

National Aeronautics and
Space Administration
Langley Research Center

News Researcher

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Guinness Makes It Official

X-43A Aircraft Recognized For Setting Speed Record

By **KEITH HENRY**
Langley Research center

Guinness World Records has certified NASA's X-43A aircraft as the world's fastest aircraft with an air-breathing engine. The X-43A has flown once as part of NASA's Hyper-X program, designed to demonstrate advanced propulsion system concepts.

The certificate states: "The fastest air-breathing aircraft is NASA's X-43A, which achieved Mach 6.8316 on 27 March 2004 in a flight lasting 11 seconds over the Pacific Ocean." That translates to nearly 5,000 mph, or almost seven times the speed of sound.

"It's great to have our accomplishments recognized by such a prestigious organization such as Guinness," said Dave Reubush, deputy manager of Langley Research Center's Flight Vehicle Systems Program Office. Reubush made the initial contact with Guinness on behalf of Langley.

The Hyper-X program is conducted by Langley and Dryden Flight Research Center.

The flight easily set a world speed record for an air-breathing — or jet — engine aircraft. The previous known record was held by a ramjet powered missile which achieved slightly over Mach 5. The highest speed attained by a rocket-powered airplane, NASA's X-15 aircraft, was Mach 6.7. The fastest air-breathing,

manned vehicle, the SR-71 achieved slightly more than Mach 3. The X-43A more than doubled the top speed of the jet-powered SR-71.

The accomplishment will be included in the 2006 Guinness World Records book, set for release this time next year, and soon will appear on the Guinness web site: <<http://guinnessworldrecords.com>>. The Guinness World Records database contains these details:

"On 27 March 2004, NASA's unmanned Hyper-X (X-43A) airplane reached Mach 6.8316, almost seven times the speed of sound. The X-43A was boosted to an altitude of 29,000 m (95,000 ft) by a Pegasus rocket launched from beneath a B52-B aircraft. The revolutionary 'scramjet' aircraft then burned its engine for around 11 seconds during flight over the Pacific Ocean."

If NASA researchers have their way, the record won't stand long. The final flight in the Hyper-X program is scheduled to take place in October, when another X-43A aircraft will attempt to fly at Mach 10, or ten times the speed of sound.

The science editor for Guinness World Records already has expressed an interest in attending the fall flight, in hopes of personally watching the next record-setting flight.

Keith Henry works in Langley's Public Affairs Office.



Reprinted with permission from Guinness World Records

AS&M Partners For \$39M Contract

By **MARNY SKORA**
Langley Research center

NASA announced on Aug. 9 that it has selected a woman-owned small business in Virginia and three large companies in California to provide the Agency with research and development in structures and materials, aerodynamics, aerothermodynamics and acoustics technology related to aerospace vehicles.

Analytical Services and Materials, Inc., in Hampton is the prime contractor on the East coast. AS&M will work with

eight subcontractors, including Eagle Aeronautics, Inc. in Hampton and Orbital Sciences Corp. in Greenbelt, Md. The principal work performance location will be Hampton.

On the West coast, prime contractors are The Boeing Company in Huntington Beach, Calif.; Lockheed Martin Corp. in Palmdale, Calif.; and Northrop Grumman Systems Corporation — Integrated Systems in El Segundo, Calif.

Subcontractors include Vigyan, Inc. in Hampton and Tao of Systems Integration in Williamsburg.

The value of the multiple-award, Indefinite Delivery Indefinite Quantity (IDIQ) cost-plus-fixed-fee contract is \$39 million over five years. Administered at Langley Research Center, the new contract will support all NASA centers that require work within the scope listed below.

Research and development in the structures and materials area will emphasize mechanics and durability, structural dynamics, aeroelasticity, metals and thermal structures, analytical and computational methods, advanced materials and

processing, and nondestructive evaluation sciences.

The contract also will provide for research and development in configuration aerodynamics, computational modeling and simulation, flow physics and control, aircraft noise prediction and control, aerothermodynamics, hypersonic air-breathing propulsion, advanced measurement, diagnostics, instrument systems and model systems.

Marny Skora is head of Langley's Public Affairs Office.



Inside: Eight Pages Of Awards Coverage

NASA Vision: To improve life here, To extend life to there, To find life beyond
NASA Mission: To understand and protect our home planet • To explore the Universe and search for life
To inspire the next generation of explorers ... as only NASA can

Around the Agency

TWO NEW SATURNIAN MOONS UNCOVERED

With eyes sharper than any that have peered at Saturn before, the Cassini spacecraft has uncovered two moons, which may be the smallest bodies so far seen around the ringed planet.

The moons are approximately 3 kilometers (2 miles) and 4 kilometers (2.5 miles) across — smaller than Boulder, Colo. The moons, located 194,000 kilometers (120,000 miles) and 211,000 kilometers (131,000 miles) from the planet's center, are between the orbits of Mimas and Enceladus. They are provisionally named S/2004 S1 and S/2004 S2. One of them, S/2004 S1, may be an object that had been spied in a single image taken by NASA's Voyager spacecraft 23 years ago, S/1981 S14, but was unconfirmed until now.

"One of our major objectives in returning to Saturn was to survey the entire system for new bodies," said Carolyn Porco, imaging team leader at Space Science Institute in Boulder. "It's really gratifying to know that among all the other fantastic discoveries we will make over the next four years, we can now add the confirmation of two new moons, unnoticed around Saturn for billions of years until now."

The moons were first seen by Sebastien Charnoz, a planetary dynamicist working with Andre Brahic, imaging team member at the University of Paris.

"Discovering these faint satellites was an exciting experience, especially the feeling of being the first person to see a new body of our solar system," Charnoz said. "I had looked for such objects for weeks while at my office in Paris, but it was only once on holiday, using my laptop, that my code eventually detected them. This tells me I should take more holidays."

For images and information about the Cassini-Huygens mission on the Internet, visit: <http://saturn.jpl.nasa.gov> and <http://www.nasa.gov/cassini>. NASA HQ RELEASE: 04-268

HUBBLE INSTRUMENT SUSPENDS OPERATION

One of four science instruments aboard NASA's Hubble's Space Telescope suspended operations in August, and engineers are now looking into possible recovery options.

The instrument, called the Space Telescope Imaging Spectrograph (STIS), was installed during the second Hubble servicing mission in 1997 and was designed to operate for five years. It has either met or exceeded all its scientific requirements.

Hubble's other instruments, the Near Infrared Camera and Multi-Object Spectrometer (NICMOS), the Advanced Camera for Surveys, and the Wide Field/Planetary Camera 2 are all operating normally.

For more information about STIS, visit: <http://hubble.nasa.gov/servicing-missions/sm2.html>. NASA HQ RELEASE: 04-262

News Researcher

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The privilege of listing announcements in this publication is restricted to the employees, contractors and retirees of the Langley Research Center. Articles must be offered without regard to race, color, religion, sex or national origin. All materials are subject to editing.

The Researcher News accepts signed letters to the editor from Langley Research Center employees, on-site contractors and retirees. Letters are limited to 250 words and will be edited only for grammar. When necessary, letters may be edited for space, but only with the author's approval. Letter-writers are limited to one submission on a topic every six months. Questions regarding this policy should be directed to Keith Henry, managing editor, at 864-6120 or k.h.henry@larc.nasa.gov.

Read the Researcher News online at <http://researchernews.larc.nasa.gov>.

BWB Being Tested In NTF



Langley Research Center employee Allen Kilgore (far right) shows Hampton Mayor Ross A. Kearney II (center) and Vice Mayor Joseph H. Spencer II (far left) a 2 percent scale model of the Blended Wing Body (BWB) aircraft during a tour of the National Transonic Facility on Aug. 2. Also taking part in the tour were Center Director Roy D. Bridges (second from left) and Langley employee Jerry Kegelman (second from right). Langley is conducting research to validate a design tool for the propulsion/airframe integration of the BWB as part of NASA's Ultra Efficient Engine Technology (UEET) Project.

Photo by Linda Humber

Langley Helps Coordinate Local SBIR Conference

Northrop Grumman Newport News hosted a "Technology Transition" conference on July 28 at the Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC) in Newport News.

