

NRP Post

A publication of NASA Research Park

Summer 2008

NRP Partners Shine at Yuri's Night

by Kathleen Burton



Photo by John Schultz

Ribbon cutting at Yuri's Night Opening Ceremonies

L to R: Apple Co-founder Steve Wozniak, Astronaut Yvonne Cagle, Senior Advisor to Center Director Jack Boyd, Apollo Astronaut Buzz Aldrin, Ames Associate Director for Institutions and Research Steve Zornetzer, Ames Director S. Pete Worden, NASA Deputy Administrator Shana Dale, Director of Center Operations Lewis Braxton, III

Six NRP Partners played a major role in Yuri's Night, an annual celebration and festival of ideas commemorating the first human space flight of Russian cosmonaut Yuri Gagarin on April 12, 1961. Held at Hangar N-211 at Ames on April 12, the twelve hour space marathon was a unique blend of science, technology, art and music that drew a crowd of over 7,000.

Amid this carnival atmosphere, the NRP partners shone, joining a thronged Hangar N-211 to celebrate two Yuri's Night themes – space exploration and “radical technology for a sustainable future.”

The NRP Exploration Lecture at Yuri's Night was delivered by Unimodal, a company currently negotiating with NASA to build a demonstration track to test its personal-rapid-transit (PRT) project called SKYTRAN. A next-generation, sustainable “people mover”, Unimodal's demonstration track is slated to be built East of Hangar 3.

Unimodal CEO Christopher Perkins and COO John Cole held the audience' rapt attention from Hangar Stage B, as the sun

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NASA and Google Announce Lease at Ames Research Center

by Michael Mewhinney, NASA Ames
and Andrew Pederson, Google

MOFFETT FIELD, Calif. – NASA and Google Inc. announced June 4th plans to develop a new high-technology campus at NASA Ames Research Center in Mountain View, Calif.

Under the terms of the 40-year agreement, Google will lease 42.2 acres of unimproved land in NASA Research Park at Ames to construct up to 1.2 million square feet of offices and research and development (R&D) facilities in a campus-style setting.

“With this new campus, we will establish a new era of expanded collaboration with Google that will further enhance our Silicon Valley connections,” said Ames Director S. Pete Worden. “This major expansion of NASA Research Park supports NASA's mission to lead the nation in space exploration, scientific discovery and aeronautics research.”

“This long-term lease agreement is a key component of Google's strategy for continued growth in Silicon Valley,” said David Radcliffe, Google's vice president of real estate and workplace services. “We believe this collaboration between Google, NASA and the city of Mountain View is emblematic of the mutually beneficial partnerships that can be created between the public and private sectors.”

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Google development site at NASA Ames

Source: Google



Artist rendering of SKYTRAN Personal Rapid Transit system. Unimodal's CEO Chris Perkins and COO John Cole presented the NASA Research Park Exploration Lecture "A Transportation Strategy for the 21st Century" at Yuri's Night.

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set outside, sketching out their revolutionary vision of 21st Century rapid mass transit that aims to solve today's traffic congestion and oil dependency problems.

"We need to rethink the core concept of how we move people around, not just make incremental improvements such as hybrid vehicles," Perkins noted.

SKYTRAN will use small vehicles running on elevated magnetic levitation (MAGLEV) guideways and non-stop point-to-point service. The pod-shaped vehicles will travel on guideways mounted on standard utility poles and will eventually travel up to 150 mph and move over 10,000 people per hour, both locally and regionally. SKYTRAN is aiming for a 500 million gallon energy use equivalency, compared to today's standard automobile transportation efficiency.

"Conventional thinking says to stuff 200 people into a box which continually starts and stops to let those people on and off which is big and expensive," Perkins said. Unimodal's goal is to move people in 'small packets' (one or two per car) that they self-program via kiosk, he added.

The Unimodal "third generation" concept is different from current "second generation" PRT models currently being tested in Sweden and at London's Heathrow Airport in 2009. Besides being affordable, the SKYTRAN concept is low maintenance because it uses passive maglev and linear synchronous motors. Eventually, SKYTRAN will harness solar energy to provide the electric power.

