National Aeronautics and Space Administration

NRP Post

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NASA photo by Dominic Hart

L to R: Ames Center Director S. Pete Worden, U.S. Rep. Mike Honda, Foothill-De Anza Chancellor Martha Kanter, UCSC Chancellor George Blumenthal, U.S. Rep. Zoe Lofgren, Santa Clara University President Michael Engh, SJ , U.S. Rep. Anna Eshoo, Carnegie Mellon University President Jared L. Cohon

NASA, Universities Unveil Plans to Build New Campus at NASA Research Park

by Michael Marlaire, Director, NASA Research Park

On March 13, 2009, the University of California Santa Cruz, (UCSC) and Foothill-De Anza Community College District announced a dynamic new partnership with NASA Ames to establish a sustainable community for education and research at the NASA Research Park (NRP). UCSC and Foothill-De Anza formed University Associates-Silicon Valley LLC (UA), which signed a land lease with NASA in December 2008 for approximately 75 acres in the NRP.

UA leaders, including UCSC Chancellor Blumenthal and Foothill-DeAnza Chancellor Kanter; political leaders, including U.S. Reps. Eshoo, Lofgren and Honda; and Center Director Worden attended on March 13 a 200 VIP event to highlight this agreement. Carl Guardino, President and CEO of the Silicon Valley Leadership Group, was master of ceremonies. Having completed the complicated processes of the long-term lease and the new UA LLC, the leaders' excitement at the event was palpable.

The idea of a unique university collaborative organization at NRP was the brainchild of UCSC's George Blumenthal and Ames' Pete Worden. UCSC had planned a large-scale campus at NRP since the beginning of NRP development. In 2007, these two PhDs in Astrophysics developed the concept that a number of universities could develop into a new organization, a meta-university.

"This announcement marks the launch of an exciting new collaboration that brings together some of the world's leading educators and scientists to create a world-class community for future research and development," said S. Pete Worden, Director of NASA Ames Research Center.

"The goal is to create a prototype for an environmentally sustainable community and contribute to the economic vitality of the region, while providing a unique collaborative environment in which to deliver innovative education and research. Our vision is to seed innovation, entrepreneurship, and sustainability through the creative reuse of an important public asset for regional benefit . We aim to establish world-class programs and facilities dedicated to preparing the workforce of the future and to conducting research at the forefront of science and technology," said UCSC Chancellor George Blumenthal.

"Being part of this unique education and research community would give Foothill-De Anza students new opportunities to learn in a world-class research environment. It opens up exciting possibilities for preparing our students to join Silicon Valley's clean-tech green-tech workforce or pursue advanced study in science, technology, engineering, and emerging career fields," said Martha Kanter, Chancellor of Foothill-De Anza.

In early 2008 NASA Ames signed a Memorandum of Understanding (MOU) with UCSC, Foothill-DeAnza, Carnegie Mellon University and Santa Clara University to create a new organization to develop a major section of NRP. These universities were already in NRP conducting R&D and educational programs. The goal of the new organization is to advance NRP's goal of a world-class, integrated research and education community through a public-private partnership with NASA Ames and leading academic institutions. UCSC now leads this effort to benefit NASA's mission, and advance higher education and economic development throughout the region and the nation.

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Courtesy of UA LLC

Artist's concept for planned sustainable research and education campus

Looking for Water on the Moon

Lunar Crater Observation and Sensing Satellite (LCROSS) is an Ames led mission to search for presence or absence of water ice in a permanently shadowed crater in the Moon's polar regions. Identifying water is important to the future of human activities on the Moon. The LCROSS spacecraft will guide a spent Centaur upper stage to impact a permanently-shadowed lunar polar crater, and analyze the resulting ejecta cloud contents for the presence of water using imagers, spectrometers and a photometer. The spacecraft will be launched as a secondary payload with the Lunar Reconnaissance Orbiter (LRO) on an Atlas V 401 rocket at Cape Canaveral Air Force Station. LRO/LCROSS will launch no earlier than June 2. NRP partner SGT is providing flight operations and ground system support for this mission, via the NASA Ames Intelligent Systems Research and Development Services contract. SGT employees are part of the overall flight operations team that includes NASA and JPL employees, and contractors from the spacecraft developer, Northrop Grumman. This team will control the spacecraft during its mission right up to the impact on the Moon's surface.

LCROSS-SGT team members (L to R) Paul Tompkins, Masoud Mansouri-Samani and Khanh Trinh in the Mission Operations Control Room at Ames Research Center

SGT employee, Paul Tompkins, is Lead Flight Director for LCROSS. "As Flight Team Lead, I am responsible for the operational plan, readying the mission operations team for flight and representing flight team interests in the design and buildup of Ames Multi-Mission Operations Center and the Ground Data System. I will be responsible for nominal operational decision making for LCROSS. I get to sit in the Mission Operations Control Room for critical events, leading the team through procedures to accomplish objectives while keeping the spacecraft safe," Tompkins said.

The team has detailed procedures for nominal and contingency operations, and is performing training exercises on a ground based simulator to ensure that the operations procedures are correct and the team is well prepared to support the mission.

"I enjoy being involved in the mission on so many levels - our team is small, and our schedule is fast. The mission is very exciting - a discovery of water ice at the lunar poles will improve our understanding of early solar system history and may pave the way for resource development in support of future sustained human missions to the Moon," Tompkins said.

Did you know? The distance from Earth is 225,745mi and it would take 135 days to drive by car @70 mph to the Moon. More info about our Moon is at http://lunar.gsfc.nasa.gov/moonfacts.html

Visit LCROSS: http://lcross.arc.nasa.gov/, LRO: http://lunar.gsfc.nasa.gov, SGT: http://sgt-inc.com

NRP Welcomes New Tenants

Advanced Maglev
Building 19, February 1

Millennium Engineering & Integration Company (MEI)
Building 19, January 16

RMV Technology
Building 19, February 1

Singularity University (SU)
Building 19, February 2

Tesla Motors
Building 19, December 1, 2008

RMV Brings Electrostatic Mitigation Expertise to NRP by Bob Vermillion and Renee Mitchell

RMV Technology Group, LLC, an industry leader in the specialized field of electrostatic mitigation, has recently opened an office and ESD (Electrostatic Discharge) laboratory at NASA Research Park. Bob Vermillion, founder, has developed an ESD materials technology approved by NASA.

RMV is actively engaged in the space technology arena, performing electrostatic testing and evaluation of advanced and engineered materials, thin films, coatings, powders and flexible tubing, including ESD mapping of carbon nanotube polymers (CNT) for scientific research and development. Engineering services include Class Zero Device training for troubleshooting satellite systems, robotics and robust circuit board design; cable assembly troubleshooting for satellite manufacturing; and ESD compliant material integrity for mitigation of tribo-electrification at low RH.

RMV serves customers in the semiconductor, disk drive, aerospace, biometrics, medical device and telecommunications sectors. Systems and design projects include semiconductor design and verification, Lightwave transmission equipment, wireless equipment including cellular phones and base station equipment,information technology equipment, telephone switching systems,

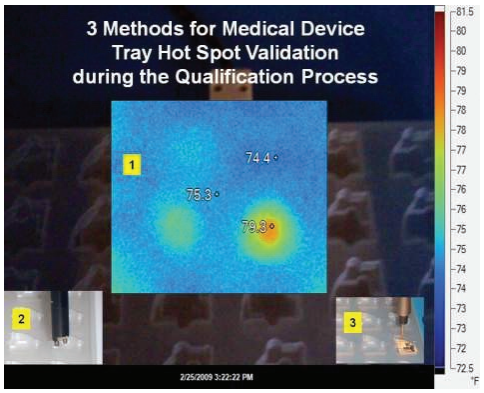

Photo courtesy of RMV

"Current" through pacemaker circuit card vacuum formed carrier to identify hot spots with thermal imaging, with validation by resistance and contact voltage measurements

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KleenSpeed Technologies, Inc. -- a Mission to Develop Scalable Electric Propulsion Systems for the Transportation Industry

by Diane Farrar

KleenSpeed was founded early in 2008 by Chairman Timothy Collins and CEO Jerry Kroll. On March 23, 2009, KleenSpeed met with Ames' Prognostics Center of Excellence to discuss 'Prognostics and Health Management' research and other areas of potential collaboration. Following is an interview with KleenSpeed's Cofounder and Chairman Timothy Collins.