Approximately 80 people representing 26 small firms attended the conference. The theme was "Defining the Future."

Small Business Innovation Research (SBIR) program managers from Langley Research Center, Jefferson Lab, Naval Air Systems Command and the Office of Naval Research helped coordinate the conference.

Eleven federal departments and agencies participate in the SBIR program by awarding research and development funding to small, high-tech, high-risk businesses capable of meeting their technology needs.

"The conference creates an opportunity for SBIR-funded firms to find buyers of their innovations," said **Robert L. Yang**, Langley's SBIR program manager.

Yang said he is excited about the possibility of future events. "They open a dialogue between companies that we have invested in and a systems integrator with the goal of infusing new innovations into the systems integrator," he said.

NASA Launches New Training Web Site

NASA recently announced the launch of the NASA Engineering Training (NET) web site: <http://net.larc.nasa.gov>.

The site includes information about training available to the NASA engineering community,

not to mention news articles, testimonials and links to NASA, government and other training and educational facilities. The site also provides NASA engineers with a forum for discussing items of interest and a conduit for suggestions that will go directly to engineering management at NASA Headquarters.

Future features will include information on career growth opportunities, training workshops and conferences, discussion groups, a "course workshop area" and an online subscription engineering newsletter.

Retirement

Langley Research Center's Program Development and Management Office will host a buffet dinner for **Barry Price**, who is retiring after 36 years of service, at 4:30 p.m. Sept. 13 in the H.J.E. Reid Conference Center.

Cost for dinner is \$12, which includes a \$2 gift donation. Gift-only contributions are welcome. Checks should be made payable to Helen Galus.

RSVP with payment by Sept. 3 to Helen Galus at 864-3227 or Barry Gibbens at 864-7141.

Employees are encouraged to sign a retirement album in Bldg. 1229, Rm. 146.

In Memoriam

Lloyd W. Spangler Jr.

Lloyd W. Spangler Jr. died on Aug. 14. Spangler worked at Langley Research Center for 35 years.



Langley's Olympians

Center Hosts Annual Honor Awards Ceremony

By **JIM ROBERTS**
Researcher News editor

Langley Research Center hosted its annual Honor Awards ceremony on Aug. 13 in the H.J.E. Reid Conference Center.

The ceremony included the presentation of Langley Honor Awards to one individual and two teams and NASA Honor Awards to 37 individuals and eight teams.

Center Director Roy D. Bridges Jr., who was on-hand to present the awards, referenced the Olympic games, which started the same day in Athens.

"What we are recognizing today are the Olympians of Langley," he said. He also used the occasion to reflect on his

first full year at Langley. He said the year included great challenges, like Hurricane Isabel and NASA's transformation, and great triumphs, like the Mars Exploration Rover and X-42A flight.

"I've been proud to have been a part of this team," he said.

The ceremony was longer than previous years due to the fact that individuals' names were read for the eight Group Awards. "We felt it was important that everyone be recognized to just see what it takes to do what we do," Bridges said.

The Langley Honor Awards appear on this page, and the NASA Honor Awards appear on pages 4 and 5. The names of the individuals on teams that won Group Achievement Awards appear on pages 6 and 7.



Bryant



Connell



Cowling



Criss



Edwards



Galus



Hergenrother



Holloman



Holloway



Manuel



Price



Shannon



Smith



Wynkoop



Zuckerwar

Center Presents Three Langley Honor Awards

Langley Research Center presented three Langley Honor Awards — the H.J.E. Reid Award, the Paul F. Holloway Non-Aerospace Technology Transfer Award and the Richard T. Whitcomb Aerospace Technology Transfer Award — at the annual Honor Awards ceremony on Aug. 13 in the H.J.E. Reid Conference Center.

The H.J.E. Reid Award recognizes an outstanding publication, refereed journal article or other formal NASA archival media first-authored by a Langley employee or group of employees.

The H.J.E. Reid Award was presented to Karen E.



Jackson

Jackson for Outstanding Paper entitled "Impact Testing and Simulation of a Crashworthy Composite Fuselage Concept."

The Paul F. Holloway Non-Aerospace Technology Transfer Award and the Richard T. Whitcomb Aerospace Technology Transfer Award recognize technical contributions for the development of new technology, participation in technology transfer processes, and the significance of the technical contributions and/or participation in technology transfer processes.

The Paul F. Holloway Non-Aerospace Technology Transfer Award was presented to the Acoustic Fetal

Heart Monitor Team: Timothy D. Bryant, Vincent L. Cowling, Helen M. Galus, Michael C. Holloman, Nancy M. Holloway, Dennis L. Mowrey, Barry L. Price, David Shannon, Mark W. Wynkoop and Allan J. Zuckerwar

The Richard T. Whitcomb Aerospace Technology Transfer Award is presented to the PETI-298/330 Team: John W. Connell, Jim M. Criss (M&P Technologies), Robin W. Edwards, Paul M. Hergenrother, Gregory S. Manuel, Joseph Piche (Eikos, Inc.), Jamie Schleck (JFC Technologies, Inc.) and Joseph G. Smith Jr.

NASA Honor Awards

Group Achievement Awards



Braun

ARES Mission Concept Development Team

Accepted by Robert D. Braun
For significant technology advancement of Mars Airplane Flight Systems, demonstrating their validity as a credible space science platform



Glaab

Aviation Safety Synthetic Vision Systems Project Terrain Portrayal for Head-Down Displays Simulation and Flight Test Team

Accepted by Louis J. Glaab
For outstanding contributions in support of the Aviation Safety Synthetic Vision Systems Project



Holloway

Acoustic Fetal Heart Monitor System Team

Accepted by Nancy M. Holloway
For outstanding achievement in the development, testing, integration, and licensing of the Acoustical Fetal Heart Monitor



Lohr

The Advanced Terminal Area Approach Spacing Research Team

Accepted by Gary W. Lohr
For outstanding contributions in support of the Advanced Terminal Area Approach Spacing Research Team



Pinelli

NASA Learning through Interactive Videoconferencing Experience (LIVE) Distance Learning Team

Accepted by Thomas E. Pinelli
For the development of NASA LIVE



Pinelli

NASA's Kids Science News Network (KSNN) Team

Accepted by Thomas E. Pinelli
For the development of NASA's KSNN Distance Learning Program



Raju

NASA Langley Research Center American Airlines Flight 587 Accident Investigation Team

Accepted by Ivatury S. Raju
For exemplary efforts evaluating vehicle failure scenarios for the National Transportation and Safety Board American Airlines 587 accident investigation



Saunders

Space Shuttle Columbia Investigation Team

Accepted by Mark P. Saunders
For outstanding contributions to the Space Shuttle Columbia Investigation Team



Public Service Medal



Joseph R. Chambers, Science and Technology Corporation
For outstanding archival contributions to document NASA's enabling role in the design, development, and operation of U.S. military and civil aircraft



Fred G. Rose, Analytical Services and Materials
For outstanding innovative contributions in radiative transfer for the Clouds and the Earth's Radiant Energy System (CERES) Surface and Atmospheric Radiation Budget (SARB)



Exceptional Scientific Achievement Medal



David P. Kratz
For exceptional scientific achievement in radiative transfer for satellite retrievals and climate data analysis



Exceptional Technology Achievement Medal



Daniel G. Baize
For exemplary technical leadership in taking synthetic vision systems technology from concept to flight validation and achieving Federal Aviation Administration and industry endorsement



Qamar A. Shams
For exceptional development of innovative technologies significantly contributing to not only the NASA mission, but also achieving significant technology transfer to the private sector



Exceptional Service Medal



Bobby L. Berrier
For superior sustained technical and leadership contributions to the field of propulsion/airframe integration



Kimberly A. Cannon
For exceptional service in support of NASA research missions and programs



Ricky L. Clark
For exceptional technical contributions and dedicated service to supporting Langley Research Center's flow physics research



J. Philip Drummond
For exceptional contributions to the computation of high-speed turbulent combustion and to the numerical simulation of hypersonic airbreathing propulsion systems



Alton C. Hall
For exceptional service to NASA as the Chief Technician for the Langley Research Center's flight simulation facilities



