On Sept. 19, NASA Administrator Michael Griffin released the results of the agency’s Exploration Systems Architecture Study - a blueprint for the next generation of spacecraft to take humans back to the moon and on to Mars and other destinations.

The study makes specific design recommendations for a vehicle to carry crews into space, a family of launch vehicles to take crews to the moon and beyond, and a "lunar mission architecture" for landing on the moon. It also recommends the technologies NASA should pursue in the near term.

The study will assist NASA in achieving President Bush’s Vision for Space Exploration, which calls for the agency to safely return the space shuttle to flight, complete the International Space Station, return to the moon, and continue exploration of Mars and beyond. America’s next generation spacecraft will use an improved, blunt-body crew capsule, and will accommodate up to six people. "This spacecraft and its systems will build upon the foundation of the proven designs and technologies used in the Apollo and space shuttle programs, while having far greater capability," Griffin said. "It will be able to carry larger and heavier cargos into space and allow more people to stay on the moon for longer periods of time."

The new spacecraft can be configured either to support human explorers or fly unpiloted to carry cargo. Its design allows the flexibility to ferry crews of three astronauts, plus additional supplies, to and from the International Space Station, take four crew members to lunar orbit, and eventually maintain up to six astronauts on a mission to Mars.

Crews and cargo will be carried into orbit by a space shuttle-derived launch system, consisting of a solid rocket booster and an upper stage powered by a shuttle main engine that can lift 25 metric tons. The spacecraft also will be 10 times safer than the space shuttle because of its in-line design and launch-abort system. NASA chose the shuttle-derived option for its launch system due to its superior safety, cost and its availability.

Specifically, the space shuttle’s main engines and solid rocket boosters are reliable and rated for human space flight. Much of the industrial base and hard-continued on page 6

Combined Federal Campaign launches

Members of the Combined Federal Campaign (CFC) team hold the CFC banner. Left to right: Former representative for the CFC Bay Area board Herb Finger; deputy chairperson Andy Hocker; Ames campaign chairperson Larry Lasher; loaned executive to the CFC office Dennis Romano and Ames representative for the CFC Bay Area board Don Durston. Acting Deputy Director Steve Zometzer was unavailable for the picture.

NASA Ames has an ambitious goal of raising $240,000 for the Combined Federal Campaign (CFC) this year to allow it to stand out as an outstanding and generous member and super hero of the community. Ames can be a good neighbor and continued on page 8
Ames lauds recipients of 2005 Honor Awards

The 2005 Ames Honor Awards were presented at a recognition ceremony on Sept 1. This center-sponsored program features a peer nomination process and is considered one of Ames’ most prestigious honors. Congratulations to all honorees!

**Administrative Professional**
Betsy Robinson
Lupe M. Velasquez

**Best First Paper at Ames**
Shannon J. Zelinski

**Commercialization/Tech Transfer Award**
Future Air-Traffic-Management Concepts Evaluation Tool
Meyya Meyyappan and Jun Li

**Student**
Brooke H. Cole

**Contractor Employee**
David W. Bogdanoff, ELORET
Nathalie A. Cabrol, SETI Institute
Sergio Castellanos, Solution Quest
Brian H. Day, Planners
Collaborative
Charissa S. Kolar, Muniz Technologies, Inc.
Celeste J. Merryman, Lockheed Martin Engineering
Pepsi Phounrath, Muniz Technologies, Inc.
Michael D. Wong, Raytheon

**Group/Team**
Airspace Concept Evaluation Team
Ames Child Care Center New Facility Project
Management Team
Ames Management System Development and Certification Team
NASA Ames Video Production Group
Life Sciences Hyper-G Team
The New Business Office Group
System Evaluation and Assessment Data Analysis Team
Unitary Plan Wind Tunnel - MMA Test Team

**Community Service/Volunteer**
Kevin L. Jones

**Mentor**
Christopher P. McKay

**EEO**
Travis A. Liggett

**NASA Employee**
Reynaldo J. Gomez (JSC Employee)

**Project Manager**
Howard N. Cannon
and Stephen E. Dunagan (co-winners)

**Engineer**
Wayne R. Johnson
Joseph P. Lavelle

**Safety and Environment**
Richard H. Mogford
Cheryl M. Quinn

**Scientist/Researcher**
William J. Borucki
Viktor Stolc

**Technical Support**
Patricia B. Hudson
John F. Schipper

**Technician**
Kent A. Stednitz

**Technology Development**
Edwin F. Erickson
Robert E. McMurray

Ames RTF teams acknowledged

Ames RTF teams acknowledged

NASA Ames Center Director G. Scott Hubbard personally thanked the Ames teams who supported the return to flight (RTF) for the monumental effort put forth by the teams to make RTF possible. He addressed them at a reception held in the lobby of Bldg. 200 on Sept. 8 honoring the contributions of the people in the Fluid Mechanics Laboratory, debris transport team, thermal reentry analysis team, Project Columbia, wind tunnels and public affairs office.
NASA Ames celebrates historian Jack Boyd’s birthday

Few people have influenced the culture and ethos of NASA, and especially of NASA Ames, as profoundly as Jack Boyd.

Throughout his first 58 years of public service, Boyd’s work, words and smiles have welcomed us all into the Ames family. Perhaps he is like a fine wine, that only gets deeper and more enjoyable with age.

I would like to thank my many friends at Ames for an unforgettable 80th birthday party. Those who believe they have accomplished something in their lives should pause for a moment and consider all those who helped them along the way. I certainly had that opportunity on my birthday, when you all helped me and my family to celebrate it. It was truly the pinnacle of the many events I have celebrated at NASA. I am honored and proud to be a part of this incredible family. I thank you!