Photo by Teresa Gillis, Gillis Motor Sports

West WX-10T converted by KleenSpeed with Thruxar Electric Power system designed by KleenSpeed

KleenSpeed has been in business a little more than a year. Our initial goal was to source "best of breed" components and develop total electric power systems to be tested in racecars. We want to create new classes of E Race Cars, as well as convert existing cars.

Racing is the extreme test, and brings a REAL opportunity for KleenSpeed to act as a technology incubator for leading edge products. We are pushing EV (electric vehicle) technology. We want all our electric propulsion products to be on the leading edge, at the extremes, the way NASA is on the leading edge.

We are designing a battery solution for 30 minutes because races last 30 minutes. Our goal is full throttle and maximum distance-- with 150 KW engines, over 200 horsepower. The end value is that we can scale back our technology for broad applications in the auto industry.

We have a brand new car from West Racecars in Atlanta, GA, that we want to run in the American Le Mans IMSA Lite series, as well as SCCA events. We are making continual progress with this Black Thruxar test car, and are testing the A123 battery pack as well as K2 packs (Lithium Ferrous Phosphate).

The West WX-10 Thruxar is close to testing with full data capture and safety systems – soon completed for its first racetrack appearance. We are also testing a Rare Earth Magnet motor technology in a Spec Racer, which has ramifications for cars that need only about 100 horsepower.

We are developing technology for battery control and assessing battery health (current, temperature, voltage) while running. We have recently acquired new controller technology that might be a breakthrough product. We are also assessing battery configuration for extended operating time and distance.

At the end of 2008 KleenSpeed applied for a Department of Energy loan that would be used to speed development and production of our electronic control unit and battery management system technology. We are investigating R & D collaboration potential with NASA in product areas where NASA has the greatest interest.

All my life I have looked for paradigm shifts in industrial trends such as the EV industry. The real commercial opportunity right now is in hybrids, but anything we develop for total electric can be used for hybrids.

I started my first investment bank when I was twenty five. I invested first in the nuclear industry and later in gold. Working in the mining business, on reclamation of mined land, I became critically informed about the Earth's crust, it's preservation and reclamation. Oil is a luxury and a pollutant as a fuel, but useful in the petrochemical product area. My commitment to clean energy for transportation comes from this deep understanding.

The EV transportation industry is going to be huge, with a big market even for retrofitting passenger cars, and especially RVs, trucks and buses - the great fuel consumers.

Collins, 68, a former private and aerobatics pilot, is still an investment banker in his day job and a racecar driver on weekends.

Editor's Note: Thirty percent of U.S. greenhouse gas emissions (40% in CA) come from the transportation sector. Fourteen million of the 21 million barrels of oil daily consumed by the U.S. goes to cars, trains, planes, trucks and buses.

Photo by Diane Farrar

L to R: Jerry Chan CFO, Andrew Gillis COO, Timothy Collins cofounder, all of KleenSpeed, S. Jaffer Hussein of Ames Entrepreneurial Initiatives Division

Driving Across Northwest Passage to Make Polar History

by Sheila Calder and Lindsay Marett

Photo by Christine Nolasco

Dr. Pascal Lee, CEO, Mars Institute and his dog Ping Pong with Moon-1 Humvee Rover prior to Northwest Passage departure

Vancouver, B.C. – March 13, 2009 – An international team of scientists has launched an expedition to drive the Northwest Passage on sea-ice this spring, marking the first time the Passage has ever been traveled in a road vehicle. The team, led by Mars Institute scientist Dr. Pascal Lee, has a dual goal of studying climate change on Earth and advancing the human exploration of the Moon and Mars.

The mission is an integral part of the Haughton-Mars Project (HMP) on Devon Island, High Arctic, where research in space science and exploration is being conducted by the National Aeronautics and Space Administration (NASA) and the Canadian Space Agency (CSA).

The 2,000 kilometer trek will be undertaken in the Mars Institute's new Moon-1 Humvee Rover, an all-terrain exploration rover derived from the vehicle commonly used in the military. The team will be measuring the thickness of sea-ice along the entire length of the Northwest Passage. The unique set of measurements will be key to understanding current and future effects of climate change throughout the Arctic.

"If we're successful, this will be the first, and possibly the last, time the Northwest Passage is driven in a road vehicle," says Lee. "Current trends in climate change on a planetary scale have resulted in thinner and less durable ice in the Arctic, possibly ending opportunities to do similar drives for much longer. We want to use this window in time to better understand the changes affecting the Arctic and Earth as a planet."

The Mars Institute team will be traveling west to east across the Arctic for two to three weeks, ending at their established research base, the HMP Research Station on Devon Island.

In addition to studying climate change, the team will use the traverse to look at how a variety of terrestrial ice and snow features, with potential counterparts on other planets, are formed. They will also research how to effectively plan and execute future long-range pressurized rover excursions on the Moon and Mars.

The Northwest Passage is an infamous, ice-choked seaway connecting the Atlantic to Asia. Finding the passage eluded explorers for centuries and was only achieved at a great cost in lives.

"This will be an exciting voyage," says Lee. "We hope the journey will help everyone understand Earth better and also provide guidance on how to explore other worlds together in the future. Although these are difficult economic times, exploration remains an essential part of what we need to do to create a stronger future for humanity and our planet."

The Mars Institute leads pioneering field research with NASA and the SETI Institute on the use of pressurized rovers for human planetary exploration. It has successfully operated the Mars-1 Humvee Rover at the Haughton-Mars Project research station since 2003. It is adding the Moon-1 Humvee Rover to its fleet to conduct dual-rover exploration studies on Devon Island in the future.

Photo courtesy of Mars Institute

Field work at Haughton-Mars Project on Devon Island in Canadian NW

For info: www.marsinstitute.info or www.marsonearth.org or contact: Sheila Calder / Lindsay Marett, Peak Communicators, scalder@peakco.com / lmarett@peakco.com 604-689-5559
Dr. Pascal Lee, Mars Institute, pascal.lee@marsinstitute.net, 408-687-7103

Editor's Note: The rate of climate change is accelerating, the trends occurring much faster than predicted. Glaciers in Antarctica are melting faster and across a much wider area than previously thought, a development that threatens to raise sea levels worldwide and force millions of people to flee low-lying areas--Colin Summerhayes, Executive Director of the Britain based Scientific Committee on Antarctic Research.

95% of Earth's glaciers outside Antarctica are deflating (thinning) and retreating. There are thousands of huge melt lakes on the Greenland ice sheet formed by melting glaciers. Some rivers from these lakes are flowing with as much water as goes over Niagara Falls in 2 hours-- James Balog, Director/Founder, Extreme Ice Survey

Tibion Corporation - Redefining Mobility

Tibion Corporation, located at NASA Research Park prior to 2004, was founded six years ago by Kern Bhugra and Bob Horst. Originally leasing approximately 200 sf for 3 engineers and R&D parts, "Tibion's team of expert staff, directors, and advisors is now more than 20 people and the company occupies almost 5000 sf," said CEO Bhugra.