Dwayne E. Hinton
For exceptional contributions to the success of Langley's atmospheric research and technology programs



Nancy M. Holloway
For distinguished and dedicated service to the Fabrication Technology area and the goals of Langley Research Center



Samuel James
For distinguished and dedicated technical service to the Fabrication Technology area and Langley Research Center



Marian L. Jones
For significant and sustained service to the Aerospace Research Systems Development Branch and Langley Research Center

NASA Honor Awards



Sandra K. Keyes
For exceptional performance and administrative support to the Configuration Aerodynamics Branch



Michael C. Lindell
For sustained outstanding and innovative contributions in structural and dynamic analyses for major NASA aerospace programs



Lloyd R. Marks
For exceptional service in teaming with researchers and scientists to advance research activities at Langley Research Center



James B. Miller
For sustained performance, exceptional technical contributions, and outstanding leadership in the development of advanced remote sensing space borne instruments for Earth atmospheric science measurements



J. Richard Rawls
For exceptional sustained service to Agency space flight missions



Jaroslaw Sobieski
For exceptional leadership, initiative, and fundamental conceptual and mathematical contributions to development and dissemination of multi-disciplinary integration of analysis and optimization in aerospace vehicle design



James L. Thomas
For exceptional sustained contributions in the development of innovative numerical algorithms for use in advanced computational fluid dynamics methods



Pamela J. Verniel
For exceptional service in communicating NASA's value to stakeholders, national decision makers, strategic partners, and the general public



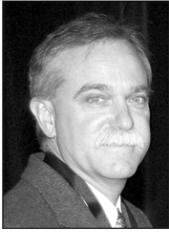
Kenneth D. Wright
For exceptional service to the Agency by leading the development and application of advanced sensing technologies and measurement diagnostics in support of multiple aerospace research programs

Debra L. Dajon

For sustained performance, exceptional technical contributions, and outstanding leadership in the development of advanced aerodynamic instrumentation and space flight remote instruments



Exceptional Achievement Medal



Bruce E. Anderson
For unique contribution to characterizing the emissions of volatile and non-volatile aerosols from aircraft engines in operating conditions



Susan A. Gorton
For outstanding achievements in the development of flow control for boundary layer ingesting inlets



Jeffrey R. Knutson
For exceptional technical and innovative contributions to Langley's Thermal Vacuum Facility for testing launch vehicle thermal protection systems



Eric I. Madaras
For exceptional achievement in leading Langley's nondestructive evaluation support for the Columbia Mishap Investigation and in the Shuttle Return to Flight



Michael L. Ruiz
For exceptional achievement in envisioning and establishing the Digital Earth Virtual Environment and Learning Outreach Project (DEVELOP)



Stephen J. Scotti
For outstanding achievement in developing potential root causes to the Columbia Shuttle accident



James H. Starnes Jr. (*Awarded posthumously*)
For outstanding contributions to the failure investigation of the American Airlines 587 accident



Charles R. Trepte
For exceptional achievements in conceiving, advocating, planning, and conducting the SAGE III Ozone Loss and Validation Experiments (SOLVE 1 and SOLVE 2)



William P. Winfree
For exceptional achievement in technical contributions to NASA's Nondestructive Evaluation Team for the Columbia Mishap Investigation and in the Shuttle Return to Flight Technology Transfer Awards



Outstanding Leadership Medal



George P. Finelli
For outstanding leadership and sustained contributions to the Agency's Aviation Safety Program for the advancement of global civil aviation



Elizabeth B. Plentovich
For outstanding leadership of many aeronautics and space projects, including the formulation of integrated aviation security research and development efforts across five implementing Centers



Mark P. Saunders
For outstanding leadership in his commitment and contributions to Agency exploration programs

Alvah S. Moore Jr.

For outstanding leadership in the development of the Stratospheric Aerosol and Gas Experiment III (SAGE III) instrument and its launch on the Russian Meteor 3 spacecraft

Editor's note: This coverage would not have been possible without the help of the following individuals:

- Sandie Gibbs, Office of Chief Information Officer
- Roger Jones, NCI Information Systems
- Karen Ridlon, Office of Human Resources

Group Achievement Awards

Langley Honors Group Award Winners

■ ARES Mission Concept Development Team

Langley Research Center:

M. Nural Abedin
Brooke M. Anderson
George B. Beeler
Jay Brandon
Dr. Robert D. Braun
Phillip L. Brown
Christopher C. Chromik
Patrick A. Cosgrove
Garfield A. Creary
Mark A. Croom
Richard E. Davis
Robert A. Dillman
William C. Edwards
Brian W. Farmer
Kathryn C. Ferrare
Joseph F. Gasbarre
Steven W. Gayle
Guillermo A. Gonzalez
Sharon S. Graves
Mark D. Guynn
David A. Haakenson
Brent N. Heard
Stephen J. Hughes
Craig A. Hunter
Charles E. Jenkins Jr.
Jeffrey D. Jordan
Patrick S. Kenney
Brian D. Killough Jr.
Herbert R. Kowitz
Christopher A. Kuhl
Thomas J. Lash
Dr. Arlene S. Levine
Dr. Joel S. Levine
Arlene A. Moore
David F. Moore
Robert W. Moses
Frank J. Novak
Patricia Y. O'Neal
David A. Paddock
John E. Pandolf
John S. Powell Jr.
Garry D. Qualls
Richard J. Re
Courtney H. Rollins
Stephen P. Sandford
Willis J. Scott
Nancy M. Sessoms
Lisa C. Simonsen
Gregory Stover
Craig L. Streett
Scott A. Striepe
Nina D. Tappan
John E. Teter Jr.
Hernani P. Tosoc
Clayton P. Turner
David W. Way
Rudolph J. Werlink
Keith L. Woodman
Henry S. Wright
Mary J. Yeager
Lisa R. Yoakum
W. Robert Young

Ames Research Center:

Christopher P. McKay
Stephen C. Smith

Glenn Research Center:

Anthony J. Colozza

Goddard Space Flight Center:

John E. Connerney

Jet Propulsion Laboratory:

Robert W. Bailey
Diana L. Blaney
Edwin C. Dobkowski
Philip W. Garrison
Carl S. Guernsey
Edward J. Jorgensen
David A. Spencer
Calina C. Seybold
Sam W. Thurman

Aurora Flight Sciences:

Clinton S. Church
Thomas M. Clancy
John S. Langford
Jean-Charles Lede
Robert Parks
Randy Tatman
Brian Whipple

Draper Laboratory:

Gregory H. Barton
Timothy J. Brand
Sean Buckley
Linda Robeck Fuhrman
Robert C. Hammett
Joseph A. Kochocki
Nancy M. Sodano

Lockheed Martin Astronautics:

John Henk
Richard A. Hund
Michael S. McGee
Joseph M. Vellinga

Malin Space Science Systems:

Michael Ravine

NCI Information Systems, Inc.:

Anne C. Rhodes
Andrew E. Thornton

Arizona State University:

Ronald Greeley

Brown University:

James Head III

George Mason University:

Michael Summers

Nantes University:

Christophe Sotin

University of Colorado:

Bruce Jakosky

University of Texas – Dallas:

John Hoffman

Consultants:

R. Lynn Bondurant Jr.
Glenn E. Cunningham
Joseph D. Exline
Robert Stilson
Gordon E. Wood

■ Aviation Safety Synthetic Vision Systems Project Terrain Portrayal for Head-Down Displays Simulation and Flight Test Team

Langley Research Center:
Cheryl L. Allen

Daniel G. Baize
Katherine A. Barnstorff
Kelvin G. Boston
Calvin C. Chandler
Dale A. Clark
Vincent L. Cowling
Delwin R. Croom
Wayne A. Davis
Dwight E. Elliot
Bruce D. Fisher
Robert C. Gage
Donna A. Gallaher
Louis J. Glaab
Warren S. Hartraft
Charlie Haynes Jr.
Vincent E. Houston
Noel T. Hudgins
Monica F. Hughes
Spencer L. Johnston
Leslie O. Kagey
Michael L. Kelly
Paul G. Link