For more information visit: www.Unimodal.com.

NRP Welcomes New Tenants

Airship Ventures

Building 156, February 2008

Airship Ventures is working with a number of science research partners to maximize the opportunity presented by this unique platform to conduct earth and atmospheric science.

Spatial Ops

Building 19, March 2008

R&D focused on technologies to assist the measurement and analysis of climate change caused by deforestation, harvesting forestation and reforestation.

The Mars Institute gave a talk about how to prepare for the future of Mars exploration here on Earth from Hangar Stage B. "From Earth to Mars", featured Mars Institute CEO Dr. Pascal Lee and three scientists from the Haughton Mars Project team — Dr. Brian Glass, Dr. Hans Utz and Dr. Darlene Lim, all of NASA Ames.

The Haughton Mars Project is a Martian analog multi-year research effort in which scientists use a remote, ancient impact crater in the Canadian High Arctic to field-test exploration equipment (such as rovers and space suits) and simulate the

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Photo by Paul Langston

Mars Institute CEO Dr. Pascal Lee joined by Apollo Astronaut Buzz Aldrin presented "From Earth to Mars", discussing how to use Earth as an analog to prepare for Mars exploration.

Airship Ventures and Moffett Field – a Natural Partnership.

by Alex Hall, CEO, Airship Ventures

Background Perspective



The new ship is the descendant of the original Zeppelins

In 1908 Count Zeppelin almost bankrupted himself trying to build his ‘crazy flying machines’ for the good of Germany. Public support poured in to the tune of 6 million marks, equivalent to more than \$25 million at the

time, resulting in the establishment of the Zeppelin Foundation in the city of Friedrichshafen. The Foundation oversaw the production of airships. Today the Foundation oversees a multi-billion dollar manufacturing organization, a major industry for the area that in 1990 restarted its airship division. The Zeppelin NT (new technology) had her maiden flight in 1997, starting a new era for Zeppelin airships.

In 1931 the communities of Mountain View and Sunnyvale raised nearly half a million dollars to purchase 1000 acres of farmland to create a new dirigible airfield, and gave it to the US government for \$1. They had a vision to bring the new Navy Zeppelin airships to the area to create employment, infrastructure and prestige. Their vision led to this location in 1940 of a key flight laboratory of the National Advisory Committee on Aeronautics (predecessor to NASA). With this concentration of expertise over time, combined with the excellence of Stanford University, the area evolved into today’s Silicon Valley - definitely a good investment.

The behemoth Zeppelin airships of the 1930s were an idea too early for the materials and propulsion technology of the time, although blimps – airships without internal rigid frames – quickly became popular with the Navy, and an LTA (lighter than air) program was created. Moffett Field’s infrastructure soon included the historic 1930s buildings and Hangar One and new airship hangars and the expanding NACA campus. LTA programs ceased in 1947 and other aviation, military and research used the infrastructure until 1994 when base closures closed Moffett and the site was transferred to NASA Ames.



Zeppelin NT #3 flying over Lake Constance

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Under the terms of this enhanced-use lease (EUL), Google will pay NASA an initial base rent of \$3.66 million per year. This rate is based on appraisals establishing fair market value of the land. NASA will use the proceeds to cover the full cost of the lease and the balance may be used for capital revitalization and improvements of the real property assets at Ames.

The 40-year lease provides for periodic escalations and adjustments of rent. Google may extend the lease for three 10-year terms. After that, NASA and Google may agree to extend the lease two additional 10-year terms. If all extensions are exercised, the lease term will be a total of 90 years. NASA will retain control over the project during its construction phase, including approving the design, issuing building permits, conducting inspections and monitoring construction.

Construction will proceed in three phases. The first phase is planned to begin by the end of September 2013, the second phase by 2018 and the third by 2022. While the majority of the development will consist of office and R&D space, Google also plans to construct company housing and amenities such as dining, sports, fitness, child care, conference and parking facilities for its employees, as well as recreation and park facilities and infrastructure improvements for NASA’s use.