-- Ol’ Jack

For all that he is, his dedication to the center has earned him countless circles of friends around the center, and these circles of friends joined together at Ames to celebrate his 80th birthday on Aug. 19 in the NASA Ames Conference Center.

Like Boyd’s office door, the invitation was open to everyone -- to all those he has mentored, inspired, advised, relied upon, calmed, researched beside and committed with.

Ames assists hurricane relief efforts

Several members of NASA Ames’ Disaster Assistance and Rescue Team (DART), representing several specialties, have responded to calls for on-the-scene support of rescue and recovery efforts in the aftermath of Hurricane Katrina.

Shortly after the disaster occurred, the NASA Ames Emergency Operations Center (EOC) was activated and worked with the NASA Headquarters EOC and with other EOCs throughout the agency supporting NASA’s hurricane relief efforts. Robert J. Dolci, director of emergency services at Ames, was called to support the Stennis Space Center EOC led by Bill Parsons, who was recently named the new director of Stennis, near Gulfport, Miss.

Both Stennis and the Michoud Assembly Facility near New Orleans, La., were hit hard by the hurricane. Approximately 3,500 NASA civil service and contractor employees work at the two facilities, in addition to some 4,600 employees of other federal agencies.

On Aug. 30, DART water rescue specialist John Preston was deployed as part of a 14-person flood response team sent to the hurricane zone by California Task Force 3 out of Menlo Park. The team returned to the Bay Area on Sept. 16.

DART rescue specialists Mark Tangney, Roger Miller, Lynn Bala, Paul Brown, Eric Mueller, Kelly Kasser and Erik Rockwell deployed with the 70-person California Task Force 3 on Aug. 31 to support the search and rescue and recovery efforts in the New Orleans area. On Sept. 16, CNN covered the rescue of a 71-year old man by members of the task force. Tangney, deputy chief of DART, reported that the team was accompanied by the Coast Guard, U.S. Fish and Game, and the National Guard, for security.

A three-person emergency communications team from NASA Ames flew to Huntsville, Ala., to establish communications at Michoud. The team also shipped emergency communications equipment and purchased $50,000 of satellite time to support satellite communications. Team members included Bill Notley and Bill Hunt (QSS) of Code JTN, and Code TN network engineer Dave Hartzell. Michael Wright also deployed to support the emergency communications team in early September. The Ames team quickly and efficiently set up an emergency satellite/network and voice communications services at Michoud, providing the first stable com-

continued on page 4
NASA transformation creates challenges, opportunities

During an all-hands meeting on Aug. 26, NASA Ames Research Center Director G. Scott Hubbard outlined the changes and challenges facing Ames during NASA's transformation to meet the requirements of the Vision for Space Exploration. Hubbard assured employees that "Ames is not closing or being starved out." Nonetheless, Hubbard also warned that some of the effects of the transformation would be painful for Ames over the next few years as NASA makes the most sweeping changes in 35 years.

Among the challenges facing Ames is a budget shortfall of some $250 million in FY 2007, compared with FY 2004. As a result, Ames has an unfunded work force of about 700 people in FY 2006-300 civil servants and 400 contractors, according to Hubbard. Although the center did get a very important boost from the agency through the commitment to create an agency-wide transition process that will help take unfunded civil servants through FY 2006, Hubbard said Ames will initiate reductions in its on-site contractor work force and begin developing a new transition work force pool for civil servants.

"We will make every effort to find new work for our civil servant staff either at Ames or elsewhere in NASA," Hubbard vowed. He noted that the centers that are primary beneficiaries of the Vision for Space Exploration cannot hire new employees to support the Vision without first consulting with other centers, like Ames, to see if the work can be done there.

Positive news included the fact that Ames has been assigned the new Robotic Lunar Exploration Program and will play a major role in NASA's next lunar mission. In addition, Ames will be on the critical path for the CEV with respect to thermal protection systems and information technologies. Hubbard predicted that other opportunities will follow as Ames demonstrates it can deliver.

"If we all work together, we can manage our way through this valley and come out the other side stronger and healthier," Hubbard asserted.

Ames assists hurricane relief efforts

Communications available to local rescue personnel.

A water purification team from Ames-IAP contractors Jill Moudy, Matt Clapp, Ian Vines and Danny Garo -- rolled out the gate on Sept 7, headed for Stennis. Their equipment included a water purification unit, supplies for that unit, water, provisions, medical packets provided by the Ames Health Unit and other support equipment. After a 46-hour drive, the team arrived at Stennis. The next morning they were escorted by a military convoy to the Michoud Assembly Facility, where they quickly set to work providing potable water (at 3000 gallons per hour) for the many employees working to restore that facility. They continue to purify more than 50,000 gallons of potable water every day.

As the area slowly recovers from the destruction of Hurricane Katrina, and as Hurricane Rita bears down on the same area, members of DART stand ready to provide continuing assistance in a variety of areas, as they have following other natural disasters and terrorist attacks. DART members remain on stand-by, and as many as 50 additional DART members could be deployed if requested by the Federal Emergency Management Agency.

For more information about DART, visit: http://dart.arc.nasa.gov/index.html

BY ANN SULLIVAN

Team NASA holds annual recognition picnic in Chase Park

More than 40 volunteer docents and their guests were welcomed at Chase Park on Sept. 14 in appreciation of their valuable contributions to the operation of the Ames Exploration Encounter (AEE). Many of the AEE docents also support the Ames Exploration Center, JASON Project, Aero Expo, as well as various other NASA events.

