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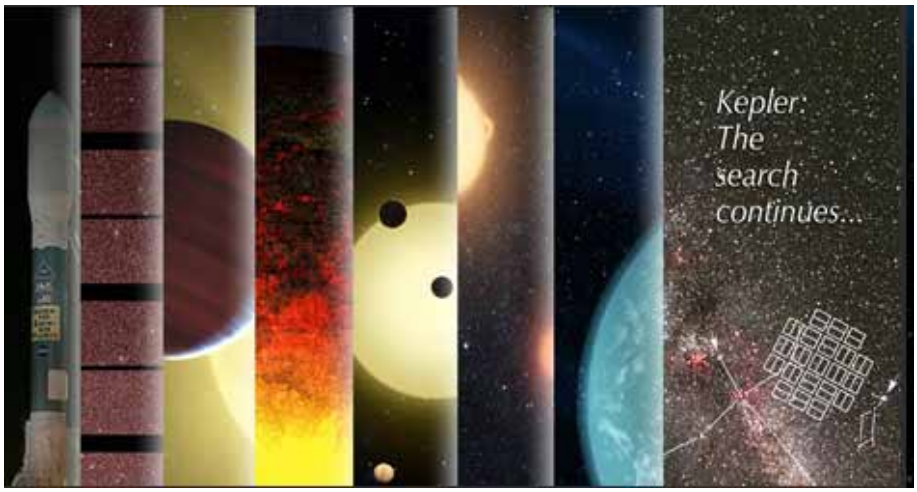
Kepler's planet-hunting mission extended four more years

BY MICHELE JOHNSON

NASA is marking two milestones in the search for planets like Earth: the successful completion of the Kepler space telescope's 3 and 1/2- year prime mission and the beginning of an extended mission that could last as long as four years.

Scientists have used Kepler data to identify more than 2,300 planet candidates and confirm more than 100 planets. Kepler is teaching us the galaxy is teeming with planetary systems and that planets are prolific. It is also giving us hints that nature makes small planets efficiently.

So far, hundreds of Earth-sized planet candidates have been found, as well as candidates that orbit in the habitable zone, the region in a planetary system where liquid water, however might exist on the surface of a planet. However, none of the candidates detected to date is exactly like Earth. With the completion of the



prime mission, Kepler now has collected enough data to begin finding true sun-Earth analogs -- Earth-sized planets with a one-year orbit around stars similar to the sun.

"The initial discoveries of the Kepler mission indicate at least a third of the stars have planets and the number of planets in our galaxy must number in the billions," said William Borucki, Kepler principal investigator at Ames. "The planets of greatest interest are

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PhoneSat wins Popular Science's 'Best of What's New' award

BY RACHEL HOOVER

NASA's PhoneSat project has won Popular Science's 2012 'Best of What's New' award for innovation in aerospace. PhoneSat will demonstrate the ability to launch one of the lowest-cost, easiest-to-build satellites ever flown in space -- capabilities enabled by using off-the-shelf consumer smartphones.

NASA photo

NASA's PhoneSat project has been recognized by Popular Science magazine for innovation in aerospace.

Each year, Popular Science reviews thousands of new products and innovations, and chooses the top 100 winners across 12 categories for its annual 'Best of What's New' issue. To win, a product or technology must represent a significant step forward in its category. All of the winners will be featured in the December special issue of the magazine.

"NASA's PhoneSat mission will demonstrate that use of small satellites for space commerce, educational activities and citizen-exploration are well within the reach of ordinary Americans because of lower cost, commercially available components," said Michael Gazarik, director of NASA's Space Technology Program at NASA Headquarters in Washington. "Thanks to America's continuing investment in space technology to enable NASA missions, we've seen space tech brought down and into our lives here on Earth. With PhoneSat, we're doubling up, and taking those same great

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Space Shuttle Endeavour salutes Ames with first-ever flyover

On the morning of Friday, Sept. 21, 2012, space shuttle Endeavour visited northern California with a low-level fly-over of NASA Ames before flying on to Los Angeles to be permanently installed at the California Science Center. Shown are photos taken as the shuttle flew over Ames. An estimated 10,000 people showed up to witness the once-in-a-lifetime experience.

NASA photo by Jon Pierre Weins

NASA photo by Dominic Hart

NASA photo by Jon Pierre Weins

Ames' IT Security Innovation Lab Team wins 2012 U.S. National Cybersecurity Innovation Award

BY PENNY HUBBARD

Ames' Information Technology Security Innovation Lab Team recently won the 2012 U.S. National Cyber-security Innovation Award. The team developed and implemented a tool which identifies, monitors and raises visibility to IT-security vulnerabilities, at a very low cost, across multiple NASA centers.

Team members Matt Linton, IT Security Operations lead, and Chris and Matt Antoun, web developers, developed, tested and launched the tool both quickly and efficiently.

They modified Ames' vulnerability-detection program to bring responsibility directly to system administrators and technical staff. By normalizing and tabulating Common Vulnerability Scoring System scores for each host and cross-referencing hosts to our asset inventory, the center produces a "scoreboard" showing which hosts are security "heroes" and which are security problems.

The scores are further modified by constantly scanning the center from a truly-external server and adjusting scores upward when vulnerable hosts have services exposed beyond agency firewalls.

This win would not have been possible without an agency-wide team effort, including Jon Davis at Goddard Space Flight Center, Howard Whyte at NASA Headquarters and many Ames systems administrators and IT Security personnel who tested and provided input on the tool.