Jeffery J. Massie
Jesse C. Midgett
Jeffery L. Moultrie
Rolando F. Padilla
Russell V. Parrish
Wendy F. Pennington
Lawrence J. Prinzel III
Robert A. Rivers
Howard H. Robinson
Homer F. Rush Jr.
Gim Shek Ng
Scott T. Sims
Ronald T. Topping
Barbara S. Trippe
Michael D. Uenking
Justin K. Walters
Brenton W. Weathered
Noel J. West
Douglas T. Wong
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Emory T. Evans
Charles T. Howell III
Robert M. Thomas Jr.
Richard C. Grube

Federal Aviation Administration (FAA):

Anchorage Aircraft Certification Office
August A. Asay

FAA Atlanta Aircraft Certification Office:

David H. Gollings

FAA Aviation Safety Program:

Mike Basehore

FAA Civil Aeromedical Institute:

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FAA Flight Standards:

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FAA Langley Field Office:

Jim Branstetter

FAA Long Beach Aircraft Evaluation Group:

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FAA Small Airplane Directorate:

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FAA Wichita Aircraft Certification Office:

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The Boeing Co.:

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Steve Wenke

Chelton Aviation Corp.:

Rick Price
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Charlie E. Cope
Ralph Kimbrel
David G. McLuer
Jamie L. Miller
Barry E. Golembiewski

Science and Technology Corp.:

Wesley C. Easley
Charles T. Feigh, II

Universal Avionics Systems Corp.:

Thomas Johnson
Roger Rathburn

Embry-Riddle Aeronautical University:

Richard L. Newman

University of Iowa:

Katherine A. Lemos

■ NASA Learning through Interactive Videoconferencing Experience (LIVE) Distance Learning Team

Langley Research Center:

John B. Anders
Keisha R. Armistead
Linda Bangert
Lin H. Chambers
Juan Cruz
David Cox
Prasun N. Desai
Alicia Dwyer Cianciolo
Shelley M. Ferlemann
Ivelisse Gilman
David W. Hamilton
Samuel James
Luther Jenkins
Michael J. Logan
Byron Meadows
Troy J. Merryfield
Wendy F. Pennington
Thomas E. Pinelli
Jill Prince

Eric Queen
David E. Reubush
Rob A. Rivers
Jeffrey S. Robinson
Robert M. Starr
Scott A. Striepe
Paul V. Tartabini
Katrina L. Townes-Young
David Way
Kenneth D. Wright
David F. Young

General Fiber Communications, Inc.:

Kenneth Payne

Hispanic Educational Telecommunications System:

Herman Acuna
Nitza M. Hernández-López

Virginia Beach City Public Schools:

Ron Shaneyfelt

IBM:

Aaron Means
Linda Benckert

Lockheed Martin:

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Tessada & Associates, Inc.:

Heather N. McDonald

Virginia Living Museum:

David Maness

Christopher Newport University:

Randall H. Caton
Christopher E. Giersch
Heather M. Grimstead
Clyde R. Lewis
Shannon S. Ricles
Harla R. Sherwood
Kevin D. Sparks

College of William and Mary:

Matthew A. Lambert

Hampton University:

Sarah E. Pauls

Oklahoma State University:

Norman "Storm" Robinson

■ Acoustic Fetal Heart Monitor Team

Langley Research Center:

Timothy D. Bryant
Vincent L. Cowling
Helen M. Galus
Michael C. Holloman
Nancy M. Holloway
Dennis L. Mowrey
Barry L. Price
David Shannon
Mark W. Wynkoop
Allan J. Zuckerwar

■ The Advanced Terminal Area Approach Spacing Research Team

Langley Research Center:
Terence S. Abbott
P. Douglas Arbuckle

Mark G. Ballin
Wayne H. Bryant
Richard L. Chase
Victoria I. Chung
Lucille H. Crittenden
James J. Fay III
Franklin K. Harris
Charles T. Howell III
Brian K. Hutchinson
Larry E. Johnson
Edward L. Kirby
Gary W. Lohr
William A. Lynn III
Jeffrey L. Moultrie
Rosa M. Oseguera-Lohr
Wendy F. Pennington
Lisa O. Rippey
Robert M. Thomas Jr.
Harry A. Verstynen
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■ **Iowa State University:**

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“We felt it was important that everyone be recognized to just see what it takes to do what we do.”

Roy D. Bridges Jr.

Langley Wins Software Award

TetrUSS Sets Precedent By Winning A Second Time

By **JIM ROBERTS**
Researcher News editor

A team from Langley Research Center has won NASA's 2004 Software of the Year Award.

The team, comprised of seven Langley employees, one employee at the Air Force Research Lab and one contractor at NASA's Goddard Space Flight Center, developed the Tetrahedral Unstructured Software System (TetrUSS), a suite of computational programs used for fluid dynamics and aerodynamics analysis.

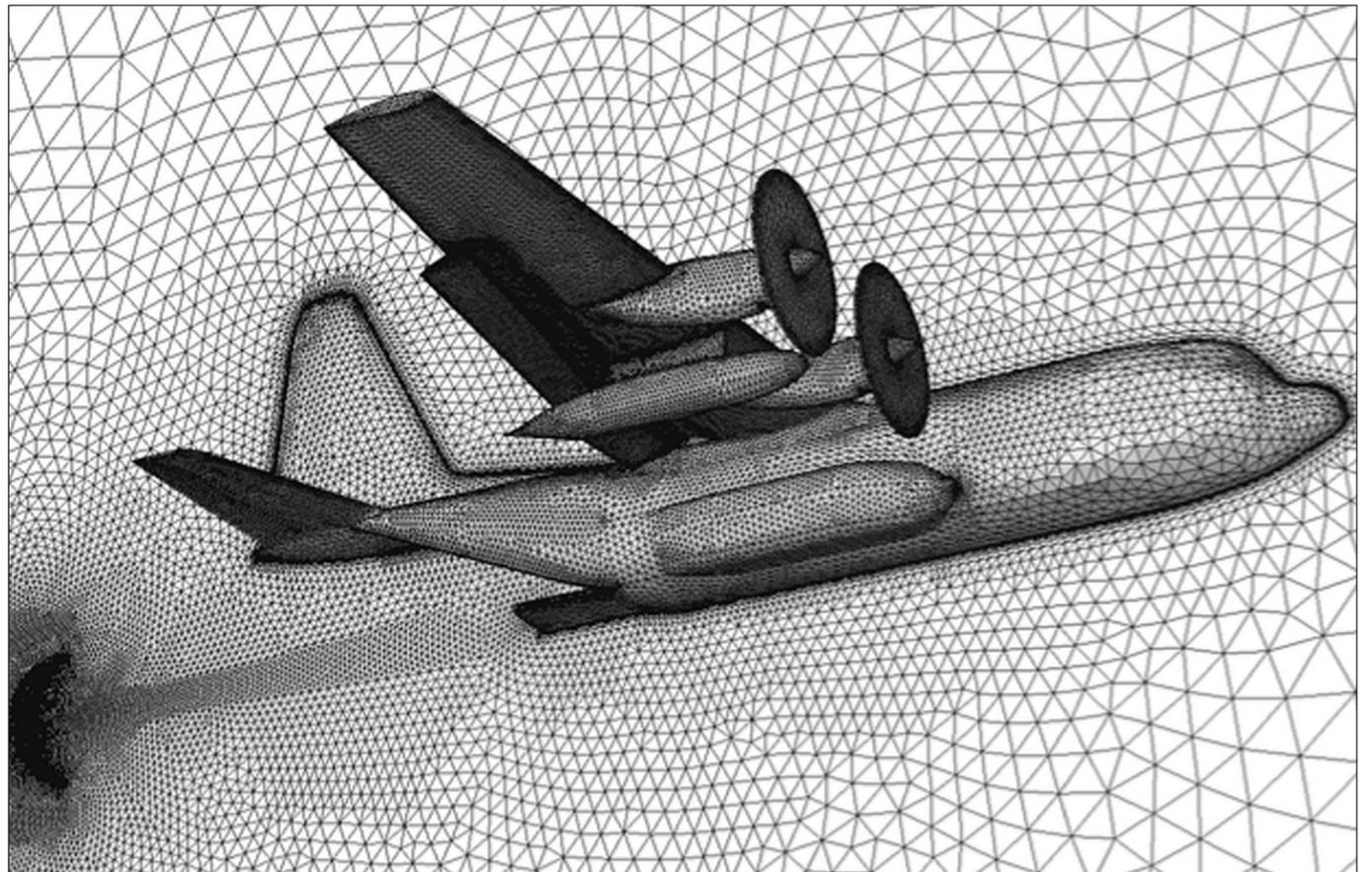
Originally developed for NASA internal applications, TetrUSS has evolved into an efficient and versatile computer fluid dynamics (CFD) tool used by engineers and scientists throughout the nation. The software is widely used in other government organizations, the aerospace industry, academia and non-aerospace industries such as automotive, biomedical and civil engineering.