NASA photo by Astrid Terlep
‘Security Week’ events hosted at NASA Ames

From Sept. 6 to Sept. 9, NASA Ames observed ‘Security Week,’ a NASA-wide event designed to promote information and physical security awareness throughout the agency. In support of Security Week, Code J Center Operations sponsored a 2-day, center-wide security event, planned and hosted by subject matter experts from the Code JT Information Technology (IT) Security Awareness team and the Code JP Protective Services Awareness team.

Together, the teams staffed tables in the Ames Cafeteria, providing security-related materials, answering questions, showing security videos and distributing small give-away items to help keep everyone mindful of security on a day-to-day basis. Other NASA centers also took part in Security Week, hosting their own center-wide events for the week.

BY ROSALIND MILLER

Ask the ‘Protective Services Wizard’

Contraband found during vehicle inspections

Question:
What types of contraband items are located during random vehicle inspections?

Answer:
The following items have been found during vehicle inspections: Firearms, unlawful knives, unlawful weapons (brass knuckles, billy clubs, etc.), drugs and drug paraphernalia.

Per the Code of Federal Regulations, Title 14, Volume 5, (14CFR1204.1003) “Unauthorized introduction of weapons or dangerous materials is prohibited on NASA real property or installations. Unless specifically authorized by NASA, you may not carry, transport, introduce, store or use firearms or other dangerous weapons, explosives or other incendiary devices, or other dangerous instrument or material likely to produce substantial injury or damage to person or property.”

Per section 12020 PC, these dangerous weapons include: “any cane gun or wallet gun, undetectable firearm, a firearm which is not immediately recognizable as a firearm, any camouflage firearm container, ammunition which contains or consists of flechette dart, any bullet containing or carrying an explosive agent, ballitic knife, multi-burst trigger activator, nun-chaku, short-barreled shotgun, short-barreled rifle, metal knuckles, belt buckle knife, leaded cane, zip gun, shuriken, unconventional pistol, lipstick case knife, cane sword, shobi-zue, air gauge knife, writing pen knife, metal military practice hand-grenade or metal replica hand-grenade, or instrument or weapon of the kind commonly known as a blackjack slung-shot, billy or sand-club, sap, sandbag, or dirk or dagger.”

Do you have a question for the Protective Services Wizard? Then forward your security question to kwalsh@mail.arc.nasa.gov. You can also visit the Protective Services Web site at http://pso.arc.nasa.gov for further information.
NASA finds green crystals in Comet Tempel 1

Green sand found on the big island of Hawaii resembles olivine crystals in the icy interior of comet Tempel 1, according to a NASA Ames astrophysicist.

Scientists revealed that they detected green silicate crystals (olivine) in Tempel 1 similar to, but smaller than, Hawaiian green sand particles, according to articles by the researchers in the Sept. 15, 2005, issue of the journal Science Express. They made their observations before, during and after the NASA Deep Impact spacecraft’s 820-pound ‘impactor’ collided with the comet in early July 2005, as planned, so astronomers could determine what is in comets. The papers outline findings scientists made using infrared detectors on the Gemini and Subaru telescopes in Hawaii.

"The silicate crystals are talcum powder-size, but they are made of the same materials as the green sand beaches in Hawaii," said Ames’ Diane Wooden, a co-author of both papers. The principal author of the Gemini Telescope paper is David Harker, University of California, San Diego. Seiji Sugita of the University of Tokyo is the principal author of the second Subaru Telescope paper.

"Following the collision of the comet with the 'impactor,' there was a short-lived gas geyser associated with the impact site that carried the crystals from Tempel 1 into space," Wooden said. "The Gemini and the Subaru telescopes are two of the biggest in the world, and we were able to focus in on the green dust particles in the jet and ejecta - something that most space-borne telescopes could not see in infrared light," she noted.

Another comet, Hale-Bopp, was so active that it released green silicate crystals as it passed close to the sun in 1997, according to Wooden.

"However, the Deep Impact spacecraft’s 'impactor' had to blast the green silicate crystals from the interior of the comet Tempel 1 for us to see them with our ground-based instruments," she noted.

"The insides of comet Tempel 1 look very much like the outsides of comets that have not been 'cooked' by passages close to the sun," Wooden said. She explained that there might be green silicates on the surfaces of comets that swarm in the outer reaches of the solar system and are not exposed to intense sunshine.

"The impact site that carried the crystals from Tempel 1 into space," Wooden said. "The impact spacecraft’s 'impactor' had to blast the green silicate crystals from the interior of the comet Tempel 1 for us to see them with our ground-based instruments," she noted.

NASA's return to the moon will open opportunities for fundamental science in astrobiology, lunar geology, exobiology, astronomy and physics.

The journey will start with robotic missions between 2008 and 2011 to study, map and learn about the lunar surface. These early missions will help determine lunar landing sites and whether resources, such as oxygen, hydrogen and metals, are available for use in NASA’s long-term lunar exploration objectives.

Griffin stated that all NASA field centers will participate in the new exploration initiative.
Retired NASA scientist finds place in history twice

When Dr. Delbert Philpott began his Ames career in the basement of building 214 in 1964, working on electron microscopes, neither he nor his colleagues realized Philpott would find himself in the midst of world events not just once, but twice.

Philpott eventually went on to head the electron microscope facility and retired in 1990. But long before NASA, Philpott was an Army foot soldier in World War II when fate put him squarely in the middle of one of the great turning points in 20th century history, 60 years ago this year.

