT is set for launch from Vandenberg Air Force Base, Calif., on June 18, 1999 at 10:15 p.m. EDT aboard a Titan II vehicle. The SeaWinds on QuikSCAT mission is a "quick recovery" mission to fill the gap created by the loss of data from the NASA Scatterometer (NSCAT), when the satellite was flying on lost power in June 1997.

To visit the QuickSCAT mission page, go to:
<http://winds.jpl.nasa.gov/missions/quikscat/quikindex.html>

The Far Ultraviolet Spectroscopic Explorer is scheduled to launch on a Delta 7320 rocket from the Cape Canaveral AFS, Fla., on June 23 at 11:39 a.m. EDT. FUSE will search for the fossil records of the origin of the universe and uncover the earliest relics of the Big Bang - hydrogen and one of its isotopes, deuterium. By studying these lightest elements of the Universe, astronomers will be able to discover the conditions shortly after the Big Bang that led to the evolution of our Solar System.

To visit the FUSE mission page, go to: <http://fuse.pha.jhu.edu/>

Another Goddard First

The Applications Technology Satellites (ATS) series was conceived to demonstrate techniques for communications, meteorological and navigation satellites from geosynchronous altitude.

ATS-3 was launched Nov. 6, 1967 from Cape Canaveral, Fla. In a series of maritime experiments covering ship location and ship-to-shore communications, it demonstrated satellites could bring major improvements to the management of shipping fleets.

ATS-3 also was the first satellite to provide color Earth imagery from space and the first communications link over the Atlantic during a Pan-American Airlines flight. Funded by NASA and the National Science Foundation, ATS-3 provided transmissions, covering most of the Atlantic, U.S. and Eastern Pacific as far a Hawaii.

Mission Success Starts With Safety

If you would like to offer comments or ask questions concerning the content of the Goddard News for this week please address your e-mail comments to:
James.Sahli.1@gsfc.nasa.gov

If you would like to offer comments or ask questions regarding the HTML (on-line) version of Goddard News for this week please address your email comment to: Lynn.A.Jenner.1@gsfc.nasa.gov