Today’s announcement is the latest in a series of collaborations dating back to September 2005, when NASA and Google announced plans to work together on a variety of technology-focused R&D activities. NASA and Google signed a memorandum of understanding that year, launching negotiations for this development in NASA Research Park. Located at Ames, NASA Research Park is a world-class, shared-use educational and research-and-development campus.

Since signing the memorandum of understanding in 2005, NASA and Google have begun collaboration on several joint projects. The Planetary Content project develops software that makes it easier for the science community to publish planetary data via the Internet. This project has already provided high-resolution lunar imagery and maps to the Google Moon™ program and resulted in the “NASA” layer in Google Earth.

Similarly, the Global Connection project enhances the “National Geographic” layer in Google Earth by embedding geo-referenced stories and images from around the world. The Disaster Response project develops prototype software tools to help improve first response to large-scale natural disasters.

Google continued on back page

NASA's Lunar Science Institute at NRP

On April 11 the NASA Lunar Science Institute (NLSI) opened in NASA Research Park's Historic District with a ribbon cutting by Ames Director S. Pete Worden, Apollo 11 Astronaut Buzz Aldrin, California Congressman



Left to right: Dr. Jim Green, Michael Honda, Buzz Aldrin, S. Pete Worden and Dr. David Morrison cut ribbon for NLSI opening.

Mike Honda, NASA HQ's Planetary Science Division Director Dr. Jim Green and Interim NLSI Director Dr. David Morrison from Ames.

Building 17 was the former Admiral's Quarters -- locating the NLSI in this beautiful building is a fitting legacy," Worden said, opening the gala ceremony.

"The Lunar Science Institute will lead NASA's basic and applied research for the agency's lunar exploration goals, providing NASA with scientific and technical perspectives for lunar research programs and space missions. A bright future lies ahead for lunar science," Worden noted.

"The most desirable space station already has six American flags on it, let's go back and use it," said Aldrin, the second man to walk on the moon, as he recalled the lunar plaque placed by Apollo crew stating "we come in peace for all mankind."

This fall NASA plans to launch the Lunar Crater Observation and Sensing Satellite (LCROSS) managed by Ames. LCROSS, a secondary payload aboard the Lunar Reconnaissance Orbiter managed by NASA's Goddard Space Flight Center, will slam into the lunar surface to search for frozen water at the lunar south-pole.

NASA also has plans to send, in 2011, a small spacecraft to the moon to assess the lunar atmosphere and the nature of dust

lofted above the surface. The Lunar Atmosphere and Dust Environment Explorer (LADEE) will launch before NASA's moon exploration activities accelerate during the next decade.

"There are secrets to the solar system on the surface of the moon. It is advantageous that the science and exploration are linked so early on," said Green.

Ames Dr. David Morrison has been selected as the interim director for NLSI.

"Creating a new and innovative program in lunar science is an exciting prospect, which I am thrilled to take on," said Morrison. "We have long neglected our home satellite, but no more," he noted.

A world-renowned planetary scientist, Morrison serves as the senior scientist at the Ames-based NASA Astrobiology Institute. The Lunar Science Institute, a virtual adventure in lunar science, is modeled after the Astrobiology Institute with teams working together across the nation to help lead the agency's research activities related to NASA's exploration goals.

The NLSI will fund interdisciplinary science and exploration research teams to conduct basic lunar science, and astronomical, solar and Earth science investigations that can be performed from the moon. Institute teams also will provide a quick-response capability in support of NASA's Exploration initiative. The institute will also support development of the lunar science community and train the next generation of lunar science researchers.



NASA Research Park's Building 17 was renovated to house NLSI and NASA CoLab personnel.

NASA announced its intent to establish a new lunar science institute in October 2007. The Lunar Science Institute will augment other, previously established, but smaller, focused lunar science investigations funded by NASA. Work performed by the institute will be conducted at a variety of NASA centers, universities and non-profit organizations across the nation. Institute funding will be allocated based on competitive selection

following scientific peer review.

A nationwide search for a permanent director is under way. Morrison, who obtained his Ph.D. in astronomy from Harvard University, has written more than 155 technical papers and published a dozen books. He has worked at Ames since 1988, as chief of the space science division and director of the space directorate at the center.