On April 25, 1945, Russian and American troops joined forces in Torgau, Germany, on the Elbe River. The link-up unified the eastern and western fronts of the war in Europe and effectively divided Germany in two. It marked the beginning of the Cold War. As one of the 69th Infantry soldiers gathered there that day, Philpott was photographed in a group of American and Russian soldiers (see above photo) happily reaching out to greet each other. This historic moment was captured by camera and appeared in newspapers around the world.

Sixty years later, former soldiers from 50 countries were invited to Russia for a grand commemoration of the ‘Great Patriotic War,’ as the war is known to Russians. Philpott was one of the 10 American veterans believed to participate in a huge celebration in Moscow on May 9. Philpott felt that this 60th anniversary gathering would be a great and heartwarming experience. He also felt some responsibility in representing the veterans, especially those who were killed.

70,000 troops were brought in for tightened security in Red Square. After many speeches by world leaders and miles of military parades, the veterans were invited to the Kremlin for an official state banquet.

When arriving, he was asked to sit at the Presidents’ Table with heads of states as the representative of the veterans group. To his surprise, Philpott was seated alongside the presidents of China and Russia, as well as President Bush. He had the pleasure of sitting next to First Lady Laura Bush.

“I turned to Mrs. Bush and asked her if she can do me a favor.” She looked at me with astonishment. “Can you pinch me, because I don’t believe this is happening,” Philpott said.

Mrs. Bush was very gracious and easy to chat with. Philpott was informing her about a book that he and his wife had edited called ‘Hands Across the Elbe,’ and that he had been trying to give a copy to President Bush and Russian President Putin. Mrs. Bush raised her hand and her assistant ran to her. She stated, “Make sure President Bush and President Putin get a copy of this book.”

Philpott then asked Mrs. Bush if it was possible to get a picture of him with President Bush. Mrs. Bush, once again, raised her hand and this time, caught Mr. Bush’s eye. Mrs. Bush let Mr. Bush know that Philpott wanted to take a picture with him. The president responded “you don’t want a picture with just one president,” so President Bush asked President Putin to join in the picture. Philpott was ecstatic.

Since retiring from NASA, Philpott has periodically worked at Ames with visiting Russian scientists on the Cosmos program. His space radiation studies were flown on three of the Russian Cosmos satellites. Philpott also participated in flying five pocket mice to the moon on Apollo 17 and had experiments on several shuttle flights. He and his wife later edited the ‘Hands Across the Elbe’ book, a collection of some of the Russian-American link-up stories.

by Terry Pagaduan and Kelly Garcia
sensitive to those in need around us; Ames has proven in the past to be the most generous government donor in the Bay Area - a reputation to live up to. The Ames campaign will run from Oct. 12 to Nov. 1.

There are two important changes in the way Combined Federal Campaign (CFC) operates this year. For the first time, to improve the efficiency of the campaign, there has been a 2005 CFC merger by the Santa Clara/San Benito counties CFC (those canvassed by Ames) with the Greater San Francisco Bay Area CFC. This will lead to better coordination of the fund-raising efforts and afford substantial cost savings in financial accounting and auditing. The second big change is the introduction of eCFC, which enables a simple and private way of contributing to your favorite charities electronically by using WebTADS.

The Combined Federal Campaign allows you to specify the agencies of your choice to donate to or you may wish to give to the CFC in general, which then distributes the money in proportion to the monies received by the charities designated by other donors. The CFC brochure lists hundreds of agencies to consider and can be viewed on the Inside-Ames Web site. Check for your favorite agencies by using the search engine.

A stirring video on the CFC can be seen on the Web at http://www.cfcfsbaysv.org/

There are several good reasons to give to the CFC:
• Assist the Gulf states hurricane and flood relief effort;
• Exhibit NASA Ames pride in supporting the community;
• Help the less fortunate; and
• Benefit from IRS deduction for charity donation.

If you have any questions, contact the campaign chairperson, Larry Lasher, at ext. 4-3076 or the deputy chairperson, Andy Hocker at ext 4-4120.

by Larry Lasher
2005 CFC Chairperson
Ames safety week kicks off with VPP STAR recertification

Ames Safety Week, Sept. 19-22, featured a number of programs and training opportunities to increase employee safety awareness. The week began with a celebration of Ames’ achievement of VPP recertification at the STAR level for maintaining an excellent safety and health program. In recognition of the accomplishment, Occupational Health and Safety Organization (OSHA) Voluntary Protection Program (VPP) manager Pauline Caraher presented a plaque to Ames center management and employee union representatives. Left to right: NASA Ames Deputy Center Director (acting) Steven Zornetzer, Suzanne Meyer, Christopher Knight, Pauline Caraher, Michael Dudley, chief, Safety, Environmental and Mission Assurance Office and Dora Herrera.

NASA Research Park event highlights robotics

The NASA Research Park (NRP) Division hosted an open house and NRP lecture at Ames on Sept. 20. The well-attended open house included exhibits from a variety of NRP partners and robotics demonstrations from NASA’s Robotics Alliance Project and Carnegie Mellon University’s West Coast Campus.

“Red” Whittaker describes the Grand Challenge race to be run Oct. 8.

The NRP lecture, presented to a standing-room-only crowd, featured famed robotics expert, Dr. William ”Red” Whittaker, who discussed ‘Racing for the Future,’ his team’s efforts to win the $2 million DARPA Grand Challenge Prize.

Guests at the NRP open house enjoy the exhibits.

Students demonstrate speedy, student-built robots.
Aeronautics Director Leroy ‘Skip’ Fletcher bids farewell to Ames

During his six-plus year tenure as Ames’ director for aeronautics, Leroy ‘Skip’ Fletcher faced the daunting task of balancing the aeronautics traditions and capabilities developed as a part of the nation’s major airports with further plans for expansion.