TetrUSS won the Software of the Year Award in 1996 but was honored again this year for TetrUSS 2004, a new version which incorporates developments the team has made over the last eight years.

Jesse Midgett, Langley's Awards Liaison Officer, said TetrUSS is the single most awarded technology in the history of NASA's Space Act Invention Awards Program since it was initiated in 1958.

"The accomplishment of the TetrUSS team is truly a landmark achievement for a NASA technology," Midgett said. "The TetrUSS team's performance exemplifies how employees at Langley never give up in their quest for better and better products."

TetrUSS has been used to support many NASA projects, notably X-43, Mars Scout and the American Airlines Flight 587 investigation. It is also in use at more



A student at the U.S. Air Force Academy used the TetrUSS software to generate this Navier-Stokes grid of a C-130 with deployed Cargo Release Parachute.

than 75 academic institutions and more than 500 government and industry sites for all classes of aerospace and industrial fluid flow applications worth many billions of dollars.

"Lockheed-Martin has relied heavily on the TetrUSS system for aerodynamic analysis of complex configurations," said Rick Hooker, a TetrUSS user at Lockheed-Martin Corp. "This system has proven very reliable and robust and provides critical capabilities not available in

other packages."

TetrUSS is on a bit of a roll. In June, it received an Apple Design Award, placing ahead of applications developed by Improvisation and IBM for Best Mac OSX Scientific Computing Solution.

"I was really surprised we beat out those companies," said Craig Hunter, one of the TetrUSS developers at Langley. "They put out some really good software."

NASA's Software of the Year Award is

designed to reward outstanding software developed for the agency. Software eligible for the award must have NASA intellectual property interest, be of commercial grade, and be available to appropriate commercial users or dedicated to a NASA mission.

For more information about the Software of the Year award on the Internet, visit: <http://icb.nasa.gov/nasaswy.html>.



Langley Research Center's TetrUSS Team poses with the Apple Design Award it won in June. Pictured are (left to right) Khaled S. Abdol-Hamid, Jamshid A. Samareh, Paresh C. Parikh, Craig A. Hunter, Shahyar Z. Pirzadeh, Neal T. Frink and Mohagna J. Pandya.

Photo Shahyar Z. Pirzadeh

In Their Own Words ...

Editor's note: *The Researcher News invited the members of the TetrUSS team to comment on their role on the team and how they felt about winning the Software of the Year Award. Here are their responses ...*

Neal Frink: "I am pretty surprised at winning the 2004 Software of the Year Award. ... All I can say is that it takes a lot of work. Eight years ago, I spear-headed the application process for TetrUSS that led to winning the 1996 award. Vowing to never go through that again, I was not about to put in the time to apply again this year. But thanks to the persistence and energy of youth, Dr. Craig Hunter on our team wanted to give it a try. After warning him that he didn't know what he was getting into, we all said, "Go for it." (Interestingly, he now says that he wouldn't do it again because it is too much work. Looks like

we need to find a new young recruit for next time.)

Most of my joy at NASA these days comes from working and interacting with very sharp people, both at Langley and around the country, to make things happen. People amaze me. I'm continually surprised by what comes out of a focused team of people when each person is given a chance to do what he or she does best. Every single member of the TetrUSS team has an incredible talent for what they do coupled with a passion for doing their best and working together. For me, it's exciting just to be a part of their lives and contribute my two cents' worth to help focus all of our various strengths toward the task at hand. And as if that were not enough, I'm extremely fortunate to also work with many other talented individuals

Continued on Page 9

SRGULL Code Receives ICB Award

Langley Employee Has Been Working On The Code Since The '60s

By **MEREDITH CARR**
Langley Research Center

SRGULL, a computer code developed at Langley Research Center, has received an Exceptional Invention Award from NASA's Inventions and Contributions Board.

SRGULL, the Second Generation Engineering Model for the Prediction of Airframe-Integrated Subsonic/Supersonic Combustion Ramjet Cycle Performance, is a highly efficient way to predict ramjet/scramjet engine performance and is currently being used by NASA's Hyper-X program. It was developed by Langley employees Zane Pinckney, Shelley Ferlemann and Laura Bass.

Pinckney, a senior propulsion engineer, has been working on the SRGULL code since the 1960s.

With the help of Ferlemann, an aerospace engineer, and Bass, an integration specialist, he was able to submit the once-classified code to the Space Act Awards to be recognized as the highly useful tool it has become.

SRGULL is used to analyze ground tests, give flight predictions and compare flight data to predictions for ramjet and scramjet air-breathing vehicles. Air-breathing vehicles are those that use the oxygen in the air to burn fuel instead of having to carry oxygen. While many engines are air-breathing, ramjets travel at much faster speeds, but still need

alternative low-speed engines to reach Mach speeds. The Hyper-X is a scramjet — a version of the ramjet engine that is capable of much higher, supersonic speeds.

The SRGULL code has been used to assist in design and analysis of 23 separate hypersonic vehicle ramjet/scramjet engine programs and studies. The preliminary version of the code was finished by Pinckney in 1978, but it had several limitations. Since then, Pinckney has added prediction capabilities, such as thermal balance, higher Mach numbers, a Gordon/McBride chemistry model to analyze fuel, and three-dimensional benefits. The code is able to predict engine performance, pressures on propulsion surfaces and heat loads on propulsion surfaces.

"We think that this technology will



Jesse Midgett (right), Langley Research Center's Awards Liaison Officer, poses with the award-winning members of the SRGULL team (left to right): Laura Bass, Shelley Ferlemann and Zane Pinckney.

Photo by Sandie Gibbs

Award Submissions Are Encouraged

NASA created the Space Act Awards Program and the Inventions and Contributions Board (ICB) in 1958 to recognize the Agency's innovative technologies. Several types of awards are given, including awards for Tech Brief draft approvals, patent applications and software releases. Additionally, two special competitions, Software of the Year and Invention of the Year, annually offer monetary awards of up to \$100,000. Submissions must be of formally disclosed technologies with a tracking num-

ber and government property rights. (For more information on disclosures, visit: <www.eNTRe.nasa.gov>.) Awards applications are accepted throughout the year. Each NASA center has at least one Awards Liaison Officer (ALO) to bring the inventions to the ICB for consideration. Langley's ALO, Jesse Midgett, can be reached at 864-3936. For more information on NASA's awards programs, visit the Office of Human Resources web site: <<http://ohr.larc.nasa.gov/benefits/awards/>>.

work, and so far it has, which was shown in the successful Hyper-X flight," Ferlemann said. "We use SRGULL to apply what we learn from engine ground tests and flight tests to give credibility to our conceptual designs for future hypersonic air-breathing vehicle missions."

results. His first words were, "You are going to swear up and down that I'm fudging." The predictions were within 2 percent of the flight data.

SRGULL helps designers find optimum engine designs for ramjet and

scramjet vehicles as a whole in three minutes on a PC, versus hours of finding optimum engine designs for each part of the engine flowpath, which then have to be formatted to work together. The code is now being used not only by NASA, but by select other groups such as the military, Boeing Corp., Lockheed Martin, University of Tennessee and Georgia Institute of Technology.

Meredith Carr, a Longwood University student, is working in Langley's Public Affairs Office through the Langley Aerospace Research Summer Scholars (LARSS) program.

TetrUSS

Continued from Page 8

both here at Langley and around the country that I equally enjoy and admire. Sometimes I think that after I retire someday, specific accomplishments will become a distant fog in my mind, but the people and the excitement of working with them will always be there."