Photo courtesy of Tibion

Tibion employee, Hannah Stein, wearing the PowerKnee

Tibion is a medical device company leading the development of bionic devices for the mobility impaired. Tibion's mission is to develop smart medical devices and therapies that address the needs of musculoskeletal and neuromuscular deficiencies.

The company's PK100 Bionic Leg Orthosis (PowerKnee) is a wearable bionic device to enhance rehabilitation and help patients improve muscle strength and function as well as to provide assistance with activities of daily living.

Tibion's R & D team has earned much public recognition for design innovations across many disciplines. Tibion's products are enabled by patented innovations in orthotics, biomechanics, embedded control systems, and electrical, mechanical, computer and materials engineering. The team is as diverse as the disciplines and has generated the critical mass necessary to develop a complex product that enhances the quality of life for those with impaired mobility.

Tibion began collaboration with Stanford University's Biomedical Engineering Group in early 2008, and a Stanford graduate student team has worked to develop future applications of Tibion's bionic technologies.

Tibion has grown under the inspired leadership of CEO Kern Bhugra who, prior to Tibion, has held senior management and executive roles within operations and technology development at large corporations as well as within the startup environment. During his more than 10 years with IBM, he led international teams in the consolidation of business-line operations from the U.S., Germany, Japan and Singapore. He also led strategic initiatives, lecturing at top universities in India, China, and Singapore to identify and hire key development teams to establish an advanced technology center in the U.S. and Singapore.

In December 2008 Tibion's PowerKnee won Silicon Valley's Emerging Technology Award for Medical Devices, and ABC-7 evening news featured Tibion's amazing PowerKnee.

NRP Partner Tibion, Winner of Emerging Medical Device Award, Featured on ABC 7 News

Robotic Knee Can Reprogram Brain

by Richard Hart, ABC 7 News

MOUNTAIN VIEW, CA (KGO) -- For patients with MS or Parkinson's, and anyone undergoing knee or brain surgery, it is a struggle just to walk. Now, a laboratory in Mountain View is about to release a robotic knee that can reprogram the brain while providing physical therapy.

After a stroke, Vikki Harrigan's walk was so bad it destroyed her knees and hip. Now, she wears a device that enables her to walk without a cane for the first time in years.

Harrigan's therapist is Professor Nancy Byl, Chair of the Physical Therapy Department at UCSF. "Notice she makes a very stable turn, which she did not use to do before," said Byl describing Harrigan's new walk to ABC7.

Harrigan explained, "What it's doing is giving me the correct feedback that I need to make the correct step." "Because the device actually helps her get her knee fully straight," added Professor Byl. "And, encourages her with that feedback that she needs to get her weight fully over her leg."

The device called "PowerKnee," is a new technology from a Mountain View company called Tibion. It is designed for patients dealing with a stroke, MS or neurosurgery. The Tibion device is not designed to walk for its users. It provides resistance so they do not plop or fall. That resistance is also good for therapy and provides assistance in ambulation so people can relearn how to walk.

Cofounder and CEO of Tibion Kern Bhugra says, "I think you can see this device and other devices like it certainly being part of everyone's daily lives. I think the things that will get enhanced as we go forward is how the user interacts with the device. Is it through myoelectric signals? Is it through brain waves? Is it through biomechanics, as it is in our case?"

The PowerKnee packs a lot of force in a lightweight package. Sensors in the shoe send instant feedback to a computer in the smart knee. But, it is simple enough for anyone to use at home.

Tracy Halmos is one certified trainer and MPT using the Tibion device with patients at her clinic Individualized Physical Therapy in Morgan Hill. One patient had lost proprioception, the sensation telling her the position of her knees.

"It was so exciting to watch her develop through using it," says Helmos. "We put it on her and she learned. She got that proprioception back and she kept it. She kept it. It was huge. As far as rehab goes, that's what you're looking for."

For more info on Tibion PowerKnee: www.tibion.com/
UCSF, Department of Physical Therapy and Rehabilitation Science, http://ptrehab.medschool.ucsf.edu/

Individualized Physical Therapy, 18525 Sutter Blvd Ste 170
Morgan Hill, CA 95037, (408) 778-6800,

NASA Research Park Home to Newly Launched Singularity University

by Rachel Prucey, NASA Ames Research Center
Denise Vardakas, Singularity University, Moffett Field, CA

MOFFETT FIELD, Calif. -- Technology experts and entrepreneurs with a passion for solving humanity's grand challenges will soon have a new place to exchange ideas and facilitate the use of rapidly developing technologies.

Photo courtesy of Singularity University

L to R, all from Singularity University: VP for University Relations Bruce Klein, Executive Director Salim Ismail, Chancellor and Futurist Ray Kurzweil, Chief of Staff Susan Fonseca-Klein, Vice-Chancellor and X-Prize Founder Peter Diamondis

NASA Ames Research Center announced Feb. 3, 2009, an agreement with Singularity University (SU) to house a new academic program at Ames' NASA Research Park. The university will open its doors this June and begin offering a nine-week graduate studies program, as well as three-day chief executive officer-level and 10-day management-level programs.

The SU curriculum provides a broad, interdisciplinary exposure to ten fields of study: future studies and forecasting; networks and computing systems; biotechnology and bioinformatics; nanotechnology; medicine, neuroscience and human enhancement; artificial intelligence, robotics, and cognitive computing; energy and ecological systems; space and physical sciences; policy, law and ethics; and finance and entrepreneurship.

"The NASA Ames campus has a proud history of supporting groundbreaking innovation, and Singularity University fits into this tradition," said S. Pete Worden, Ames Center Director. "We're proud to help launch this unique graduate university program and are looking forward to the new ideas, technologies and social applications that result."

NASA Ames Center Director S. Pete Worden hosted SU's Founders Conference on Sept. 20, 2008 at Ames. On NASA's behalf he and other Ames personnel provided input to SU's founders and encouraged the scientific and technical discussions.

Singularity University was founded Sept. 20, 2008, by a group of leaders including: Ray Kurzweil, author and futurist; Peter Diamandis, space entrepreneur and chairman of the X PRIZE Foundation; Robert Richards, cofounder of the International Space University; Michael Simpson, president of the International Space University; and a group of SU associate founders who have contributed time and capital.

"With its strong focus on interdisciplinary learning, Singularity University is poised to foster the leaders who will create a uniquely creative and productive future world," said Kurzweil.

As with other educational institutions, NASA employees may support educational activities of SU through lectures, discussions and interactions with students and staff. NASA and NRP employees may also attend SU as students.

"Students enrolled in NRP's new Singularity University will embark on an ambitious pilot program to study interdisciplinary and rapidly advancing technologies. Singularity has received more than 1500 applications for 40 slots," said Ames' ISU Project Manager Donald James, who is integrating SU and ISU programs this summer.

For more information about Singularity University, visit: http://singularityu.org/

ISU Countdown - International Space University Space Studies Program 2009

NASA Research Park at Ames Research Center will open its doors on June 29, 2009, to International Space University (ISU) students and staff from many countries around the world. Singularity University's first academic program will be conducted concurrently with the ISU program this summer, according to Donald James, ISU Project Manager.

"For the first time in ISU's 20 + years, summer sessions will be hosted by a NASA center. ISU is receiving a record number of applications for the 120 student positions because students want to connect with NASA scientists and Silicon Valley," said James.