Ames also has actively pursued the development of remotely controlled and autonomous aircraft and strengthened the capabilities of Ames’ world-class simulation facilities.

With advances in computer simulation and the implementation of ‘full cost recovery,’ physical facilities like wind tunnels, ballistic ranges and arc jets decreased in importance for many decision makers. Under Fletcher’s leadership, Ames was able to maintain much of that expertise and capability. Ames strengthened partnerships with traditional aeronautics partners and actively pursued partnerships with other NASA centers non-traditional partners.

This foresight paid dividends during the Mars Exploration Rover mission and NASA’s Return to Flight efforts. The wind tunnel, ballistic range and arc jets were integral in verifying the computer models used in the redesign of the space shuttle and subsequent mission support, including emergency wind tunnel tests on the shuttle’s thermal blanket to determine its safety for re-entry.

In addition to his contributions to Ames, Fletcher has made significant contributions to the aeronautics and engineering community. He is a member of numerous professional organizations including the American Institute of Aeronautics (AIAA) and the American Society of Mechanical Engineers and has been recognized numerous times for his leadership and accomplishments.

“Through his leadership role in the AIAA and wide range of professional acquaintances in that regard, he has expanded NASA’s impact in the aerospace community,” said Lebacqz.

As aeronautics director and earlier as a budding engineer in the Ames wind tunnels, Skip has made a lasting impression.

“I have known Skip for about 50 years when we were both a lot younger working in Ames wind tunnels,” said Jack Boyd, NASA Ames historian. “Even then he had the Aggie mentality (Texas A & M) which was ‘if it is broken, fix it now’, ‘if it is not broken, fix it anyway because it probably will be broken by tomorrow’.

“Skip did us a great service by coming to Ames and I wish him the best in his new/different endeavors. Take care, Skip, and ‘Hook em Horns’.”

Fletcher held the post of Ames director for aeronautics from Feb. 1, 1999 to Aug. 28, 2005. He returned to the Department of Mechanical Engineering at Texas A&M to assume his duties as Regents and Thomas A. Dietz professor.

“It has been a real pleasure working with the Ames family over the past six-plus years - and my wish is that the center will continue to be the exciting, successful center that we have been in the past,” said Fletcher. “It will take teamwork under the new paradigm of NASA, but I know that you all can do it!”

BY JONAS DINO

Silicon Valley Astronomy lecture presents

Astronomer Cynthia Phillips will give a non-technical, illustrated talk on: Jupiter’s Tantalizing Moon: Water (and Life?) Under the Ice of Europa.

Date: Oct. 5, 7 p.m.
Place: Smithwick Theater
Foothill College
El Monte Road and Freeway 280
Los Altos Hills

The event is free and open to the public. Parking on campus costs $2. Call the series hotline at (650) 949-7888 for more information.

The event is co-sponsored by NASA Ames, the Foothill College Astronomy Program, the SETI Institute and the Astronomical Society of the Pacific.
An uncommon ‘common’ man died in Palo Cedro, Calif. Jacob Smith passed away on June 28, 2005, surrounded by his wife, his five children, and several grandchildren, as they sang hymns around his bedside. Smith was 91 years old, and had been married to his wife for 65 years.

Smith was born in Brewton Ala., on June 3, 1914. His father died when Smith was very young, and he spent his childhood being raised by his mother. Life was difficult for Smith’s family, but he had a wonderful relationship with his brother, Gordon, and his two sisters, Althea and Vivian. Soon after his graduation from high school, he left Alabama for Chicago, where he lived briefly before making the trek to California. Shortly after arriving, he met the love of his life, Helen Beatrice Evans. And that love affair continued until he drew his final breath, as she held his hand. In other words, when Smith and Helen said “Til death do us part,” they meant it.

Smith and Helen had been residents of the Redding area since they retired from Ames, moving from the Bay Area to Palo Cedro in 1971. Prior to that, Smith (his friends called him “Jake”) worked for NASA at the Ames Research Center at Moffett Field, serving as chief aircraft inspector for more than 30 years. During that time, he traveled all over the world as part of the Ames Research team, doing scientific studies on various phenomenon in the atmosphere surrounding Earth, including the northern lights. Smith loved flying airplanes and scientific expeditions, and he enjoyed traveling. But working at Moffett Field — and anyone who knew Smith could tell you this — was not his only love and passion. Smith’s other real passion, and the center of his life was his undying love for his family … and his God.

During his tenure at Moffett, and in addition to holding a full-time position there, few of the people who worked with Smith every day knew that he also served as the superintendent of the Peniel Rescue Mission. The skid-row mission (which is no longer in existence) provided food and clothing for men living on the streets of San Jose. And seven-nights-a-week—for 12 1/2 years — Smith directed the caring ministry of that mission. Each night, he would go to the mission, often with his wife and his children, and oversee the preparation of a hot meal, and conduct a gospel service for the street people of San Jose. Smith was not a preacher. He was, however, someone who cared about people. And that concern for people was an incredible motivating theme throughout his entire life.

One of the primary reasons Smith moved to Palo Cedro to “retire” was so he and his wife could begin a foster home for troubled kids. His beautiful home and acreage in the rolling hills east of Redding provided a wonderful setting for such an endeavor. For several years after their retirement, Smith and Helen provided a home for troubled kids. They called it ‘Blue Oak Ranch.’