Craig Hunter: "I primarily work on aerodynamic applications of TetrUSS to NASA projects — TetrUSS is one of my main CFD tools. I am one of the developers of Mac TetrUSS, and I coordinate packaging and distribution of the software. I enjoy leveraging the software technologies in Mac OS X to improve the performance, productivity and ease of use of TetrUSS — I think we've been able to take CFD to a wider user base because of that.

"Reaction: combination of gratifica-

tion and relief! The competition process was pretty intense, but I am glad to see that the hard work paid off, and I am very pleased that the team is getting some recognition. We're operating in a difficult environment right now, where it is nearly impossible to get direct funding for software development. I hope this award will remind people that Langley develops some great CFD software — across many teams and branches. CFD software development is one of Langley's major assets and is a key product used by government, industry and academia."

Khaled S. Abdol-Hamid: "I am working in the development of TetrUSS CFD system. My part is mainly in the implementation of advanced turbulence models to USM3D (CFD solver for TetrUSS) for steady and unsteady flows. Turbulence modeling is essential element of any CFD code to accurately simulate flow physics. I am very proud to be part of this team, and I hope the work will continue in the development

of this CFD system. I am very happy that we have won this award and I look forward for our third award in the near future."

Shahyar Pirzadeh: "My role in the TetrUSS team, since its formation in the early 1990s, has been mainly focused on the development and support of the unstructured grid generation software VGRID and the accompanying mesh adaptation/deformation codes (the grid components of the TetrUSS system). Several factors have contributed to the success of the TetrUSS software. First, there has been an excellent spirit of teamwork among the members leading to a healthy environment of cooperation and production. Second, the developers have always been involved in three crucial tasks required for making a useful product: in-house research and development, application to the NASA projects, and close interaction with the NASA customers and constant support of the developed software. And finally, the work wouldn't have succeeded without

NASA's support during the past several years. We hope that the new upcoming Langley organization will continue to encourage and support innovative and developmental projects such as TetrUSS.

"Winning the prestigious NASA Software of the Year Award is an honor. Winning it twice is just awesome!"

Paresh Parikh: "My contribution to TetrUSS is assisting in the development of multi-processor version of USM3D. I was also responsible for Large Scale application of TetrUSS to several NASA programs like X-43A (Hyper-X) and Mars Science Laboratory, as well as the NASA/Navy/Air Force "Abrupt Wing Stall" program.

"My reaction to winning this award? It shows that researchers at NASA are capable of developing and supporting CFD codes that the aerospace industry can use for real-life production and design problems. TetrUSS is a fine example of this capability."

Center Receives HRSD Gold Award

Langley On Pace To Win Platinum Award In Two Years

By **CAROLINE DIEHL**
SAIC

Langley Research Center recently received a Gold Pretreatment Excellence Award for exemplary permit compliance from the Hampton Roads Sanitation District (HRSD).

It is the third year in a row Langley has received the Gold Award and the ninth time in 10 years Langley has been honored for its environmental stewardship. The third Gold Award puts Langley on track to receive the Platinum Pretreatment Excellence Award, which honors facilities that have perfect permit compliance for five consecutive years.

Langley was also a runner-up for the Pollution Prevention Award, which recognizes businesses and government facilities for outstanding multimedia (air, land and water) efforts that focus on pollution source reduction before treatment or dis-

posal.

The dye testing project at the Unitary Wind Tunnel was highlighted in the Center's nomination packet for the HRSD Pollution Prevention Award. A fluorescing dye and black light were used in the wind tunnel's pump system to locate oil leaks. The initial project will save Langley approximately \$7,470 per year and reduce the amount of non-hazardous waste generated at the Center. Additional cost savings and waste reduction is anticipated as other Langley facilities follow the Unitary Wind Tunnel's example.

Employees Can Help

The continued success of Langley's water permit compliance and environmental stewardship in the areas of pollution prevention depends on all Center operations, facilities and personnel.

Here are some things employees can

do to help the Center in its quest for the Platinum Award:

- Never pour any hazardous chemical or substance down the drain. This includes antifreeze, paints, solvents, fuels, pesticides and herbicides.

- Don't assume materials are safe for disposal down the drain. If in doubt, call Langley's Environmental Management Office (EMO) at 864-3500 prior to discharging the material.

- Immediately report spills and accidental discharges to Langley's Fire Department (911) and the EMO (864-3500).

- Immediately contain and repair leaks. Leaking fluids from machinery and vehicles create the potential for pollutants to be washed into drains. Ensure containment systems and collection pallets do not overflow or drain into floor or storm drains. (Storm drains, which ultimately discharge to surface waters, are part of

the storm water collection system and are not connected to the sanitary sewer.)

- Seek disposal alternatives from the EMO where discharge to surface waters or sanitary sewers is not permissible.

- Notify the EMO of any processes and/or materials that may change the quantity or components of discharged wastewater. Changes to processes and materials can affect the status of Langley's wastewater permits.

Employees are encouraged to contact the EMO with pollution prevention ideas.

For more information, visit the HRSD web site at: <http://www.hrsd.state.va.us/> and the EPA Office of Wastewater Management web site at: <http://www.epa.gov/owm/index.htm>.

Caroline Diehl works for SAIC in support of Langley's Environmental Management Office.

Langley Hosts IFMP/e-Gov Awards Ceremony

Langley Research Center will recognize more than 250 civil servants and contractors who have significantly contributed to the implementation of the Integrated Financial Management Program (IFMP) and e-Government initiatives at the IFMP/e-Government Initiatives Awards Ceremony on Aug. 27 in the H.J.E. Reid Conference Center.

To date, Langley has successfully implemented Resume Management, Position Description Management, WebTADS, Travel Management, Core Financial and Budget Formulation. E-Payroll will be fully implemented by the end of August.

The following teams and team members will be honored:

- **WebTADS Upgrade:** Roslyn Boyd, Carolyn Brooks, Jimmy Carson, Bea Crawford, Yvonne Dellapenta (Langley lead), Laura Kinsman, Nicole Lee, Jim Ogiba, Avis Smith, Gerri Smith, Francine Taliaferro, Carmen Torres-Nisbet, Steve Van Gundy

- **Travel Manager Upgrade:** Vickie Gage (Langley lead)

- **Core Financial Sustaining Support:** Marilyn Aldrich, David Bruce, Erica Callahan, Darla Clifton, Cynthia Cowan, Michael Crome, Mozetta Edwards, Doyle Franklin, Wanda Geter, Ruben Goode, Marie Hamann, Fay Hoerger, Robert Horne, Todd Lacks, Laura Leybold, Joyce Meyer, Cathleen Norville, Lisa Oliver (Langley lead), Amy Radford, Donald Small, Chuck Solari, Gail Temple, Renee Wallace

- **Budget Formulation:** Sherry Araiza, Connie Basnett (Langley project manager), Yvonne Beyer, Gail Blow, Rhonda

Burrell, Carolyn Carey, Jim Cassidy, Michelle Cohoon-Lawson, Ella Collier, John Costulis, Sandra G. Craft-Kemp, Marie Czech, Gordy Degear, Les Devers, Jeff Doughty, James Ferguson, Cecelia Fletcher, Cody Flowers, Doyle Franklin, Ken Frink, Arden Gale, Walt Galloway (posthumous), Dave Gosselin, Cathy Hill, Deneace Hines, Paula Hines, Pete Jacobs, Chris Johansen, Michelle Johnson, Tammy Jones, Joan Kelley, John Laneave, Nicole Lee, Gretchen Lester, Chascydy Lewis, Melissa Lowe, Fabiola Martin, Barbara Massey, Lisa McAlhaney, Mary McCaskill, Crystal McDonald, Tammy Memory, Jim Michael, Sherry Monk, Fred Moore, Peggy Morrison, Debbie Nelson, Jim Ogiba, Lisa Oliver, Bernice O'Neil, Barbara Pritchard, Catherine Prohaska, Amy Radford, Alan Rawls, Russell Robinson, Jeffrey Royster, Melissa Ruger, Debbie Schroeder, Jennifer Schuetz, Minh Tran, Kendall Sherman, Rhonda Smith, Staten Spruill, Helen Stewart, Dan Tenney, Beverly Thomas-Burse, Nicole Turner, Steve Van Gundy, Hope Venus, Laura Walters, Tim Warner, Lynn Waters, Kristin Watkins, Angela West, Penny Williams, Lisa Yu, Tony Zuvich