ISU offers graduate-level training to future leaders of the emerging global space community through three Masters programs at its Central Campus in Strasbourg, France. The nine-week Space Studies Program is held at locations at around the world based on a global competition.

In ISU's two-month Space Studies Program and the one-year Masters programs, students are offered a core curriculum covering all disciplines related to space programs and enterprises – space science, space engineering, systems engineering, space

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policy and law, business and management, and space and society. Both programs involve an intense student research Team Project providing international graduate students and young space professionals the opportunity to solve complex problems by working together in an intercultural environment.

Since its founding in 1987, ISU has graduated more than 2700 students from 100 countries. Together with hundreds of ISU faculty and lecturers from around the world, ISU alumni comprise an effective network of space professionals and leaders that actively facilitates individual career growth, professional activities and international space cooperation.

One of ISU's academic facilities at NRP will be Bldg. 476, the former Navy Exchange Retail Store, at 335 Wescoat. ISU classes will also be held in Bldg. 3, the NASA Ames Conference Center. Students will lodge in Bldgs. 583a & b and staff in the NASA Lodge. Each of these buildings will be temporarily renamed for the duration of the summer program.

For info about ISU: www.isunet.edu

Western Disaster Center Local Facilitator of ISU Summer Session Team Project by Rich Davies

Rich Davies, of NRP's Western Disaster Center, is going to be the Local Facilitator for the Disaster Risk Management Team Project at the ISU 2009 Summer Session.

The team leader is George Dyke, an aerospace consultant and ISU graduate who currently lives in Australia. The Disaster Risk Management Team Project is 1 of 3 team projects during the 2009 ISU Summer Session.

Between 1980 and 2006, natural disasters killed more than 2 million people worldwide and reported damages totaled $ 1.2 trillion (US). There were more than 5,000 disasters worldwide between 1991 and 2005, affecting virtually every corner of the globe.

The team project asks: how can the increasing availability of Earth observation data in combination with the information revolution - powered in part by Silicon Valley - change the way we deal with disaster risk management? How can we better connect rich and voluminous Earth observation data sources with disaster risk management information users?

Disaster Risk Management

The relatively new field of disaster risk management takes a structured approach to managing uncertainty related to the threat of disasters. This includes risk assessment and developing strategies to mitigate disaster risk using managerial resources. This project will look at a combination of current, planned and potential space-based Earth observation activities,

the emergence of powerful new Internet based data management tools, and how this combination can support the emerging field of disaster risk management.

Disaster risk management is distinct from disaster response

Disaster response provides support on a real-time, tactical, operational level, while disaster risk management looks at strategic investments and development decisions made to mitigate potential disaster risk before an incident. Disaster response is an important topic, but is not the focus of this project.

International Context - The World Bank and CAPRA

This project is supported by The World Bank's Comprehensive Approach to Probabilistic Risk Assessment (CAPRA). The CAPRA leadership team will provide active support to the project team and should be considered one of the main customers of this project. The involvement of The World Bank and CAPRA provides direct contact and input into an active program operating across many countries and organizations in Central America to better manage disaster risk. CAPRA's work in Central America is intended to serve as a test bed for the development of technologies that will be applied in other regions around the world. The CAPRA program combines hazard identification with asset vulnerability to create risk and loss models for hazards triggered by disasters such as earthquakes, hurricanes, intense rainstorms and volcanoes. The information generated by CAPRA is then used to inform risk management decisions.

The objectives of CAPRA are: to develop a Disaster Risk Information Platform for decision making using a common methodology and tools for evaluating and expressing disaster risk; to become the nucleus of a regional strategy that is local, versatile, and effective; and to advance risk evaluation and risk management decision making. One core principle of the CAPRA program is to implement solutions using open source methodologies and tools, and to take advantage of current enabling and transformational advances in the field of information technology that allow the development of online communities

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NASA and NRP Partner Google Launch Virtual Exploration of Mars by Michael Mewhinney

MOFFETT FIELD, Calif. -- NASA and Google announced Feb. 2 the release of a new Mars mode in Google Earth that brings to everyone's desktop a high-resolution, three-dimensional view of the Red Planet.

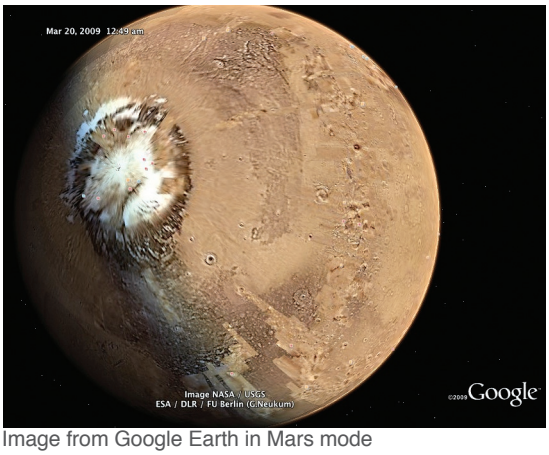

Image from Google Earth in Mars mode

Besides providing a rich, immersive 3D view of Mars that will aid public understanding of Mars science, the new mode, Google Mars 3D, also gives researchers a platform for sharing data similar to what Google Earth provides for Earth scientists.

The mode enables users to fly virtually through enormous canyons and scale huge mountains on Mars that are much larger than any found on Earth. Users also can explore the Red Planet through the eyes of the Mars rovers and other Mars missions, providing a unique perspective of the entire planet.

Users can see some of the latest satellite imagery from NASA's Mars Reconnaissance Orbiter and other probes orbiting the Red Planet. Viewers can learn about new discoveries and explore indexes of available Mars imagery. The new Mars mode also allows users to add their own 3D content to the Mars map to share with the world.

This announcement is the latest benefit from a Space Act Agreement NASA's Ames Research Center in Moffett Field, Calif., signed with Google in November 2006. Under its terms, NASA and Google agreed to collaborate to make NASA's data sets available to the world. NASA Ames and Google signed an Enhanced Use Lease agreement in May 2008.

NASA Ames, along with its partners at Google, Carnegie Mellon University, SETI, and other institutions, helped produce the data to make this possible.

Google's innovative search technologies connect millions of people around the world with information every day. Google is headquartered close to Ames in Silicon Valley with offices throughout the Americas, Europe and Asia.

NRP's UNCFSP-NSTI Information Technology and Emerging Technology (UNITE) Research Cluster arrives at NASA Ames Research Center

The NASA Science and Technology Institute for Minority Institutions (NSTI) Project, administered by the United Negro College Fund Special Programs (UNCFSP), is pleased to announce the UNCFSP/NSTI Information Technology and Emerging Technology (UNITE) Cluster. The UNITE cluster team will conduct research that address pressing challenges in the areas of Supercomputing, Networking and Intelligent Systems. This research collaborative brings together researchers from five minority serving institutions and NASA engineers to advance research findings for projects that support thermal protection systems, as well as, human exploration of space.

The five member institutions of the UNITE cluster are:

- San Francisco State University
- Texas Southern University
- California State University Fullerton
- Southern University
- Tuskegee University

The NSTI project was established in 2006 to provide leading-edge research opportunities for faculty and students from MIs that complement NASA's research programs and make original contributions to NASA in astrobiology, biotechnology, information technology, emerging technologies, energy, environment research. The NSTI brings together the talent and expertise of Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), Tribal Colleges and Universities (TCUs) and Other Minority Institutions (OMIs), to provide the opportunity for all Minority Institutions (MIs) to communicate, connect, and collaborate with government, the private sector, one another, and other majority institutions and research and technical associations and organizations through the establishment of R&D collaborations and partnerships.