Visit the NASA Ames 'News and Events' site to view the full details of the innovation award:

http://www.nasa.gov/centers/ames/news/releases/2012/rel_cybersecurity-innovation-award.html

Outstanding employees recognized with Ames Honor Awards

This year's Ames Honor Award recipients were recognized at an Oct. 16, 2012 ceremony in the Syvertson Auditorium (N201). Many employees attended the event and offered rousing applause and congratulations at the reception that immediately followed.

Thanks to every employee who submitted a nomination this year and congratulations to these deserving employees.

A list of those honored follows:

Administrative Assistant Support/Secretary:
Erlinda Fox

Administrative Professional:
Cynthia Carbon-Norman
Ronnee R. Gonzalez

Commercialization/Technology Transfer Award:
Andrew B. Watson

Diversity and Opportunity:
Rose M. King
Leland S. Stone

Contractor Employee:
Girish H. Chachad, Science Application Intl. Corporation
Liang Chen, University of California Santa Cruz
Yung-Cheng Chu, Aerospace Computing, Inc.
Angela M. Detweiler, Bay Area Environmental Research Institute
Theodore J. Garbeff, Aerospace Computing, Inc.
Jin-Woo Han, Universities Space Research Association
Matthew J. Holtrust, Deltha-Critique
Darlene Lim, SETI Institute
John J. Rasmussen, Lockheed Martin Space OPNS
Jeffrey C. Smith, SETI Institute
Gregory T. Swanson, ERC Inc.

Education and Outreach:
Jonas Dino
Dora M. Herrera

Engineer:
Aisha R. Bowe
Neal M. Chaderjian
Nhan T. Nguyen

Group/Team:
Ames Technology Transfer and Commercial Space Team
Bldg. 200/Center Technical Support Team
Fruit Flies in Space Team
Kepler Science Conference Local Committee
Office of the Center Director Executive Team
Pleiades Sandy Bridge Integration Team
President of the United States Visit to NASA ARC Team
REDS Team
SOFIA @ Ames Team
SOFIA Science Quality Assurance Team
SOFIA Science Software Development Team
Spot and Runway Departure Advisor Simulation Team
Sustainability Base, Design to Occupied Operations Team
System F6 Procurement Team

Mentor:
Michael J. Aftosmis
Brad M. Bebout
William G. Warmbrodt
Gregory G. Zilliac

Project Management:
Parimal H. Kopardekar

Scientist or Researcher:
Jack J. Lissauer
Special Appreciation
John A. Cavolowsky, Headquarters

Student:
David D. Murakami
Lubna M. Shirazi

Supervisor/Manager:
Daniel M. Bufton
David R. Morse
Diane P. Selby

Technical Support/Professional:
Diane Alexander

Technician:
David S. Andrews

Making Ames a safer place to work

NASA photo by Dominic Hart

Protective Services Lt. Gina Garibaldi (left) and Ames Union Safety Rep. Andy Hocker discuss traffic safety improvements at Bush Circle.

Silicon Valley Jewish Film Festival honors STS-107 mission crew

BY MICHAEL MEWHINNEY

A capacity crowd of more than 350 people turned out on Oct. 20, 2012 for the opening night of the Silicon Valley Jewish Film Festival (www.svjff.org) to honor fallen Israeli astronaut Ilan Ramon and his fellow crew members of STS-107 space shuttle Columbia. The event marked nearly 10 years since the loss of the shuttle and its crew on Feb. 1, 2003.

Highlighting the evening was the screening of a documentary, 'An Article of Hope' focusing on Ramon, a colonel in the Israeli Air Force and the first astronaut from Israel, who served as Payload Specialist 1 on the mission.

Shown addressing the crowd during a question and answer session are (from left) Jacob Cohen, chief scientist at NASA Ames; Rona Ramon, widow of Ilan Ramon; Garrett Reisman, former astronaut; and Dan Cohen, director of 'An Article of Hope,' a documentary screened that night that traces the life of Ilan Ramon and the ill-fated STS-107 mission.

Directed by Dan Cohen, a six-time Emmy award winner who worked for seven years to make the film, the documentary traces the life of Ilan Ramon and the ill-fated STS-107 mission. The film also portrays the horrors of the NAZI concentration camps during the era of the Holocaust in World War II when Ramon's parents were imprisoned in the camps.

The film provides background on Ramon's decision to bring religious items rescued from World War II with him on the STS-107 mission. Ultimately, though, despite the tragic stories of both the shuttle and the Holocaust, the film carries an uplifting message of hope and inspiration for the future.

"This film is a shining example of hope for a better day," Dan Cohen told the audience. Ramon's widow, Rona, who flew in from Israel for the event, said that of all the stories about her husband, "this was the story he wanted told."

The film's director announced that the 54-minute documentary will be shown on national television in January at 6 p.m. EST on PBS Jan. 31, 2013, the eve of the 10th anniversary of the loss of space shuttle Columbia and its crew.

The Saturday evening event held at the Oshman Family Jewish Community Center in Palo Alto, Calif., also featured a presentation of commemorative plaques from NASA Ames Research Center to three of the families of Columbia's seven-member crew.

Plaques were presented on behalf of Ames Center Director S. Pete Worden by Jacob Cohen, chief scientist at NASA Ames, to the families of Ilan Ramon; Kalpana Chawla, Mission Specialist 2; and William McCool, pilot for the STS-107 mission. The plaques commended the fallen astronauts for their "dedication to NASA and the international space community."