- **e-Payroll:** Lois Alliss, Patricia Bennington, Laura Blumberg, Roslyn Boyd, Jimmy Carson, Jim Cassidy, Lisa Davis, Fran DeMarco, Joanna Epps-Gay, James Ferguson, Arden Gale, Susan Givens, Frank Greiner, James Halley, Judy Heipel, Teresa Hines, Michelle Johnson, Joan Kelley, Pam Kirby, Lisa Klaugh, Robin Land, William LaMarsh, Arlyene Lusk, Don MacKay, Barbara Massey, Toni Meranda, Deborah Nelson, Cathleen Norville, Jim Ogiba, Nga Pham, Peggy Phelps, Sandi Ray, Tracee Rice, Ted Sidehamer, Avis Smith, Gerri Smith,

Paul Sowash, Sharon Swats, Sue Thornton, Carmen Torres-Nisbet, Minh Tran, Steve Van Gundy (Langley project manager), Lynn Waters, Angela West, Charles Wilson, Nancy Wilson, Mark Windley, Lisa Wood

Office of Chief Financial Officer Financial Data Integrity and Cleanup:

Jimmy Carson, Aimee Crowley, Seth Fargen, Linda Fitzgerald, Cody Flowers, Wanda Geter, Ruben Goode, Teri Green, Lavinia Hardy, Sherry Harper, Lisa Langham, Chascydy Lewis, Laura Leybold, Jim Ogiba, Lisa Oliver (Langley lead), Jorge Otero, Sandra Palko, Catherine Prohaska, Donna Reed, Richard Siebels, Donald Small, Chuck Solari, Nicolina Tubbs, Renee Wallace, Ramona White, Dennis Williams, Ken Winter

- **Integrated Reporting:** Michael Crome, Rebecca Bales, Patricia Bennington, Carolyn Carey, John Costulis, Yvonne Dellapenta (Langley lead), Frances DeMarco, Mary Deuell, Les Devers, Seth Fargen, Kathryn Ferrare, Ken Frink, Vickie Gage, Ruben Goode, Garnett Hutchinson, Laurie Johansen, Michelle Johnson, Staci Lanasa, Nicole Lee, Gretchen Lester, Barbara Massey, Lisa McAlhaney, Joyce Meyer, James Michael, Cathleen Norville, Lisa Oliver, Amy Radford, Kendall Sherman, Donald Small, Chuck Solari, Arthur Sparrow, Helen Stewart, Anita Thomas, Carmen Torres-Nisbet, Linda Urquhart, Hope Venus, Kristin Watkins, Penny Williams

- **Integrated Asset Management:** Brad Ball, Roslyn Boyd, Sam Breen, Patricia Cowin, Yvonne Dellapenta (Langley project manager), Dana Dwyer, Theresa Elliott, Alan Farrow, Michelle Fraser-

Page, Mary Gainer, Walt Galloway (posthumous), Debbie Garrett-Cook, Ruben Goode, Frank Greiner, Chris Grosenick, Cathy Hill, Fay Hoerger, Art Johnson, Betsy Kennedy, Elijah Kent, Robin Land, Ed Lawless, Nicole Lee, Howard Lewis, Alan Leybold, Wilson Lundy, James Mayhew, Lisa Oliver, Alan Phillips, Catherine Prohaska, Howard Puckett, Steve Reznick, Lesa Roe, Melissa Ruger, Helen Stewart, Gregory Sullivan, Carmen Torres-Nisbet, Barbara Trippe, Laura Walters, Kristin Watkins, Angela West

- **Change Management:** Marilyn Aldrich, Andrea Carden, Pete Chiappinelli, Dale Christensen, May Colatat, Bea Crawford (Langley lead), Leslie Elliott, Walt Galloway (posthumous), Nicole Lee, Gretchen Lester, Jennifer Lewis, Dora Muehlbauer, Helen Stewart, Matthew Thompson, Steve Van Gundy, Lynn Waters

- **IFMP Points of Contact:** Rebecca Bales, Darlene Baxter, Linda Beech, Paula Chambers, Cheryl Cleghorn, Deborah Cooper, Gordy Degear, Enette Doswell, Kathryn Ferrare, Mike Fitzgerald, Julie Fowler, Michelle Guilford, Nancy Hornung, Sandra Hurst, Garnett Hutchinson, Pete Jacobs, Laurie Johansen, Arthur Johnson, Diana Kusmira, Staci Lanasa, Melissa Lowe, Margarette Lynch, Fabiola Martin, Mary McCaskill, Cathryn Murray-Wooddell, Charles Phelps, Peggy Phelps, Marilou Phillips, Dee Poupard, Sandi Ray, Tracey Redman, Henry Russell, Frances Sabo, Kendall Sherman, Susan Shockcor, Karen Smith, Karen Spruill, Sandra Strickland, Stan Ward, Dina Weiss, Renee Williams

'Now Showing In Select Cities'

Kid Science News Network Debuts In Regal Cinemas Nationwide

By **KIMBERLY LAND**
Planners Collaborative

As moviegoers wait in line to purchase tickets at Regal Cinemas across the country, they will also get a lesson in science, technology, engineering and mathematics as NASA becomes part of the movie preview line-up.

Regal Cinemas has added unique NASA programming to their lobby advertising venue this summer. Through a partnership with Langley Research Center's Center for Distance Learning, a series of one-minute newsbreaks from NASA's Kids Science News Network (KSNN) are being shown in the lobbies of Regal Cinema theaters nationwide.

Since July, two episodes have captured the attention of moviegoers as they enter the theater lobby. The featured newsbreak videos for July were "Why does popcorn pop?" and "Did you know that Mars is a record-breaking planet?"

KSNN features kids teaching science, technology, engineering and math, as well as facts about NASA, to other kids in an entertaining and instructional format. The newsbreaks answer commonly asked questions such as, "Why does popcorn



REGAL

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G R O U P

pop?" and "Why is the sky blue?" and invites students to research the many misconceptions they may have about math and science.

"This special relationship with Regal Cinemas is an opportunity to show the public that NASA considers education a vital part of its service for students and adults," said Ron Shaneyfelt, program manager for KSNN. "The videos give viewers information they may not find anywhere else."

Through this unique partnership, Regal Cinemas will continue to receive award-

winning videos from KSNN. NASA will receive unparalleled exposure from an audience of 14.4 million ticket buyers each month in 400 Regal Cinema digital theaters that feature NASA's KSNN videos. Regal Cinemas has scheduled additional lobby showings in September, October and December, based upon the July debut.

Produced by Langley's Office of Education, KSNN newsbreaks can be downloaded from the Web, with supporting content. Each web component has a background information section where the

student and educator can learn more about the topic being presented with a list of related resources and links to other educational web sites. The hands-on activity can be used in the classroom or at home, allowing parents to share fun and exciting content with their children and get involved in their learning.

Regal Entertainment Group is the largest motion picture exhibitor in the United States. The company's theatre circuit, comprising Regal Cinemas, United Artists Theatres and Edwards Theatres, operates 6,045 screens in 550 locations in 39 states. Regal operates approximately 17 percent of all screens in the United States including theatres in 46 of the top 50 U.S. markets and growing suburban areas.

For more information about Regal Cinemas, visit: <www.regalcinemedia.com>. For more information about NASA's KSNN, visit: <<http://ksnn.larc.nasa.gov>>.

Kimberly Land works for Planners Collaborative in support of Langley's Public Affairs Office.

Center Hosts 'MY NASA DATA' Workshop

By **KATHERINE E. LORENTZ**
SAIC

For most teachers, summer vacation doesn't mean a vacation from learning. Recently, a group of educators from across the nation gathered at Langley Research Center to learn about scientific data at the inaugural MY NASA DATA workshop.