Exciting New Program for Faculty from Minority Institutions Comes to NASA Ames

Faculty from Minority Institutions are readily sought to obtain great research experiences at the NASA Centers. The benefits are vast, yet specific to the individual's research interest. Nevertheless, the opportunity to conduct hands-on research at NASA positively influences their performance in conducting research, writing grants, and advancing their careers.

The United Negro College Fund Special Programs Corporation (UNCFSP), an NRP Partner, is pleased to announce a new program through the NASA Science and Technology Institute

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for Minority Institutions (NSTI) Project that will begin Summer 2009. The NSTI Summer Faculty Fellowship (SFF) program targets full-time, early career, STEM faculty from Minority Institutions (MI) in the United States. SFF Fellows will engage in a 10-week research experience with scientists and engineers at the NASA Ames. Additionally, the fellowship recipients will receive professional development training, and a stipend to cover housing, travel and living expenses.

NSTI seeks minority faculty for NASA experience

This fellowship program will provide science and engineering faculty members with an opportunity to increase their professional knowledge and contribute to NASA research projects. Thus, a primary goal of the SFF program is to strengthen the relationship between the NASA and the minority higher education community. Likewise, the fellowship opportunities will strengthen the relationship between the agency and the academic community. The SFF program participants will arrive at NASA Ames Research Center to start their experience on June 8, 2009.

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The programmatic R&D and education relationship with the new organization was developed between the parties, led by UCSC's William Berry, Director of Silicon Valley Initiatives and newly named UA President, and Ames Associate Director Dr. Steven Zornetzer:

- Development of new technologies emerging from the convergence of bio-info-nano scientific research
- Autonomous systems and advanced robotics
- Highly efficient and renewable energy sources
- Technologies for long-term sustainability of human life
- Educating and developing the work force of the future
- Managing innovation in the emerging world
- Associated academic public policy centers

During 2008 the potential university members continued negotiations to establish the new organization while NRP and UCSC leaders began negotiations for a large-scale lease, the largest in NRP. The Ames negotiating team was led by NRP Deputy Director Trish Morrissey, attorney Mark Beskind, and NRP Office members Mejghan Haider and Geoff Lee, and NRP consultants DMJM Larry Singer and Bay Area Economics David Shiver. Patty Ponzini led the UCSC team, with UC attorney Lloyd Lee, and consultants James Musbach of Economic &Planning Systems, Inc., attorney Jay Paxton of Ellman Burke, Hoffman & Johnson and Andrew Barnes of Barnes and Company.

The UA entity was established and the draft lease sent to NASA HQ and UC leadership for approval, following months of negotiations. Both parties approved, and the lease of approximately 75 acres with a federal environmental entitlement of nearly 3 million square feet of new construction was signed on Dec. 12, 2008, by the now established UA and NASA Ames. UCSC, a California state entity, must conduct an environmental entitlement process under the California Environmental Quality Act (CEQA), before construction may commence. Thus the leased acreage (and a number of buildings located there) will continue to be utilized by a variety of NRP partners during the UA land use planning and environmental process period, the Predevelopment Period in the lease, for up to five years. During this period, UA will complete their CEQA (within the federal Environmental Impact Statement entitlements completed by Ames in 2002), select a master developer and achieve an approved development plan from NASA Ames.

This vision includes an integrated community featuring state-of-the-art research and teaching laboratories, shared classrooms, rental housing, accommodation for industrial partners, and modern infrastructure. Joint academic initiatives are planned in science, engineering, and management to keep Silicon Valley, NASA and the nation at the forefront of innovation and technology leadership. The community will be designed to have a minimal carbon footprint and will serve as a model site to deploy and validate new renewable energy and resource conservation systems. As a real world setting for studying and testing potential solutions, it will provide an invaluable resource for faculty engaged in sustainability research and teaching programs at UCSC and other partner institutions.

"Carnegie Mellon University, Santa Clara University and San Jose State University have also been involved in the planning and may eventually join the UA," said Joseph Miller, UCSC's vice provost for Silicon Valley Initiatives. "We expect other academic institutions, including representatives of the California State University system, will join the UA to take advantage of this unique opportunity," Miller said. "We have secured a long-term lease agreement on a choice location in the heart of Silicon Valley, at NASA Ames and adjacent to the most innovative companies in the world. We will be creating a new green community and working together to tackle some of the most pressing problems facing our society."

The project supports NASA's goal to establish the NASA Research Park as a world-class shared-use R&D and education campus for collaboration among government, industry, academia and non-profit organizations in support of NASA's mission. More than 50 industry, university and non-profit

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NASA Ames and Airship Ventures Increase Cooperation

by Gus Holweger, Airship Ventures

Much has happened since Alex Hall, Airship Ventures' CEO, met with NASA Ames Center Director Dr. S. Pete Worden in 2007 to discuss the return of "Lighter-than-Air" airships to Moffett Field. At that time Dr. Worden saw "an obvious partnership, a wonderful historic reuse and exactly the kind of project he would like to see at NASA Ames." This proved to be a fateful meeting. On Nov. 21, 2008, Ames and Airship Ventures celebrated Moffett Field's 75th Diamond Jubilee and the naming of the newly arrived Airship, the 'Eureka'.

Photo by Wilco Films

"Eureka" gondola with Hangar One in background

Since then 'Eureka', now moored at Hangar 2, has become a familiar sight as it soars over Silicon Valley, San Francisco and Monterey Bay. Including its transfer flight from Beaumont, TX, Eureka has been in the air in the United States for 328:55 hours. Almost 2000 happy passengers have experienced 'flight seeing' on the airship, and 800 holders of gift certificates and reservations are eagerly waiting their turn. On February 12 'Eureka' took airship veterans and aficionados on a 'USS Macon' tribute flight over Point Sur and the Monterey Bay!

Airship Ventures established its headquarters in historic Bldg. 20, renovating the former Bachelor Officers Quarters. The facility now provides office space for Airship Ventures staff and a reception/briefing area for passengers. Airship Ventures' Message Center and Guest Services Staff are taking reservations for regular flights departing from Moffett Field, Oakland and Monterey. Passenger flight operations are conducted 7 days a week, weather permitting. For flight schedules, you may access the web at http://www.airshipventures.com/calendar/month.php

Airship Ventures and NASA Ames Research Center are working on mutually beneficial projects, and collaborative efforts are under way.

Scientific Projects

The 'Zeppelin Ocean Color Mission' led by NASA Ames' Steve Dunagan, Research Scientist in Biospheric Research, Ames' Earth Sciences Division, has a twofold mission:

1. Obtain color and texture imagery over South Bay marshlands and coastal waters of northeast Monterey Bay.
2. Discuss data acquisition and science mission potential with center management and airborne science collaborators.

This project will require installation of two instruments ('imagers') mounted to a flat section in the nose of the airship's gondola, looking through plexiglass windows beneath the co-pilot's seat onto the marshland or littoral.

Airship Ventures' "Good Neighbor" Program

Effective immediately through June 2009, Airship Ventures offers last minute flight specials. They are for Moffett Field flights only and must be taken the same day they are booked.

Photo by Janet Beegle

"Eureka" being moored in Hangar Two

Here are the particulars:

1. $199 plus tax for a one-hour flight.
2. This offer is for NASA Research Park (NRP) partners, all federal employees, military personnel, contractors, and interns who have valid NASA Ames badges (Hangar badges for NRP partners). Federal or military personnel must have valid federal or military badges. Badges must be presented at check-in and there can be no exceptions.
3. To book a flight, call Airship Ventures Guest Services reservation line at (650) 969-8100 ext. 111. For more information about Airship Ventures visit: www.airshipventures.com

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AV thanks Jack Boyd!