In presenting the commemorative plaques, Jacob Cohen said he was proud to represent NASA Ames and Director Pete Worden at the event and lauded the film for contributing "an important part of the legacy" of Ilan Ramon.

"It inspires hope and encourages the next generation of students to go into science, technology, education and mathematics," Cohen said.

Rona Ramon, who has established the Ramon Foundation (see: http://www.ramonfoundation.org.il/en/) to continue the inspirational work begun by her late husband, received a standing ovation from the crowd. She also stressed the importance of inspiring the younger generation and urged support for the foundation.

"I encourage you to help us to help the younger generation achieve their dreams. The young generation is our future," she said.

Also in attendance was Garrett Reisman, who first met Ilan Ramon shortly after being selected to be an astronaut in 1998. They soon became close friends.

NASA photos by Eric James

Commemorative plaques were presented on behalf of Ames Center Director S. Pete Worden by Jacob Cohen, chief scientist at NASA Ames, to the families of Ilan Ramon; Kalpana Chawla, Mission Specialist 2; and William McCool, pilot for the STS-107 mission. The plaques commended the fallen astronauts for their "dedication to NASA and the international space community." Receiving plaques were (from left) Jean Pierre Harrison, husband of Kalpana Chawla; Rona Ramon, widow of Ilan Ramon; and Lani McCool, widow of William McCool.

Reisman, who now works at SpaceX as a program manager for commercial crew, said it is important to continue to work on behalf of Ilan Ramon through the foundation established by his wife, Rona Ramon.

"Since Ilan can't continue on his mission, it falls on the shoulders of many people to carry on his mission," Reisman observed.

Reisman, a Jewish astronaut who has flown on two missions to the International Space Station, said although the film does begin with the tragic loss of space shuttle Columbia and its crew, the film's take-away message is inspirational.

"Although this film does show the tragedy of Columbia, in reality this is a story of hope, and what Ilan Ramon represented," Reisman said. "It's a wonderful, uplifting story."

While a small Torah, the Jewish bible rescued from the Holocaust and carried by Ramon on board STS-107, was never recovered after the tragic loss of Columbia, a second Torah did fly in space on STS-115 space shuttle Atlantis. Canadian astronaut Steve MacLean brought it to space in Ramon's name when Atlantis launched Sept. 9, 2006 on a mission to the International Space Station.

Kepler's planet-hunting mission extended four more years

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other Earths and these could already be in the data awaiting analysis. Kepler's most exciting results are yet to come."

NASA's Kepler space telescope searches for planet candidates orbiting distant suns, or exoplanets, by continuously measuring the brightness of more than 150,000 stars. When a planet candidate passes, or transits, in front of the star from the spacecraft's vantage point, light from the star is blocked. Different-sized planets block different amounts of starlight. The amount of starlight blocked by a planet reveals its size relative to its star.

Kepler was launched March 6, 2009. Its mission is to survey a portion of the galaxy to determine what fraction of stars might harbor potentially habitable, Earth-sized planets. Planets orbiting in or near habitable zones are of particular interest.

Kepler began the search for small worlds like our own after two months of commissioning. Within months, five exoplanets, known as hot Jupiters because of their enormous size and orbits close to their stars, were confirmed.

Results from Kepler data continue to expand our understanding of planets and planetary systems. Highlights from the prime mission include:

-- In August 2010, scientists confirmed the discovery of the first planetary system with more than one planet transiting the same star. The Kepler-9 system opened the door to measurement of gravitational interactions between planets as observed by the variations in their transit timing. This powerful new technique enables astronomers, in many cases, to calculate the mass of planets directly from Kepler data, without the need for follow-up observations from the ground.

-- In January 2011, the Kepler team announced the discovery of the first unquestionably rocky planet outside the solar system. Kepler-10b, measuring 1.4 times the size of Earth, is the smallest confirmed planet with both a radius and mass measurement. Kepler has continued to uncover smaller and smaller planets, some almost as small as Mars, which tells us that small rocky worlds may be common in the galaxy.

-- In February 2011, scientists announced Kepler had found a very crowded and compact planetary system – a star with multiple transiting planets. Kepler-11 has six planets larger than Earth, all orbiting closer to their star than Venus orbits our sun. This and other subsequently identified, compact, multi-planet systems have orbital spacing relative to their host sun and neighboring planets unlike anything envisioned prior to the mission.

NASA photo by Dominic Hart

On Nov. 14, 2012, NASA's Kepler Mission celebrated the successful completion of its three-and-a-half-year prime mission and the beginning of its extended mission at the Ames Exploration Center. Following a brief program, a ribbon-cutting ceremony was held for the new Kepler exhibit. Above is a group photo of Planet Trek, the Kepler Mission's early team members who continue to seek out strange new worlds. From left to right: John Jenkins, Laura McArthur-Hines, Douglas Caldwell, Bill Borucki, Charlie Sobeck, Natalie Batalha and Mark Messersmith during the recent celebration.

-- In September 2011, Kepler data confirmed the existence of a world with a double sunset like the one famously portrayed in the film "Star Wars" more than 35 years ago. The discovery of Kepler-16b turned science fiction into science fact. Since then, the discoveries of six additional worlds orbiting double stars further demonstrated planets can form and persist in the environs of a double-star system.