Planners Collaborative, Inc. receives NASA Honor Award for Public Service Group Achievement



Planners Collaborative, Inc. at Building 19, NASA Research Park

NRP Partner Planners Collaborative, Inc. has been selected for the NASA Honor Award for *Public Service Group Achievement*, for an outstanding performance in business operations and technical services while participating in a significant program or project that has contributed substantially to NASA's mission.

Explicit consideration was given to: the quality of results and the level of impact on NASA programs or operations; effective management of cost and schedule; customer satisfaction; and additional credit for development of innovative approaches and/or success in responding to unforeseen crises.

Planners was selected from among hundreds of nominees throughout the Agency for its outstanding performance in support of NASA missions and for making significant contributions to the Agency's strategic goals.

"Planners is a small but incredibly resourceful company that has made significant contributions to the Agency's strategic goals. They are highly deserving of the NASA Public Service Group Achievement Award. The management and technical team's dedication to the success of the agency is perhaps best expressed by their company motto, "Making the Vision our Mission," said John Adams, the nominating official.

"At Planners Collaborative, communication and collaboration across disciplines underscores all they do. From video news releases for the Public Affairs Office to video data acquisition for the Arc Jet Facility, they keep stakeholders informed, supportive and enthusiastic about NASA's mission," Adams noted.

"There is no higher honor for a NASA contractor than receiving the NASA Honor Award. We thank our NASA customers for this acknowledgement. We also want to thank our NASA customers for the collaborative environment we work in to achieve success together in support of NASA's mission," said Ed Shoucair, Vice President of Planners.

Tibion Collaborates with Stanford University's Biomechanical Engineering Group

(BUSINESS WIRE) -- Calif., May 22, 2008

Tibion Corporation, a leading developer of bionic technologies for the mobility impaired, announced that it has engaged in a collaboration with Stanford University's Biomechanical Engineering Group to develop future applications of its bionic technology. Per the agreement, a team of Stanford graduate students will be working to extend Tibion's technology platform to additional medical applications. The work will serve as a foundation for future development activities to address mobility impairment across a wide range of acute and chronic indications.

Tom Andriacchi, Ph.D., Chairman of Stanford's Biomechanical Engineering Group and Professor, Orthopaedic Surgery, stated that *"the industry collaboration with Tibion has generated much excitement because of the technology's capacity to improve the quality of life for many people."* The Stanford team will build on the bionic technology platform provided by Tibion to achieve enhanced mobility for patients suffering from neuromuscular or musculoskeletal pathologies.

Kern Bhugra, Tibion CEO, added, "We are fortunate to have the biomechanical expertise of Tom Andriacchi and his graduate students focused on additional applications of Tibion's bionic technology and are enthusiastic about the innovative potential."

For more information, visit: <http://www.tibion.com>



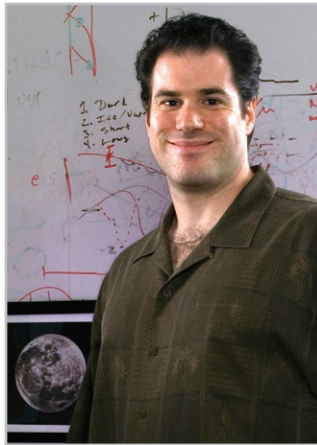
Photo courtesy of Photozig

Yuri's Night "Flight Path" exhibit by Planners, depicting the history of flight, from the Wright Brothers (leaving Earth) to Neil Armstrong (walking on the Moon).