MY NASA DATA stands for "Mentoring and inquirY using NASA Data on Atmospheric and earth science for Teachers and Amateurs." The program was developed by scientists in Langley's Atmospheric Sciences Competency, computer programmers in Langley's Atmospheric Sciences Data Center (ASDC), former educators and citizen scientists to make actual NASA data available for educational purposes.

The MY NASA DATA workshop, held at Langley from Aug. 4-11, is a unique opportunity for educators to visit NASA facilities and to learn about NASA data directly from NASA scientists and researchers. During the workshop, teachers learned how to access sets of atmospheric science data, how to access and explore model lesson plans developed by the team, how to explore methods of data collection, and how to integrate data collection and analysis into their curriculum.

"One of my major classroom goals is to get kids into looking at data," said Jim Kuhl, an educator from Syracuse, N.Y. "I am excited to be able to put [my students] in touch with opportunities to analyze scientific data, knowing that it has come



Phil Lacey, Eileen Poling, Jim Kuhl and Diana Soehl collect ozone readings during the "MY NASA DATA" workshop.

directly from NASA instruments."

An important component of the MY NASA DATA program is its web site. ASDC web developer and SAIC employee, Carrie Phelps has worked with Aaron Dalton, a co-op student from Virginia Tech, as well as with other ASDC employees to create an interface for the educators and amateurs to access data and to interact with scientists, programmers, and other educators.

Opportunities for networking are what intrigued Juan Martinez, an educator from Cayey, Puerto Rico, about the MY NASA DATA program and workshop.

"In Puerto Rico, there are not many opportunities for kids in the field of sci-

ence," Martinez said. "I want to give them the tools to advance in this field by finding a network of mentors and role models."

The ASDC is home to numerous atmospheric science data sets, including observations from the Clouds and the Earth's Radiant Energy System (CERES) instruments. This raw data can be overwhelming in its sheer size. Therefore, MY NASA DATA project organizers decided to subset data so much that students will be able to use it. The team began creating these subsets or microsets by extracting the easiest to understand atmospheric parameters such as cloud height, temperature or area fraction.

Phelps and her co-facilitators are also working to develop lesson plans to accompany each microset. Together with Susan Moore, a former educator who now works for SAIC, Phelps showed the workshop participants how to access these lesson plans. At the end of the workshop, some of the teachers developed their own examples of lesson plans and presented them to their peers.

Eileen Poling, a teacher of gifted students from Parsons, W.Va., was excited to see the lesson plans.

"I am constantly looking for enrichment activities for my students," she said. "Having these pre-packaged lesson plans to accompany the data sets helps me to bring new and exciting activities to class each day."

The workshop's 17 participants were chosen from a group of applicants based on their enthusiasm for and dedication to using NASA data in their classrooms. There were participants from as far away as Florida, Oklahoma and South Dakota, and as close as Maryland, Pennsylvania, and southeastern Virginia.

Exploring atmospheric science by sending up weather balloons, touring the Virginia Air and Space Center, listening to lectures from atmospheric scientists and other experts, and creating a network of new friendships and mentorships, summer vacation was great fun for these teachers on their visit Langley.

Katherine E. Lorentz works for SAIC in support of Langley's Atmospheric Sciences Competency.

CLASSIFIED

FOR RENT: Waterfront apartment in Willoughby section of Norfolk, 2 BR, 1BA; water, sewer, cable, Internet, A/C included. Call 270-9221.

FOR SALE: 1992 Dodge Grand Caravan LE, blue/grey, 130K miles, automatic, V6, built-in child seats, \$3,000 or best offer. Call 867-9697

FOR SALE: 1993 Chevy 1500, 5 speed, power windows, power locks, 10-CD changer, bedliner, new transmission, clutch and tires dark blue/fade to black, see picture at <www.erols.com/baloo0>. Call 749-9102.

FOR SALE: Yamaha upright piano, perfect condition, \$3,500. Call 270-9221.

FOR SALE: Apple iMac G4, 15-inch screen, 800 MHz, 512 MB RAM, 60 GB hard drive, Super Drive, used very infrequently; Brother 5-in-1 color printer, never removed from box; both items for \$1,400 or best offer. Call 739-9325.

FOR SALE: Cable Nelson piano, solid wood, very old but in excellent condition, \$650 or best offer. Call 850-5510.

FOR SALE: Wood table and four spindle-back chairs, 3x5 feet, natural finish, suitable for kitchen or informal dining room, \$200. Call 816-4469.

FOR SALE: Wood table and four chairs, 3x5 feet, white with natural finish, suitable for kitchen or informal dining area, \$175. Call 825-3319.

FOR SALE: Two M+S 205/70R14 tires with zero miles, mounted on rims and balanced, \$60 each or both for \$100. Call 565-3166.

FOR SALE: Solid pine four-drawer filing cabinet, \$250. Call 599-7975.

FOR SALE: Two ceiling fans, wood blades, brass hardware and three bulbs, \$15 each; men's terry cloth robe, white, brand new still in package, one size fits most, \$10. Call 838-1583.



The deadline for the Sept. 10 edition is Aug. 30. Send submissions to <j.r.roberts@larc.nasa.gov>.

New IMAX Film Opens At VASC

"Forces of Nature," a new IMAX film documenting earthquakes, tornadoes, volcanoes and other destructive natural forces, opened at the Virginia Air and Space Center on Aug. 20. "Forces of Nature" is a National Geographic film, funded in part by the National Science Foundation.

For showtimes and advance tickets, call 727-0900, ext. 703 or visit the VASC web site at: <<http://www.vasc.org>>.

The VASC is Langley Research Center's official visitor center.

LAA Will Meet On Sept. 15

Langley Research Center's Alumni Association (LAA) will meet at 11:30 a.m. Sept. 14 in the Langley Room of the Center cafeteria. The program will feature Ralph Roe, who will discuss the mission and activities of the NASA Safety and Engineering Center (NESC). For information about the LAA, call 864-7330.

Blood Drive On Sept. 15

The American Red Cross will host a blood drive on Sept. 15 in Langley Research Center's H.J.E. Reid Conference Center. Langley employees, contractors and retirees are invited to participate. Civil servants should charge their time to "Excused Leave." The final blood drive for 2004 will be held on Nov. 24.

For more information, contact Connie Small at 864-2564 or <Connie.J.Small@nasa.gov>.

Nobel Laureate To Speak At ODU

Old Dominion University will host two lectures by Nobel Prize winner Carl E. Wieman in September. Wieman will speak about "Bose-Einstein Condensation: Quantum Weirdness at the Lowest Temperatures in the Universe" at 10 a.m.

Kick Start Forums Scheduled

Langley Research Center's Kick Start Teams hosted the first "Wednesday Forum" at 11 a.m. **Aug. 25** in the Hampton Room of the H.J.E. Reid Conference Center.

Additional forums are scheduled at 11 a.m. every Wednesday through December. The **Sept. 15** forum will take place at the same time but will be held in the Center cafeteria.

Each forum will include four Kick Start Team representatives — two from institutional teams and two from technical teams — and an opportunity for employees to ask questions about NASA's Transformation.

For more information, visit the Kick Start web site: <<http://kickstart/>>.

Sept. 17 in the Constant Convocation Center and about "The Circuitous Route of a Scientific Discovery" at 10 a.m. **Sept. 18** in Constant Hall. ODU and the lecture venues are located in Norfolk.

For more information, contact Amin Dharamsi at 683-4467 or <adharams@odu.edu>.

Soccer Club Hosts Weekly Games

Langley Research Center's Soccer Club hosts co-ed games after work every Tuesday and Thursday. All levels are welcome; players are asked to bring a white T-shirt and a dark T-shirt for ease of team identification.

For more information or to be added to the Soccer Club's e-mail list, contact Mahyar Malekpour at 864-1513 or visit the club's web site: <<http://larc-exchange.larc.nasa.gov/lea/soccer/>>.

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U.S. Army employee Crystal McDonald (left) and her 9-year-old niece Ayesha (second from left) race balloons in Langley Research Center's H.J.E. Reid Conference Center during Take Our Children To Work Day, which was observed on Aug. 17. Venita Robinson of Langley's Office of Equal Opportunity Programs Office said more than 300 children participated this year.

Photo by Jeff Caplan