-- In December 2011, NASA announced Kepler's discovery of the mission's first planet in a habitable zone. Kepler-22b, about 2.4 times the size of Earth, is the smallest-radius planet yet found to orbit a sun-like star in the habitable zone. This discovery confirmed that we are getting continually closer to finding planets like our own.

-- In February 2012, the Kepler team announced more than 1,000 new transiting planet candidates for a cumulative total of 2,321. The data continues the trend toward identifying smaller planets at longer orbital periods, similar to Earth. The results include hundreds of planetary systems.

-- Recently, citizen scientists participating in Planet Hunters, a program led by Yale University that enlists the public to comb through Kepler data for signs of transiting planets, made their first planet discovery. The joint effort of amateur astronomers and scientists led to the first reported case of a planet orbiting a double star. The three bodies in turn are being orbited by a second distant pair of stars.

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NASA women researchers discuss career development

by Ruth Dasso Marlaire

Four accomplished women from Ames agreed to participate in a panel discussion on Oct 4, 2012, at Presentation High School, San Jose. There, they talked to approximately 50 girls about their science, technology, engineering and mathematics (STEM) career paths, including their career choices, experiences and, yes, even their failures.

NASA researchers included Pamela Marcum, project scientist and astronomer for the Stratospheric Observatory for Infrared Astronomy (SOFIA); Jennifer Heldmann, astronomer and planetary scientist for the Lunar Crater Observation and Sensing Satellite (LCROSS); Misty Davies, a research computer engineer and Huy Tran, Ames' deputy director of aeronautics.

The NASA speakers and their hosts. The seated speakers from left to right are: Misty Davies, Huy Tran, Pamela Marcum and Jennifer Heldmann.

Q: All of you have impressive NASA jobs and STEM careers. Was your career path a straight shot to the top?

PM: I'll be the first to jump in. My career path meandered. Most people don't have a linear career path that takes them from point A to B. Trial and experiment factor along the way; you don't know what something is like until you do it. It's time to make a move, when you get too comfortable. Step outside your comfort zone. College is important, because it helps you understand yourself.

JH: When I was in graduate school, I took every opportunity to take internships. I worked at other colleges in the summer, and I went to the NASA Space Camp in Huntsville, AL. I tried to do a bunch of different things. Seek out opportunities to try different things; try different experiences to sort out what's important to you.

MD: I worked at a number of different jobs before I became a serious student in college. I moved to Flagstaff, AZ., and worked at the Grand Canyon National Park. I pumped gas at the Grand Canyon, and had a variety of menial jobs. One day, I was working on my old Volkswagen, and someone told me I was a mechanical engineer. When I went back to college, I studied mechanical engineering.

When I was considering doctorate programs, I applied to Stanford University for a one-year fellowship. I was surprised when I received it. During this time, I also worked at Ames, doing computational fluid dynamics. I became a computer research developer, but I fell into the profession. It wasn't planned on my part.

HT: I grew up in Vietnam. I knew at eight years old that I wanted to be an engineer. A chemistry teacher helped me pursue my dreams. When I was in college, I applied for an internship at Ames, and continued to work there after I graduated. I worked in the thermal protection system group as a test engineer, where I later was the technical lead for the invention of a new heat shield material, called Phenolic Impregnated Carbon Ablator. It later won 'NASA's Innovation of the Year' award.

Q: High school seniors interested in a STEM career may want to go into industry. How do careers in industry compare to those in academia?

JH: It depends upon what you want to do. As a NASA research scientist, I get to craft my own research projects. In industry, you work on their projects. At NASA, we have peer-reviewed publications to transfer knowledge to the public. Because NASA's projects are government-funded, we have to publish our findings.

MD: Industry will not give you the publications that are needed in an academic career. In industry, you make a product. Without publications, you won't have the resume for a career in academia. Don't worry about publishing a paper; if you go to graduate school, you will learn to write papers.

HT: Love what you do. It is hard to go to work every day if you don't like what you are doing.

Q: What is the coolest thing about your job? What is the most difficult thing?

JH: Part of my job is going to conferences around the world to talk about a paper I've written. It's so cool to be able to go to so many places in the world.

PM: To get your research funded, you have to receive grant money. The process is competitive and you have to be able to write a compelling proposal. This type of writing is a skill. You have to be at the top of your game to write a competitive proposal to support a research project; the majority of proposals do not get awarded, meaning funded.

Q: We are told failure is an important part of growth. Can we hear about your failures? How have they helped you?

MD: I dropped out of college; I wasn't focused, so I worked for a while. When I went back to school, I was studying pretty hard, but I knew I was going to fail one of my first physics exams. I was really trying,

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International Space Orchestra performs at Ames

The International Space Orchestra recently performed in front of the National Full-Scale Aerodynamics Complex at Ames. The world's first "space orchestra" is comprised entirely of Ames scientists, engineers, administrative professionals and other members of the Ames community helping bring the excitement of space exploration to music. Also performing in the orchestra are employees from Singularity University, the International Space University and the SETI Institute. The International Space Orchestra is founded and directed by Nelly Ben Hayoun. As part of Ames' educational outreach activities, the International Space Orchestra merges science, technology, engineering and mathematics (STEM) with the universal language of music and the arts, while opening new doors for the science community to communicate with the public.

NASA photo by Dominic Hart

World's largest passenger airship ceases operations

Airship Ventures, operators of the world's largest passenger airship, the Zeppelin Eureka have ceased operations at Moffett Field.