Later in their retirement, working with kids and teens became less feasible for them, and they decided to focus their attention on helping small churches. They purchased a motor home and became a part of MAPS, a volunteer organization that provides construction assistance for churches who need it. Smith and Helen traveled throughout California and Oregon, working alongside other volunteers, bringing encouragement and a helping hand to small or struggling churches that needed assistance with remodeling or new construction.

In recent years, Smith and Helen were a part of Gideons International, a Bible distribution organization that provides free copies of the scriptures to hotels and motels, hospitals and those in the medical profession, and the Armed Forces of the United States. Smith’s car or van always had several copies of the Bible handy for distribution to anyone he might happen to see. Smith loved to go to church on Sundays, and for the past several years, he and his wife called Bethel Church in Redding their church home.

Most people may not be aware that one out of a hundred people in the United States has ‘Smith’ as a last name. But make no mistake about it. Jake Smith wasn’t one in a hundred. He wasn’t even one in a thousand, or one in a million. An uncommon ‘common’ man died this summer in Palo Cedro. And the best epitaph that can be written about his life is a four-word phrase, ‘He was, quite simply: ‘One of a kind.’

BY KEN JONES
Interns get rare opportunity to solve shuttle problem

After the first scrubbed launch on July 13, 2005, the world waited for the go-ahead to launch space shuttle Discovery and her crew into orbit for the first time in two-and-a-half years. What the world didn’t see, were the many factors involved in getting the green light for “all systems go.”

In July, James Ross, chief of the Experimental Aero-Physics Branch, was briefed about frozen water droplets that have been accumulating and then dropping off the space shuttle orbiter during ascent. No wind tunnel tests had ever been conducted on the drag characteristics of such ice particle shapes. As a result, the team conducting computational fluid dynamics (CFD) on the trajectory of these ice particles had to rely on estimates for the drag characteristics. This aspect of the analysis had a critical bearing on whether, and if so, where, the particles may impact the orbiter.

Ross approached US Navy flight test engineer Kurt Long to gather a team to conduct a wind tunnel test of ice particle effects on the shuttle test.

Later that same day, five student interns from Ames’ Educational Associates (EA) program and Summer High School Apprenticeship Research Program (SHARP) in the Fluid Mechanics Laboratory (FML), were diligently working on their summer projects using wind tunnels when Long presented them with an opportunity of a lifetime: to team together and provide support for NASA’s shuttle return-to-flight efforts.

“The team required just over five hours to plan, design/construct hardware, stop existing wind tunnel testing, reconfigure the wind tunnel, calibrate instrumentation, collect data, analyze data and then provide the data to the sponsor,” explained Long. “We had wind tunnels available since the students have been working on projects in them; however, the challenge for this test was to figure out which wind tunnel to use,” he added.

“We decided on the FML’s test cell number two wind tunnel and began reconfiguring it for this test,” said Amela Zanacic, a student from Cal Poly San Luis Obispo. The team decided to use this tunnel because of its ease of reconfiguration, ability to acquire force and moment data, and its ability to represent the full-scale aerodynamic characteristics of the ice particles.

As the project got underway, there was a clear sense of urgency. “The whole process was chaotic. We were told to get some tools - it didn’t matter what kind of tools, just get any tools! And when they began drilling holes in the floor of the wind tunnel, it really freaked us out,” explained Zanacic. The holes were added to the wind tunnel floor plate to facilitate rapid model mounting and reconfiguration for this effort; since most wind tunnel models employ standardized mounting lugs, this step is rarely employed. “Scrambling was a lot of fun,” she laughed.

The team cut a two-and-half-inch-diameter acrylic sphere into quarters to simulate the shape of the ice particles affixed to the orbiter. The quarter sphere was then attached to an eight-inch sting, a mounting device with a very sensitive balance that would measure forces and moments on the object in three different orientations relative to the flow direction. The model and balance were then installed within the wind tunnel test section, and the tunnel was run at various speeds to measure the resultant forces on the ‘ice particle.’ The resultant data were analyzed to ensure accuracy, and then provided to NASA shuttle program personnel, to help predict the ice particle trajectories during the shuttle’s ascent. The data also were used in a briefing to shuttle program personnel during a shuttle go/no go launch meeting the very next morning (a Saturday).

“The experience reinforced what I am doing and studying in order to become an engineer. Engineering is excit-
Migrant students explore space, science and technology at Ames

To inspire the next generation of explorers... as only NASA can. This is the task to which we have been assigned in the Ames Exploration Encounter. From September through June, the Ames Exploration Encounter is filled with students from all over California and Nevada. Students from public schools, private schools and home schools have the opportunity to visit a world-class facility and to immerse themselves in the study of space, science and technology.

There is one group of students whose education is not a first priority, as their parents are forced to travel from field to field, their lives ruled by growing seasons that don’t match the school calendar. These children miss weeks or months of school. Most face an additional challenge because they don’t speak English. These are the children who have moved more times than the years they have been alive. These are the migrant students.

Migrant students are among the neediest students in California schools. Migrant families move frequently as they follow work in the agriculture, fishing, dairy or logging industry. Under the No Child Left Behind Act (NCLBA), support is provided to help reduce the educational disruption and other problems that result from repeated moves. The law states that migrant education services are a priority for those students whose education has been interrupted during the current school year and who are falling, or are most at risk of failing to meet state content and performance standards.

Through a collaborative partnership between NASA Ames Exploration Encounter and San Jose Unified School District Migrant Education Program, more than 125 students attended the Ames Exploration Encounter. Under the leadership of San Jose Unified School District Migrant Education Director Amelia Romero and Principal Albert Moreno the students were provided a high-quality and comprehensive educational program for migratory children this summer.