Airship Ventures thanks John W. (Jack) Boyd, Senior Advisor to the Center Director for presenting to Airship Ventures' management and staff the History of Moffett Field, featuring the many fascinating and history-making projects conducted over the years at the 50 research facilities at NASA Ames Research Center.

Photo by Roger Cain

"Eureka" flying over Silicon Valley

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and collaboration. One Ames capability of particular interest is the NASA World Wind open source visualization application.

Program Context - Operational Earth observation and GEO

For many years, support for civilian space-based Earth observation missions has been secured largely on an ad hoc research and development basis. The notable exception has been operational meteorology. There has been a recent move towards providing space-based Earth observations on an operational basis for other applications. Europe's GMES program is one example of the move to "operational Earth observation", and the emergence of additional operational programs in North America and Asia will provide a strong basis for future policy development.

In combination with the move towards operational civilian Earth observation the Group on Earth Observations (GEO) was formed and began the formulation of the Global Earth Observing System of Systems (GEOSS). GEO was launched in response to calls for action by the 2002 World Summit on Sustainable Development and by the G8, and is designed to provide a framework within which partners can develop new projects and coordinate strategies. One of the key task areas for the GEOSS is to secure the data and information required to reduce the loss of life and property from disasters. The project team should explore these trends as part of the context for the development of the CAPRA program.

For more info: www.westerndisastercenter.org

RMV continued from page 3

medical equipment, network file servers and air traffic control equipment. RMV consults on circuit board design verification and problems at the system, circuit and device level, as well as EMC protection immunity. With specialized knowledge and measurement technology, RMV solves ongoing and unyielding field problems utilizing advanced ESD control engineering methods of investigation.

RMV has an extensive background in the evaluation of electrostatic integrity with Inherently conductive polymers (ICP), CNT and other advanced polymers. Space bound materials requiring mitigation of electrostatic discharge and attraction can include space suit material types, improving robustness of circuit designs to better survive space weather and lightning, and preventing charge attraction to mitigate cross-contamination during soil sampling on a Lunar or Mars surface.

Partnering with California Polytechnic University, San Luis Obispo, Vermillion conducts training sessions with live demonstrations to give students a better understanding of the detrimental effects of electrostatic discharge on materials and equipment in the factory, field, clean room and laboratory. Due to unprecedented growth in counterfeiting in the electronics and defense communities, RMV now offers training to detect, inspect and validate incoming parts, materials and packaging for the space agency and aerospace communities. Customers include Fortune 1000 companies, the Medical Device, Biotechnology, Pharmaceutical, Aerospace/Defense, Fiberoptics, Space Technology and Semiconductor/Disk Drive sectors.

Bob Vermillion and Renee Mitchell at Symposium Dinner

For info Renee Mitchell: 650.964.4792 or: renee@esdrmv.com. Please see www.esdrmv.com for current training classes, upcoming events and links to recent publications.

Moffett Field Museum

Admission Fees: Adults: $5; Children 13-17: $2; Senior Citizens and Disabled Persons: $3; Children 12 and under, currently serving military members, MFHS members and guests; *Free,* Group rates available on request

Hours: Wed.- Sat. 10am to 2pm

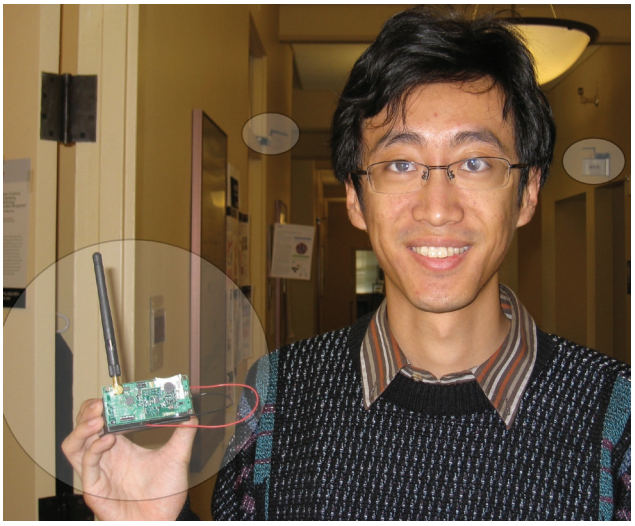
Contact: MFHS, P.O.Box 16, Moffett Field, CA 94035
Phone: 650 964-4024, Fax: 650 964-4028
http://www.moffettfieldmuseum.org/

Sensor Andrew - Carnegie Mellon Silicon Valley's 'Smartest' Project

by Nichole Dwyer, Manager of Web Communications, Carnegie Mellon CyLab and Carnegie Mellon Silicon Valley

Imagine if you will a smart building -- a building that collaborates with your personal mobile device to seamlessly help in daily tasks, remember people's names, call repair people when things break and keep your appointments. Imagine a building that adjusts the environment to maintain occupants' comfort, while reducing energy costs in unoccupied parts of the building. These are the goals of the Sensor Andrew project currently deployed in the Carnegie Mellon Silicon Valley campus.

Sensor Andrew
A Living Laboratory for Infrastructure Sensing Technologies



Dr. Pei Zhang, CMU Silicon Valley Project Manager of Sensor Andrew

The Sensor Andrew project began in 2006 at the Center for Sensed Critical Infrastructure Research (CenSCIR), a multi-disciplinary research center drawing on faculty and students from nine departments at four different schools at Carnegie Mellon University. A problem-driven center, the CenSCIR team aims to research the many systems-oriented issues related to condition and usage of critical infrastructure systems. For applied research, the team began building a "living-laboratory" test bed that became the Sensor Andrew project.

The Sensor Andrew project follows a long line of historical accomplishments at Carnegie Mellon. In the early 1980s Carnegie Mellon undertook a project called "Andrew" and transformed Carnegie Mellon into the most wired campus of its time. In the mid 1990s, the "Wireless Andrew" project made Carnegie Mellon the largest wireless campus. Following the success of these projects, Sensor Andrew aims to transform Carnegie Mellon into the most sensed campus in the world.

Being part of the "living test bed" of sensors will enable the dense instrumentation of the whole of Carnegie Mellon's campuses as a living laboratory for real-world challenges. Currently 30 sensing nodes are deployed in Bldg. 23 at the Carnegie Mellon Silicon Valley campus, making it the densest deployment of Sensor Andrew anywhere. The dense deployment allows researchers a better understanding of context than can be inferred from our environment. Each Sensor Andrew node can sample ambient light, temperature, vibration and noise levels every few minutes.

This system will enhance other research projects by providing additional context information. Based on research needs, the plan is to increase the number to more than 100 nodes in the near future.

More info on Sensor Andrew can be found on the CenSCIR website: http://www.ices.cmu.edu/censcir/sensor-andrew/ or by contacting Dr. Pei Zhang (pei.zhang@sv.cmu.edu or http://www.cmu.edu/silicon-valley/faculty-staff/zhang-pei.html), who is overseeing the Sensor Andrew project at Carnegie Mellon Silicon Valley.

For information about Carnegie Mellon Silicon Valley: http://sv.cmu.edu.

Sensor Andrew is a multi-disciplinary campus-wide scalable sensor network that is designed to host a wide range of sensor, actuator and low-power applications. The goals of Sensor Andrew are to support ubiquitous large-scale monitoring, operation and control of infrastructure in a way that is extensible, easy to use, and secure while maintaining privacy. Target applications currently being developed as part of Sensor Andrew include building emergency, first-responder support, quality of life for the disabled, monitoring and optimization of water distribution systems, building power monitoring and control, social networking, and biometric sensors for campus security. Sensing devices that are used range from cameras and battery-operated sensor nodes to energy-monitoring devices wired into building power supplies. Some of these sensing devices may also be mobile and require hand-off between different networked regions. Supporting multiple applications and heterogeneous devices requires a standardized communication medium capable of scaling to tens of thousands of sources.