Blending the romance of the "golden age of aviation" with the latest in high technology, Airship Ventures was founded in 2007. Passenger flights began in 2008 in the Bay Area (Silicon Valley, Oakland and San Francisco) and Long Beach and most recently expanded to the California wine country. In addition to passenger flights and advertising, the Eureka had performed a wide variety of special missions for government, science and research groups, including recent expansion into airship design, research and development.

"Although we are disappointed to learn of the departure of Airship Ventures from Moffett Field, we respect their decision to cease operations," said Ames Center Director S. Pete Worden. "They have been a valued partner with us and we wish their entire team well in their future."

Kepler's planet-hunting mission extended four more years

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"Kepler's bounty of new planet discoveries, many quite different from anything found previously, will continue to astound," said Jack Lissauer, planetary scientist at Ames. "But to me, the most wonderful discovery of the mission has not been individual planets, but the systems of two, three, even six planets crowded close to their stars, and, like the planets orbiting about our sun, moving in nearly the same plane. Like people, planets interact with their neighbors and can be greatly affected by them. What are the neighborhoods of Earth-size exoplanets like? This is the question I most hope Kepler will answer in the years to come."

In April 2012, NASA awarded Kepler an extended mission through as late as 2016. More time will enable the continued search for worlds like our own -- worlds that are not too far and too close to their sun.

"The Earth isn't unique, nor the center of the universe," said Geoff Marcy, professor of astronomy at the University of California at Berkeley. "The diversity of other worlds is greater than depicted in all the science fiction novels and movies. Aristotle would be proud of us for answering some of the most profound philosophical questions about our place in the universe."

Ames manages Kepler's ground system development, mission operations and science data analysis. NASA's Jet Propulsion Laboratory in Pasadena, Calif., managed the Kepler mission development. Ball Aerospace & Technologies Corp. in Boulder, Colo., developed the Kepler flight system and supports mission operations with the Laboratory for Atmospheric and Space Physics at the University of Colorado in Boulder. The Space Telescope Science Institute in Baltimore archives, hosts and distributes Kepler science data. Kepler is NASA's 10th Discovery Mission and funded by NASA's Science Mission Directorate at the agency's headquarters in Washington.

For more information about NASA's Kepler mission, visit:
http://www.nasa.gov/kepler

NASA women researchers discuss career development

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but I knew I was going to fail. I was crying when I told my mom this, and she said, "This is what you are going to do in life." I said, “Mom, I'm failing.” She told me “yes, but this is the first time you care about what you are doing.” You don't get to be good without messing up. Graduate school is where you'll get thick skin. It takes a long time to get to creativity in engineering. Eleanor Roosevelt once said, "No one can make you feel inferior without your consent."

JH: Don't let others tell you what you can, or can't do. Remember, a majority of grants don't get funded. A degree of failure is part of the research process.

PM: As a recent high school graduate, I thought that memorization is how you passed a test. When I went to graduate school, I failed my first chemistry exam. I learned that science is about application. It isn't enough that you learn constants, you have to know how to apply them, and understand their assumptions. Nevertheless, always have a Plan B. Don't stay isolated. I groomed a connection with a research professor who later asked me to work for him.

NASA photos by Dominic Hart

Deepika Bodapati, a senior at Presentation High School, San Jose, organized a roundtable discussion recently between NASA Ames' female researchers and her colleagues at school.

HT: Girls don't have as many visible role models as boys do. Look at the Wright brothers. How many boys were inspired to fly by what they did? Girls don't have similar role models in STEM fields yet. I am hoping you can be the next Wright brothers.

PM: The support system you make for yourself is really important. Will you marry a person who will watch your children while you stay up to 3 a.m. to finish a publication? Traditionally, men receive greater support from their spouses and families, than women do. Your family and friends are important to your success.

PhoneSat wins Popular Science's 'Best of What's New' award

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technologies back to space."

NASA's PhoneSat 1.0 satellite has a basic mission goal -- to function in space for a short period of time, sending back digital imagery of Earth and space via its camera, while also sending back information about the satellite's health.

NASA engineers kept the total cost of the components to build each of the three prototype satellites in the PhoneSat project to $3,500 by using only commercial, off-the-shelf hardware and establishing minimum design and mission objectives for the first flight.

Each NASA PhoneSat 'nanosatellite' is a 4-inch cube and weighs three pounds. NASA's PhoneSat design makes extensive use of an unmodified, consumer-grade smartphone. Out-of-the-box smartphones offer capabilities needed for satellites, including fast processors, versatile operating systems, multiple miniature sensors, high-resolution cameras, GPS receivers, and several radios.

"NASA PhoneSat engineers are changing the way missions are designed by rapidly prototyping and incorporating existing commercial technologies and hardware," said S. Pete Worden, center director at NASA Ames, where a small team of engineers developed and built PhoneSat. "This approach allows engineers to see what capabilities commercial technologies can provide, rather than trying to custom design technology solutions to meet set requirements."

NASA's prototype smartphone satellite, known as PhoneSat 1.0, is built around the Nexus One smartphone made by HTC Corp., which runs Google's Android operating system. The Nexus One acts as the spacecraft's onboard computer. Commercial-off-the-shelf parts include an open-source, microcontroller adapted as a watchdog circuit that monitors the systems and reboots the phone if it stops sending radio signals.

NASA's PhoneSat 2.0 will lay the foundation for new capabilities for small-sized satellites, while advancing breakthrough technologies and decreasing costs of future small spacecraft. PhoneSat 2.0 will be equipped with an updated Nexus S smartphone made by Samsung Electronics which runs Google's Android operating system to provide a faster core processor, avionics and gyroscopes.