Before their visit to the Ames Exploration Encounter, AEE operations manager Lorraine Ruiz and volunteer docent Renato Fiombi presented the program in Spanish to the students at their school. Excitement was high, as the students had been watching television and heard about the Discovery mission. Many of them had heard about astronaut candidate Jose Hernandez, who also was the son of migrant parents. Their goal was to visit NASA and meet a "real space celebrity"!

They certainly were not disappointed as they had an opportunity to meet NASA Ames’ very own Jolen Flores, Ph.D. They all asked for a copy of the June/July 2005 issue of ‘Hispanic Engineer’ magazine so that they could have a copy of Flores’ article about how he was named one of the ‘Top Hispanics in Technology and Business.’ Flores gave students an outstanding presentation on his career at NASA Ames.

We are very fortunate to have a group of docents that volunteer in the AEE who took time out of their summer vacations to join the migrant students visit to the Ames Exploration Encounter. For the first time since its inception, the Ames Exploration Encounter Program was presented in a bilingual/English/Spanish format.

With the support and encouragement of the education division management, Mark Leon and Laura Shawnee, as well as Planners Collaborative volunteer manager Barbara Patterson, operations manager Lorraine Ruiz and assistant manager Lorraine Wentz, 125 Spanish-speaking students were given the opportunity to become NASA’s next generation of scientists, engineers and astronauts. Perhaps someday we will see one or more of them on the cover of Hispanic Engineer magazine.

BY LORRAINE RUZI
Events Calendar

Ames Amateur Radio Club, third Thursday of each month, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BFK, at ext. 4-6262.

Ames Ballroom Dance Club. Classes on Tuesdays. Beginning classes meet at 5:15 p.m., Bldg. 944, the Rec. Center. POC: Helen Hwang at helen.hwang@nasa.gov, ext. 4-1368.

Ames Bowling League, Palo Alto Bowl on Tuesday nights. Seeking full-time bowlers and substitutes. Questions to sign up: Mike Liu at ext. 4-1132.

Ames Child Care Center Board of Directors Mtg, every other Thursday (check Web site for meeting dates: http://accc.arc.nasa.gov), 12 noon to 1:30 p.m., N-210, Rm. 205. POC: Cheryl Quinn, ext 4-5793.

Ames Contractor Council Mtg, first Wednesday each month, 11 a.m., N-200, Comm. Rm. POC: Linda McCahon, ext. 4-1891.

Ames Diabetics (AAD), 1st & 3rd Weds, 12 noon to 1 p.m., at Ames Mega Bites, Sun room. Support group discusses news affecting diabetics. POC: Bob Mohlenhoff, ext. 4-2523/e-mail at: bmohlenhoff@mail.arc.nasa.gov.

Ames Federal Employees Union (AFEU) Mtg, third Wednesday of ea. month, 12 p.m., Bldg. 221, Rm 104. Guests welcome. Info at: http://www.afeu.org. POC: Marianne Mosher, ext. 4-4055.

Ames Mac Support Group Mtg, third Tuesday of ea. month, 11:30 a.m. to 1 p.m., Bldg. N262, Rm 180. POC: Tony ext. 4-0340.

Ames Model Aircraft Club, flying radio-controlled aircraft at the north end of Parsons Ave. on weekend mornings. POC: Mark Sumich, ext. 4-6193.

Ames Sailing Club Mtg, second Thursday of ea. month (Feb through Nov), from 12:00 p.m. -1:00 p.m. in Bldg. N-262, Rm 100. URL: http://sail.arc.nasa.gov/. POC: Becky Hooey, ext. 4-2399.

Environmental Forums scheduled

Discussions of current environmental events at NASA Ames presented by the Environmental Services Office will be held as follows:

**October**
Title: Groundwater Hydrogeology and Remedial Technology Used for Groundwater Clean-up at NASA Ames
Presenter: Don Chuck, restoration specialist, NASA
Date: Oct. 6
Time: 8:30 a.m. - 9:30 a.m.
Location: Building 221, Room 155

**November**
Title: Storm Water Regulations at NASA Ames
Presenter: Christy Ray-Hagenau, environmental compliance specialist, ISSi
Date: Nov. 3
Time: 8:30 a.m. to 9:30 a.m.
Location: Building 221, Room 155

To learn more about any of these presentations, Stacy St. Louis at sstlouis@mail.arc.nasa.gov or ext. 4-6810.

**December**
Title: Vapor Intrusion Study at Ames
Presenter: Tom Anderson, conservation compliance canager, ISSi and Sandy Olliges, deputy director, Office of Safety, Environmental and Mission Assurance, Ames
Date: Dec. 1
Time: 8:30 a.m. to 9:30 a.m.
Location: Building 221, Room 155

Protective Services monthly activity

A statistical summary of activities of the Protective Services Division’s Security/Law Enforcement and Fire Protection Services units for the month of August 2005 is shown below.

### Security/Law Enforcement Activity

<table>
<thead>
<tr>
<th>Month</th>
<th>Incidents</th>
<th>Percent Change</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>70</td>
<td>+20%</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>65</td>
<td>-15%</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>50</td>
<td>+10%</td>
<td></td>
</tr>
</tbody>
</table>

### Fire Protection Activity

- **Aircraft**
- **Structural**
- **Medical**
- **Hazardous Material**
- **Mutual Aid**

Ames emergency announcements

To hear the centerwide status recording, call (650) 604-9999 for information announcements and emergency instructions for Ames employees. You can also listen to 1700 KHz AM radio for the same information.
AMES CLASSIFIEDS

For the next issue should be sent to astrogram@mail.arc.nasa.gov and must be resubmitted for each issue. Ads must involve personal needs or items; no commercial/3rd party ads will run on a space-available basis only. First-time ads are given priority. Ads must include home phone numbers; Ames extensions and e-mail addresses will be accepted for carpool and lost and found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads. Caveat emptor!