Ecliptic Enterprises Corporation and NASA Ames Collaboration In Full Swing

Pasadena Firm Provides Key Elements of LCROSS Lunar Mission Science Payload

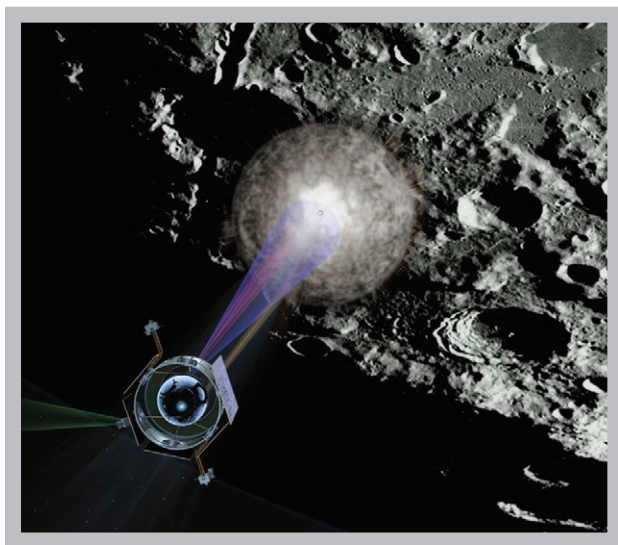
A collaboration between NASA Research Park entrepreneurial space firm Ecliptic Enterprises Corporation and NASA Ames Research Center reached a milestone with final acceptance of the Ames-developed science payload for the LCROSS lunar mission and its shipment to Northrop Grumman Space Technology (NYSE: NOC) in Redondo Beach, CA. Integration and testing of the payload with the LCROSS spacecraft began in late February.



LCROSS Principal Investigator
Dr. Tony Colaprete

NASA's Lunar Crater Observation and Sensing Satellite mission is designed to impact the LCROSS spacecraft (and a large upper stage from the Atlas 5 rocket that launches it) into a permanently shadowed crater at the Moon's south pole in early 2009. LCROSS, and the Lunar Reconnaissance Orbiter, will be launched by the Atlas 5 in winter 2008.

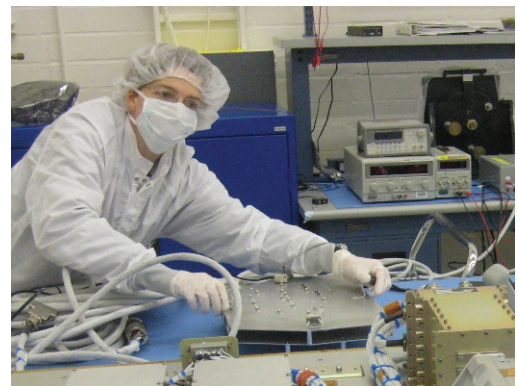
Ecliptic, under contract to Ames, supplied the Data Handling Unit (DHU), the core avionics control unit to control and route data from all nine onboard remote-sensing science instruments -- including one of Ecliptic's RocketCam color video cameras -- during the mission.



LCROSS collecting data from plume impact
Artist rendering courtesy of Northrop Grumman

"LCROSS and its payload will give us a truly unique view of the impact event. Never farther than 600 km from the impact itself, and closing in fast, the suite of LCROSS instruments will characterize the impact, ejecta and resulting crater with unmatched sensitivity and resolution," said LCROSS Principal Investigator and Ames planetary scientist Dr. Tony Colaprete.

"The method by which this payload was developed -- working with commercially available instrumentation and hardware and bringing it to flight qualification in rapid fashion -- made this payload possible in the first place," said Colaprete.



Ames LCROSS payload team member Dr. Kimberly Ennico with a fully assembled LCROSS payload panel.

Using an active, pre-defined and extensively rehearsed sequence stored in and executed by the DHU, the LCROSS science payload will first observe the Atlas 5 upper stage impact into the crater, followed seconds later by direct observations of the 250-metric-ton plume of material ejected from the crater by this impact as it meets the incoming LCROSS spacecraft about 10 km above the lunar surface. Finally, LCROSS will capture its own demise as it, too, impacts the same crater.

Live RocketCam video and science data will be beamed to Earth-bound viewers throughout the 9-hour sequence of events. Numerous terrestrial and space-based telescopes should be able to observe the impacts.



RocketCam NTSC camera and bracket

Ecliptic and Ames entered into a joint Memorandum of Understanding in summer 2007 to collaborate on projects involving onboard imaging systems for rockets and spacecraft, small space payloads, related data-transport and data-processing technologies, and novel government business models for enabling expanded entrepreneurial space activity.