PhoneSat 2.0 will supplement the capabilities of PhoneSat 1.0 by adding solar panels to enable longer-duration missions and a GPS receiver. In addition, PhoneSat 2.0 also will add magnetorquer coils -- electro-magnets that interact with Earth's magnetic field -- as well as reaction wheels to actively control the satellite's orientation in space.

A beta version of PhoneSat 2.0 will accompany two PhoneSat 1.0 spacecraft aboard the maiden flight of Orbital Sciences Corporation's Antares rocket from NASA's Wallops Flight Facility at Wallops Island, Va., in the coming months.

The PhoneSat project is a technology demonstration mission funded by NASA's Small Spacecraft Technology Program, which is managed by NASA's Space Technology Program. NASA's Space Technology Program is innovating, developing, testing, and flying technology for use in NASA's future missions and by the greater aerospace community.

For more information about PhoneSat, visit:

http://go.nasa.gov/ZoNxpg

Ames Exchange hosts annual Halloween Costume contest

On Oct. 31, 2012, the Ames Exchange hosted its annual Halloween costume contest. Many employees dressed up in impressive, imaginative costumes. In addition, there was a pumpkin-carving contest and the Exchange provided "ghouly" cookies as a treat.

NASA photos by Eric James

Hundreds attend Ames Fall Festival and Family Night events

NASA photos by Eric James

Ames employees and their families enjoyed the NASA Ames Fall Festival and Ames Family night on Oct. 30, 2012. Chris McKay spoke about the Mars Curiosity and Mars Science Laboratory missions and astronaut Yvonne Cagle (above) spoke and autographed pictures. There were games and raffles with prizes. Other event attractions included a Pumpkin Patch, Angry Birds in Space Place, Dino Digs, a Looney Laboratory, a Castle Treasure Room and a dungeon, graveyard, crypt and morgue.

Sixteenth annual chili cookoff draws hungry crowds

NASA photos by Eric James

The 16th Annual Chili Cook-Off/Car and Cycle Show was held at Ames on Oct. 4, 2012, with this year's event entitled: "Around the World." Sixteen teams participated, including teams from the Ames Exchange. Along with the chili tasting, hot dogs and hamburgers were served, as well as Dippin Dots and cookies for dessert.

Contractor Council hosts ninth annual golf tournament

BY KATHLEEN STARMER

The Ames Contractor Council (ACC) hosted its ninth annual fund-raising golf tournament recently at the Moffett Field golf course. The ACC is a 501(c)(4) nonprofit organization, and proceeds from this annual event support both the Ames community and various educational outreach programs.

This year's Golf Tournament Planning Committee was chaired by Chris Buchanan (CSC) and co-chaired by Steve Perry (Tessada). Staffing was provided by numerous volunteers from the Ames contractor community, including Kimberly Salazar (SGT), Yvonne Desilva (CSC) , Tim Steiger (Jacobs Technology) and Nick Bonifas (CSC). Steve Perry also served as the event DJ, both during pre-play announcements and at the post-tournament BBQ and dance held at Tee Minus One.

A record 100 players participated in the best-ball tournament and numerous companies served as event sponsors, including AECOM, All Points Logistics, ASRC, Inc., Bay Systems, Dell, Intrinsyx Technologies, Jacobs Technology, Lockheed Martin, Neto Sausage Company, SekTek, SGT and Venezia Construction.

Trophies were sponsored by the International Association of Machinist and Aerospace Workers. The first place award for best net team score went to Tim Blanchard, Arthur Gonzalez, Bob Skellen and Bill Wong.

In addition to the tournament, the event featured prizes for longest drive and closest-to-the-pin contests, as well as a large array of raffle items.

Deputy Center Director Lewis Braxton (left) and ACC Golf Committee chair Chris Buchanan prepare to tee off.

ACC President Herb Finger decreed the 2012 golf tournament a great success and said the event raised significant revenue for the ACC's upcoming philanthropic activities.

For more information about the Council and its mission, visit: www.amescontractorcouncil.org.

Ombuds Office services available to Ames personnel

BY JACK BOYD

The Ames Ombuds Office provides all civil servants, contractors and students at the center with a supplemental, confidential and informal channel of communication to raise significant issues and concerns that they perceive could impact safety, organizational performance or mission success.

The Ombuds is accountable for conducting informal inquiries, raising issues of concern to appropriate officials, and redirecting matters not under the Ombuds' realm to the appropriate office or organization with an existing administrative system. This includes the Inspector General, the Office of Equal Opportunity and Diversity, Ames Federal Employees Union, Procurement Ombuds, Chief Counsel and Human Resources.

The Ombuds' power rests on their reputation for confidentiality, fairness, objectivity, tact and respectful concern for the welfare of all individuals of the NASA community and for the well-being of the agency.

Ames Ombuds Jack Boyd

Ames Alternate Ombuds Jim Arnold

John Boyd continues to serve as Ames Ombuds. Jim Arnold serves as the alternate Ames Ombuds.

The Ombuds office is located in Building 200, Room 205, Mail Stop 200-1A. Boyd can be reached at ext. 4-5222 or at john.w.boyd@nasa.gov and Arnold can be reached at ext. 4-5265 or at james.o.arnold@nasa.gov .