Sensor Andrew is a large-scale effort to widely deploy sensing devices across Carnegie Mellon University. We envision a broad set of applications ranging from: infrastructure monitoring, first-responder support, quality of life for the disabled, water distribution monitoring, building power monitoring and control, social networking and biometric systems

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for campus security. Researchers of other institutions have already successfully built other sensor networking applications, but they are typically isolated, small-scale and short-lived experiments. One of the primary goals of Sensor Andrew is to have a permanent living laboratory where applications can be rapidly prototyped at scale. Our architecture focuses on supporting practical deployments with direct community uses. Imagine an infrastructure monitoring system that could immediately alert the campus facilities personnel in the event of broken water pipes or power outages. We see great potential in development not only at the sensor networking level, but also with applications operating at a higher level of abstraction. Application developers should be able to directly utilize physical data from the environment without having to re-invent lower-level interfaces. A variety of social networking applications are possible given support for mobility. Students can carry low-powered mobile devices that communicate seamlessly with the infrastructure and one another.

An Evolving Campus
Constructing Facilities of the Future

by Sylvia Leong, Director of Admissions,
Carnegie Mellon Silicon Valley

If you've been in Bldg. 23 recently, you may have noticed a number of new rooms and features. We're pleased to announce that the main campus of Carnegie Mellon University has invested heavily in our growth, and with the addition of several new programs on campus, wanted to improve our facilities and classrooms.

Room 118, known as "the big room" or the "presentation room", is now completely interactive. This allows students at the Pittsburgh campus to take Carnegie Mellon Silicon Valley courses with a live video feed of the professor. This room also opens up the Pittsburgh course catalog for our students. Behind the scenes, the room establishes a connection over IP (internet protocol). Each student seat is equipped with a microphone. When a student activates their microphone, cameras in the room turn and zoom to the student's seat.

New conference room

To make this possible, the room has TV grade lighting, an impressive audio grid and a pile of computing that manages the microphones and does audio cancellation. If a speaker is sitting on one side of the room, their audio is played only on the other side of the room, so that students far away can hear them clearly. The room does wonders for our part time student experience. Now every student in the room has a microphone in front of them. People on the phone bridge can clearly hear what is going on in the room. People in the room can clearly hear the phone bridge as there are speakers spread across the ceiling.

We've created new lounge areas for our students and faculty. The former side lobby outside Room 118 is now a cozy student lounge with bistro tables and chairs, perfect for grabbing a bite to eat or meeting in one-on-one's before class.

We've also revamped our Open Space, and converted the back wings into two new conference rooms to be used for team meetings, coaching meetings and general use. The Open Space remains our multi-use room for special events and speakers, but most of the time is considered our "Student Living Room" -- complete with ping-pong table, foosball table generously donated by Yahoo!, and Rock Band.

Come by any Friday at 4pm and "rock out" with our students during "Rock Bank Fridays." Don't worry about the noise, we have installed glass panes in the arch ways for privacy and noise reduction from the stairwell!

The upstairs open cubicle space, known as Room 229, has been completely reconfigured to accommodate 48 new workstations. These study carrels give our full-time grad students a place to call their own, to dig into research, meet with their teams, and keep their materials. Student mailboxes and a library are set up in this area for their use. You'll often find any number of students milling about here, always ready for a quick ping-pong game or a discussion on software practices!

Carnegie Mellon Silicon Valley offers graduate degrees in software engineering, software management, information technology, innovation management, and software mobility. For more information about Carnegie Mellon Silicon Valley, visit our website http://sv.cmu.edu or contact Sylvia Leong, Director of Admissions at sylvia.leong@sv.cmu.edu or 650-335-2808.

Changene Lab Granted Australian Patent

NASA Research Park partner Changene Lab was granted patent AU 2002361467 on Jan. 30, 2009, by the Australian Patent Office, for the discovery of nacrein from *Pinctada margaritifera*, a black pearl oyster found in the South Pacific Ocean.

Photo by Courtney Hook

L to R: NRP Account Manager Bob Lopez, Frank Chang, CEO Changene, with Ames Chief Scientist Stephanie Langhoff

As with Changene Lab's earlier patent US 7,163,795, the Australian patent broadly claims nacrein and its fragments in peptide and nucleotide sequences, antibody applications and gene chip applications.

Nacrein is a naturally occurring biological molecule that regulates calcium crystals during pearl formation. The mechanism of building biominerals in shells is similar to bone formation in humans.

According to Changene CEO Frank Chang, studies show that nacreous substances extracted from Pinctada species demonstrate significant osteogenic (bone forming) activities in mammalian models.

"Changene is investigating nacrein for space missions as a countermeasure for bone mass loss in the microgravity environment," said Chang. "In space many bones that aid movement on Earth are not subjected to the same stresses as on Earth. Over time, calcium normally stored in the bones breaks down and is released into the bloodstream, causing a decrease in bone density, or bone mass," he continued.

This bone loss begins in the first few days in space, at an average rate of 1.6 percent per month. On Mir studies extended stays have resulted in as much as 20% of bone mass loss. This drop in density, known as disuse osteoporosis, leaves bones weak and less able to support the body's weight and movement upon return to Earth. After astronauts return to Earth, they regain most, but not all, of their bone mass -- putting the astronaut at a higher risk of fracture.

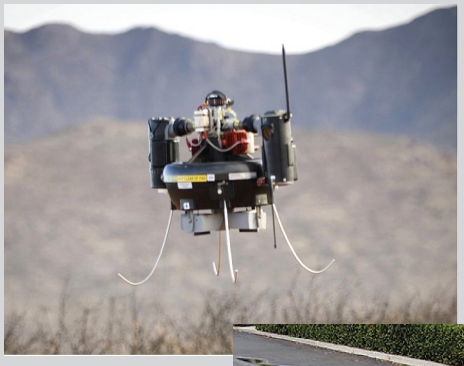
Osteoporosis and low bone density are also major health concerns for the world's aging population. Datamonitor, a leading consulting firm in London, forecasts osteoporosis market sales would reach $10.4 billion for consumers in 2010.

It is common in biotech fields that research and development processes take many years; however, with full utilization of computation, Changene scientists are able to speed up R&D processes. Changene collaborated with NASA Ames Research Center's Advanced Supercomputing Division to apply molecular dynamic simulation on the nacrein molecule and deciphered its 3D structure. With the known 3D structure, Changene scientists are able to apply combinatorial chemistry to generate compound libraries, conduct virtual drug screens, and subsequent *in silico* ADME (Absorption, Distribution, Metabolism and Excretion) modeling. The final handful of compounds will be candidates for preclinical testing.

UAV Collaborative Seeks FAA Approval for UAVs

Vision UAV

Working in cooperation with the Range Safety Office at NASA Ames, Stanley Herwitz, Ph.D., Director, UAV Collaborative, is actively involved in obtaining approval from the FAA to fly UAVs at specific clearly-defined localities in the National Airspace System. The objective is to conduct UAV demonstration flights in support of research, development and commercialization of UAV technology. Examples of the UAV Collaborative's recent partnerships include the following companies and their respective UAVs: MLB Company's Bat-4 UAV; Honeywell International's Micro Air Vehicle UAV; and Xtreme Aerial Concepts' Vision UAV.