HAUSING


MISCELLANEOUS

The Ames Cat Network needs help finding homes for cats trapped at Moffett. They range from feral to abandoned/lost pets. Texted, altered and inculculated. Call Iris at ext. 4-5824 if you or someone you know are interested in fostering or adopting a cat.

Christmas Belles 27th Annual Holiday Boutique: 10/19 - 10/22. Address: 530 Pamilar Avenue, San Jose, CA 95128. 10/19 open from 12 noon to 8 pm; 10/20 & 21 open from 10 am to 6 pm; and 10/22 open from 9 am to 5 pm. Treat yourself to originality with your gifts and decorations this year! For 27 years, the Christmas Belles Boutique brings together Bay Area artists offering handcrafted gifts and decorations for Christmas, Thanksgiving, Halloween and many other holidays. With every purchase of $25 or more, spin a prize wheel for discounts or other prizes. Contact person: Karen Davis.

Phone Number: 408-287-9256

Sears 12" radial arm table saw. Variety of blades available. Best offer. Call (408) 732-4587.

GE 31" color TV. $45. Call (408) 295-2160.

Kenwood home theater A/V receiver, Dolby Digital 5.1, 100 [w/ch]. $75. Call (408) 295-2160.

Kenwood home theater A/V receiver, Dolby Digital 5.1; 100 tvch. $75. Call (408) 295-2160.

Sears 12" radial arm table saw. Variety of blades available. B/O. Call (408) 732-4587.

Changing table and crib in exc. condition. Both are real wood with natural/finish. Changing table is a Pali ($100), and crib is a Simmons w/dual slide-down panels ($150). See in person. Call (408) 295-2160.

SAFETY DATA

NASA Ames Occupational Illness-Injury Data for Calendar Year-to-Date 2005

<table>
<thead>
<tr>
<th>Jan. 1, 2005 – Aug. 31, 2005</th>
<th>Civil Contractors Servants</th>
</tr>
</thead>
<tbody>
<tr>
<td>First aid cases</td>
<td>22</td>
</tr>
<tr>
<td>Lost-time cases</td>
<td>0</td>
</tr>
<tr>
<td>Recordable cases</td>
<td>3</td>
</tr>
<tr>
<td>Lost workdays</td>
<td>0</td>
</tr>
<tr>
<td>Restricted duty days</td>
<td>0</td>
</tr>
</tbody>
</table>

Above data is as of 9/14/05. May be subject to slight adjustment in the event of a new case or new information regarding an existing case.

ASTROGRAM

Astrogram September 2005

Submit articles and photographs to astrogram@mail.arc.nasa.gov no later than the 10th of each month. If this falls on the weekend or holiday, then the following business day becomes the deadline. If you want a photographer to cover an event you’re sponsoring, it’s very important that you submit a service request to the Video and Photographic Services Group at least 5 days in advance of the activity. Every effort will be made to accommodate your request whenever it’s submitted, but please understand that photographers may not be available for last-minute requests, so be sure to plan ahead! For Astrogram questions, contact Astrid Terlep at the aforementioned e-mail address or ext. 4-3147. For information about photography or video services, contact Ed Schilling at e-mail Edward.M.Schilling@nasa.gov or ext. 4-1307.
FOIA helps shed light on government openness

James Madison once argued that openness in government will assist citizens in making informed choices necessary to a democracy. The Freedom of Information Act, or FOIA, is a unique way to keep citizens informed about their government.

FOIA was passed by Congress in 1966 so citizens can have access to government records. Any member of the public may obtain these records maintained and controlled by the executive branch agencies.

A FOIA request can be made by any person, for any reason whatsoever, they do not have to explain or justify their requests. Requests have to be made in writing through mail, fax, electronically or hand delivered.

By law, an initial determination must be made on a FOIA request within 20 working days. If an extension is needed, the FOIA officer and requester determine an agreed amount of time for the extension. Fees are based on categories of requesters. Fees can be charged for search, review and reproduction.

It is the policy of NASA to make records available to the public to the greatest extent possible, in keeping with the spirit of the FOIA, while at the same time protecting sensitive information that may be withheld, pursuant to one of the FOIA exemptions:

- Exemption 1: National Defense- Classified
- Exemption 2: Internal Rules and Practices
- Exemption 3: Exempted by another Law
- Exemption 4: Commercial and Trade Secrets
- Exemption 5: Inter and Intra Agency Privileged Documents
- Exemption 6: Personal Privacy
- Exemption 7: Law Enforcement Records
- Exemption 8: Financial Institutions
- Exemption 9: Geological and Geophysical

NASA’s FOIA policy and procedures are publicly published in the Code of Federal Regulations, 14 CFR 1206. We rely on the custodians of our NASA records, the ‘subject matter experts’ to locate and conduct thorough searches of records under their direct control, make copies of the responsive record, and submit to the FOIA Office in a timely manner to meet the 20 working day deadline for our initial determination. Since our initial determination may be appealed to NASA Headquarters and thereafter to a United States District Court if we do not provide all the records that the requester was seeking, or if we do not provide the initial determination itself in a timely manner, managers asked to provide records for review by the FOIA Office should regard that task as a priority.

By Kelly Garcia