The Ombuds website is:
http://insideames.arc.nasa.gov/life-ombudsoffice.php

American Helicopter Society honoree delivers Nikolsky lectureship

BY LESLYE MOGFORD

On Oct. 15, 2012, rotorcraft researchers gathered in the Space Sciences and Astrobiology Auditorium to hear this year's American Helicopter Society (AHS) Alexander A. Nikolsky Lectureship winner, University of Liverpool Professor Gareth Padfield.

This prestigious lectureship is awarded to, "an individual who has had a highly distinguished career in vertical flight aircraft research and development and is skilled at communicating their technical knowledge and experience." In winning the award, Padfield joins the ranks of many previous, distinguished Nikolsky Lectureship recipients, including Professor Alfred Gessow, Bartram Kelley, Robert Huston, Bruno Lovera, Professor Barnes McCormick, Jr., Dr. Wayne Johnson and Bill Bousman. His appearance at Ames was part of the center's Aeronautics Technical Seminar series.

During the course of the year, Padfield will tour the United States speaking to audiences that include industry, academia, and government agencies; and the NASA Ames, Glenn, and Langley Research Centers. His presentation, "Rotorcraft Handling Qualities Engineering: Managing the Tension between Safety and Performance," is a look back at nearly 70 years of rotorcraft handling qualities research, highlighting particular events that reflect the continual growth of the discipline.

photo by Leslye Mogford

Dr. Gareth Padfield delivering the Alexander A. Nikolsky Lectureship presentation at Ames.

Padfield's presentation told a story that evolved from the idea that handling qualities can be quantified.

"We are at a point where designers have, within their grasp, the performance standards, criteria, and test techniques; the understanding of rotorcraft aeromechanics and control; and the design tools to ensure that handling deficiencies never again have to define the boundary of the operational flight envelope," Padfield said.

The Aeronautics Technical Seminars feature presentations on a monthly basis. This seminar series is designed to enrich the NASA research community by fostering an exchange of information, ideas and concepts between its attendees. This well-attended lecture was followed by a wine and cheese reception sponsored by the local AHS chapter.

Enthusiastic employees turn out for Fall 'Fun Run and Walk'

NASA photos by Dominic Hart

Numerous Ames employees participated in the Ames Fall 'Fun Run and Walk' for breast cancer awareness on Oct. 17, 2012. The weather cooperated offering up a beautiful day for such a rewarding event.

Ames Ongoing Monthly Events Calendar

African American Advisory Group (AAAG) Mtg., last Tuesday of each month, 12 - 1 p.m., Bldg. N255 Rm 101C. POC: Rose King, ext. 4-3442.

Moffett Aikido Club, Monday and Wednesday evenings, 6:30 p.m., Bldg. 944. Aikido is a non-competitive, defensive martial art known as the "Way of Harmony." POC: Diane Pereda (650) 575-9070 or Robert Dean (650) 787-1007, email: mfaikido@aol.com

Ames Amateur Radio Club, third Thurs., of each month, 12 noon, N-T28 (across from N-255). POC: George Tucker, at ext. 4-2200.

Ames Bluegrass Club, every Tuesday from 11:30 a.m. to 1 p.m. in Bldg. 944. Players of all instruments and all levels are welcome, but we are particularly interested in experienced players willing to help improve the group's musical skills. POC: Bob Haberle at ext: 4-5494 or email: robert.m.haberle@nasa.gov

Ames Bocce Ball Club, Ames' newest Exchange-sponsored club is seeking members. POC: Mike Lindsay email: michael.c.lindsay@nasa.gov

Ames Bowling League, Homestead Lanes Thursdays at 6 p.m. Need substitute bowlers. Sign up questions: Steve Howard at ext. 4-4884.

Ames Contractor Council Mtg., first Weds. of ea. month, 11 a.m., Bldg. N-200, Committee Room. POC: Herb Finger at ext. 4-6598.

Ames Federal Employees Union (AFEU) Mtg, third Wednesday each month, noon. Bldg. N-204, Rm. 101. Guests welcome. Check for occoasional schedule changes at: http://www.afeu.org. POC: Paul K. Davis, ext. 4-5916.

Ames Golf Club, Members will have the opportunity to play approximately 13 tournaments per year at a variety of 18-hole golf courses in the Bay and Monterey Area. POC: Barry Sullivan: Barry.T.Sullivan@nasa.gov.

Ames Green Team (formerly the Green Ames Working Group) meetings are held the first Tuesday of each month in N237, Room 101, from 10-11 a.m. For information, call Roger Ashbaugh, Ames Environmental Management Division, ext. 4-5660. http://environmentalmanagement.arc.nasa.gov/reports/eo-13514.html

The Hispanic Advisory Committee for Excellence (HACE) Mtg., first Thursday of each month, 11:30 a.m. - 12:30 p.m., Bldg. N-255, Rm. 101C. POC: Jeanette Zamora, jeanette.zamora-ortega-1@nasa.gov.

Ames Jazz Band Club, Bldg. 944, 5:30 p.m. - 7 p.m., POC: Ralph Bach, email: ralph.e.bach@nasa.gov

Jetstream Toastmasters, Mondays, 12 p.m. - 1 p.m., Bldg. N-269/Rm.179. POC: Tim Steiger, ext. 4-0195, tim.steiger@nasa.gov. Web: http://jetstream.freetoasthost.com

Ames Nimble Knitters Club, every Tuesday at 11:30 a.m., Bldg. N210/Rm 141. POC: Rosalyn Jung, knitfan2@yahoo.com or Diane Alexander at ext. 4-3140. URL: http://knit.arc.nasa.gov

Ames Roller Hockey Club, meets daily from noon to 1 p.m. at rink on north end of the 80-foot-by-120-foot wind tunnel, Playsers should have experience skating and wear protective equipment.