Micro Air Vehicle

Bat 4 UAV

The Latest in Technology from the NY Times -- NRP's reQall Adds Location Based Reminders

by David Pogue, New York Times
Mar. 25, 2009, Pogue's Posts

Yes, amid the smoking ruins of the financial system, some green shoots are popping forth. And one of them is called reQall. The service has been around for a while, but has just reintroduced with new features and a Pro version.

reQall is an effortless personal reminder system. You speed-dial its toll-free number (888-9REQALL) and dictate whatever you want to remember. "Meeting with Jacobs Monday at 5 o'clock." "Buy frozen grape juice." "Remind Shannon to pick up the kids early tomorrow." "Anniversary present every Sept. 15." "Idea for Act 2: Henderson turns out to be an android."

You can also create reminders by e-mail by typing them into a Firefox plug-in, or by typing them into an instant-message program once you've set up reQall as a buddy. But unless you live at your computer, using the cell phone is the real killer app.

That's it -- you go through your life, dictating these little tidbits that would ordinarily be relegated to scraps of paper or the back of your mind and therefore probably lost. reQall transcribes your utterances into text and collates them at reQall.com. You can also have them sent to you by e-mail or as text messages to your cell phone. If your reminder included a date or time, reQall recognizes it as a calendar event. It can shoot a reminder to your cell phone 30 minutes in advance.

Or, it can add these appointments to your Google calendar, your calendar in Microsoft Outlook, or any calendar program that can subscribe to Web calendars (like Apple's iCal or Now Up-to-Date).

There's more. If your utterance contains the word "buy" reQall adds the transcript to a master shopping list. The Help screen wryly urges you to be careful. "I don't buy your argument" also lands on the shopping list. At any time, you can call in to hear your shopping list read back to you, or request to have it text-messaged to your cell phone, a great feature when you're out on errands.

If your utterance begins with "remind" "tell" or "ask", reQall can send the transcription to other people's e-mail addresses or (if they're reQall members) cell phones.

Almost everything else you dictate winds up on a general to do list. At any time, reQall can play back your list over the phone, send it to your phone as a text message, or display it as a message in your chat program, or you can check it online. These to do items also show up in your Outlook task list.

You also get a daily summary, a beautifully formatted agenda and to do list for the day (and the next few days), sent by e-mail. It looks like something a fancy executive secretary may have waiting on your desk each morning.

There are free reQall programs for the iPhone and BlackBerry. They make it simple to dictate new items and reminders -- you just tap to record, instead of making a phone call. They continually display your up-to-date shopping lists and to do lists, too.

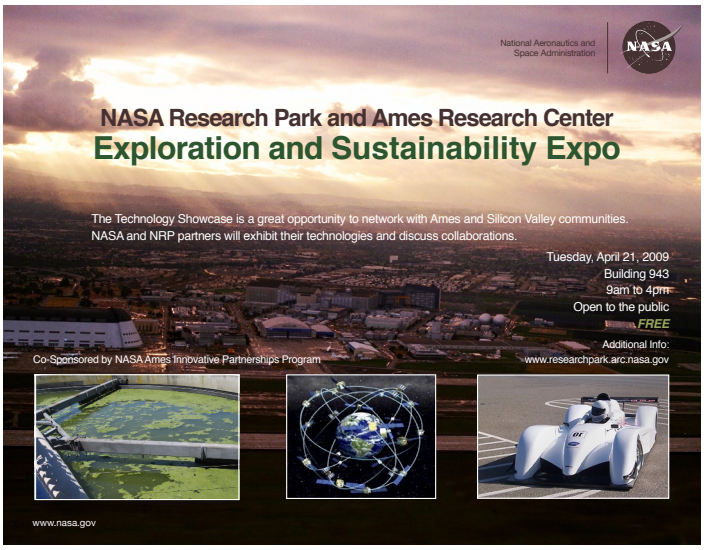
Finally, the amazing new feature of reQall -- location-based reminders. If your iPhone or BlackBerry has GPS, the reQall program displays at the top of the reminder list items near your current location.

Your phone knows that you're at the mall, so it displays the errands you're supposed to take care of there. Or, you could be reminded to visit a client when you're in the neighborhood, or hand in a form to the teacher when you're picking up your offspring after school.

This feature could be an astonishing time and money saver. In practice it involves a fair amount of upfront work. First you define the Places in question, like Mall, Downtown, School, etc. Then you manually assign each to do item to one of these Places. Finally, the Reqall program must be open and running on your smart phone.

So why does the new reQall represent positive economic news? Because it gives you so much utility at so low a price.
E-mail: pogue@nytimes.com
NY Times video about reQall: http://video.nytimes.com/video/playlist/technology/david-pogue/1194811622273/index.html#1194839114959

Newborn Vidya with proud father, Dr. Sunil Vemuri, reQall CPO



NRP Presents "Exploration and Sustainability" EXPO

NASA Research Park (NRP) will present the Exploration and Sustainability EXPO April 21, Bldg 943, 9 am-4 pm. The event is cosponsored by the Ames Innovative Partnerships Program (IPP). Approximately 40 exhibits and renowned speakers will highlight exploration and sustainability research, underscoring NASA's vision of leveraging technology for a cleaner, greener Earth. For more info: www.researchpark.arc.nasa.gov

TopQuadrant Offers Webinars "Using SPARQL for Dynamic Business Applications"

Learn from industry experts as they show how the semantic web query language SPARQL can be used as a powerful tool to explore, find, process and manage data within semantic models and applications. On April 1 TopQuadrant's Webinar offered "SPARQL for Business Rules and Constraint Checking: Introducing SPIN". The next Webinar is May 6: Rapid Assembly of Semantic Business Applications.
For info: http://www.topquadrant.com/training.html

International Space University Space Studies Program 2009: NASA Research Park NASA Ames Research Center

June 29 - August 28, 2009

2nd Annual Lunar Science Forum July 21–23, 2009

The 2nd Annual NLSI Lunar Science Forum will be held July 21–23, 2009, at the NASA Ames Conference Center, at NASA Ames Research Center, Moffett Field, California. To celebrate the 40th anniversary of the Apollo Moon landing, Ames and NLSI are hosting a series of public events on Monday, July 20.

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organizations are now located in the NRP, advancing NASA's research leadership, facilitating science and technology education, and creating a unique community of researchers, students and educators. Students attending the new campus will provide a source of future employees to strengthen NASA's workforce and support NASA's exploration objectives. UCSC led the planning for the UA innovative collaboration.

The Google lease of 42 acres and entitlement of nearly 1.2M square feet of new facilities was also completed in 2008.

Local Congress members, including U.S. Reps. Anna Eshoo, Mike Honda, and Zoe Lofgren, provided valuable support for the partnership with NASA and long-term support for the NRP. They expressed positive views on the major impacts on R&D and education expected from the partnership, including new businesses, jobs and more science, technology, engineering and math (STEM) graduates. Senator Barbara Boxer and Senator Dianne Feinstein, although not in attendance at the event, have been essential to the progress of the NRP.

Development of the site will be undertaken through a public-private partnership. UA plans to select and oversee a "master developer," who will attract the external capital investment required to complete the project, which is expected to cost more than $1 billion. The property will remain in federal ownership, with UA and the master developer responsible for managing and developing the site, with NASA working closely with the UA and approving all plans for development. The timeline for the development depends on multiple factors, including CEQA studies, the financial climate, market demands, and potential partnerships with industry. Work on the site could begin as early as 2013, with initial occupancy as early as 2015.

Visit: http://researchpark.arc.nasa.gov/and http://www.nasa.gov
For a short video on the UA partnership: http://ails.arc.nasa.gov/public/mission_earth/mission_earth.html

NRP Post

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