Ames Safety Committee, third Thursday of each month, 10 a.m. - 11 a.m., Bldg. N-237, Rm. 200. POC: John Livacich, jlivacich@mail.arc.nasa.gov, ext. 4-3243.

Women's Influence Network (WIN), first Wednesday of each month, Bldg. 241 room 237, 11:30 - 12:30 p.m., POC: Elena Serna, elena.serna@nasa.gov

Exchange Information

Information about products, services and opportunities provided to the employee and contractor community by the Ames Exchange Council. Visit the web site at: http://exchange.arc.nasa.gov

Beyond Galileo Gift Shop N-235 in the cafeteria , 8 a.m. to 2 p.m., ext. 4-6873

Visitor Center Gift Shop (Exploration Center), Tues-Fri, 10 a.m. to 4 p.m., Sat. - Sun, 12 - 4 p.m., ext. 4--5412

Remember to purchase your baby shower, birthday and holiday gifts at Ames' two gift shops!

Mega Bites Cafeteria N-235, 6 a.m. to 2 p.m., ext. 4-5969/Catering ext. 4-2161

Barcelona Café Bldg. 3, 6:30 a.m. to 2 p.m., ext. 4-4948/Catering ext. 4-4948

See daily menus at: http://exchange.arc.nasa.gov/cafe/menu.html

Moffett Field Golf Club with 'Tee minus one' Grill and Sports Bar. Catering available. Call (650) 603-8026. Extended Happy Hour Thursdays, $5 and $6 pitchers of beer starting at 4 p.m. to 8:30 p.m.

RV Lots available. Call to reserve a space at (650) 603-7100/01.

Civilian/Contractors, $50/mo; military $25/mo

NASA Lodge (N-19) 603-7100

Where to stay when you're too tired to drive home? What about the lodge?! Two types of rooms: Bldg. 19 (43 rooms), rate: $55/night ($5 ea add'l adult); Bldg. 583 (150 rooms), rate: $45/night ($5 ea. add'l adult)

Ames Swim Center (N-109) 603-8025

Closed for repairs, for updates visit: http://amesexchange.arc.nasa.gov/swim/index.html

The pool is heated year round! The pool normallly is available for lap swim, pool parties and special events. POC: Ryan Storms, Pool Manager (650) 603-8025. Memberships: single memberships: $60/yr. Family memberships: $80/yr. After purchasing a membership, there is an entrance fee: daily entrance fee - $3/day or lap pass fee - $50 for 20 uses. Platinum membership - $380/yr. (no daily fee). Special events: include military training, swim team events, kayak role practice, etc. The cost for special events is $75/hr, or $50/hr for military.

Reservations for Chase Park, call ext. 4-4948
Reservations for ARC Park, call ext. 4-5969

Ames Cat Network

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

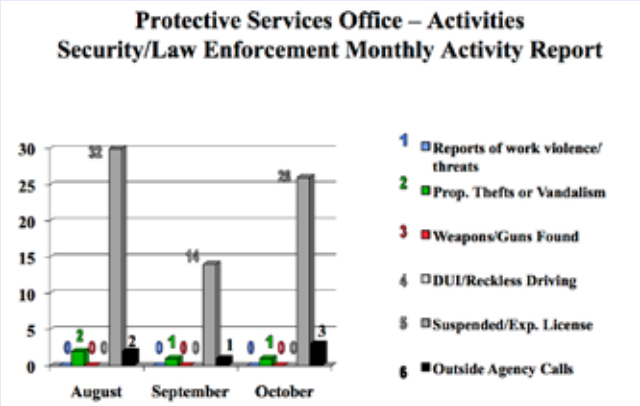
Ames emergency announcements

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.

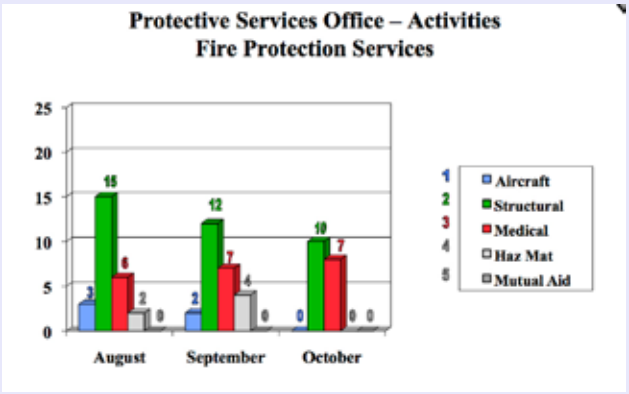
Protective Services monthly activity

A statistical summary of activities of the Protective Service Division's Security/Law Enforcement and Fire Protection Services units for the month of October 2012 is shown below.

Security/Law Enforcement Activity



Fire Protection Activity



NACA retiree Bea Aikman to celebrate 100th birthday

The honor of greeting the many famous visitors to Ames during the years that Smith DeFrance served as director fell to Beatrice Aikman (above), the Ames receptionist in Building N200. Commended for her tact, courtesy, and resourcefulness, Mrs. Aikman turns 100 in January 2013.

ASTROGRAM

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