Apprion Names Mike Bradley CEO

Former Wonderware President Joins Industrial Wireless Leader
by Sarah Prinster

Apprion, the pioneer of industrial wireless application networks, announced in February that Mike Bradley has been named CEO, succeeding Stephen Lambright, a founder of Apprion who will be continuing with the company as VP of Marketing and Customer Services. Bradley served as Wonderware's president for five years from November 2002 to November 2007.



Mike Bradley, Apprion CEO

During his tenure, Bradley was instrumental in repositioning Wonderware from a pure-play HMI/SCADA vendor to a leader in Manufacturing Intelligence and Operations Management/MES Software. Under his leadership, Wonderware consistently achieved more than four years of double-digit growth - expanding the installed base to over 100,000 plants and growing the network of distributors to more than 140 offices worldwide.

"My time at Wonderware was some of the most gratifying of my career. But now I am elated with the tremendous growth possibilities at Apprion. It is rare to have an opportunity as exciting and as large in scope as what we see emerging in the industrial wireless space," Bradley said. *"What Steve Lambright, his executive team, and the entire Apprion team have already achieved in technology breakthroughs and customer success is extremely impressive. Apprion is poised for continued growth and I'm excited to join at such a pivotal point in the company's development."*

"We are extremely fortunate to have someone of Mike's market acumen, personal character, and proven track-record join Apprion as CEO," said Stephen Lambright. *"Mike brings a wealth of experience to Apprion and under his guidance, I am certain we will extend Apprion's leadership in serving the manufacturing and other industrial markets."*

Apprion continued on back page

NASA Ames Partners with m2mi for Small Satellite Development

MOFFETT FIELD, Calif. -- April 24, 2008 -- NASA's Ames Research Center and m2mi Corp. announced April 24th they are taking a revolutionary step forward in improving telecommunications and networking from space.

Under the terms of a cooperative research and development agreement, only the third in NASA's history, NASA Ames and m2mi will work together to develop very small satellites, called nanosats, for the commercialization of space.

"NASA wants to work with companies to develop a new economy in space," said NASA Ames Center Director S. Pete Worden. *"m2mi has great technology that fits excellently with our goals, while enhancing the commercial use of NASA-developed technologies."*

Nanosatellites are small satellites weighing between 11 and 110 pounds. A large number of these satellites, called a constellation, will be placed in low Earth orbit for the new telecommunications and networking system.

"The constellation will provide a robust, global, space-based, high-speed network for communication, data storage and Earth observations," said m2mi Chief Executive Officer Geoff Brown. *"Nanosatellites take advantage of the significant technological advances in microelectronics and will be produced using low-cost, mass-production techniques."*

Under the agreement, NASA and m2mi will cooperate to develop a fifth generation telecommunications and networking system for Internet protocol-based and related services. The cooperative effort will combine NASA's expertise in nanosensors, wireless networks and nanosatellite technologies with m2mi's unique capabilities in software technology, sensors, global system awareness, adaptive control and commercialization capabilities. Fifth Generation, or 5G, incorporates Voice Over Internet Protocol, video, data, wireless, and an integrated machine-to-machine intelligence layer, or m2mi, for seamless information exchange and use.

"This initiative shows great promise in revolutionizing mobile communications critical in meeting future needs," said Badri Younes, NASA deputy associate administrator for Space Communications and Navigation. *"This project also will leverage m2mi's capabilities in software expertise to automate global system awareness and provide intelligent adaptive control."*

For more information visit: <http://www.m2mi.com>

Carnegie Mellon West Announces Launch of a new Full-time MS Software Engineering Program

by Diane Dimeff



Carnegie Mellon University west coast campus students

Carnegie Mellon University's west coast campus, is launching in fall 2008 a full-time version of its very successful part-time Master's in Software Engineering program. This exciting new program is designed for new or recent computer science graduates who are interested in becoming software engineers, developers, team leads, and architects in the dynamic Silicon Valley.

This 12-month, full-time MS SE program delivers a team-based, project-oriented curriculum focused on agile applications reflective of the dynamic Silicon Valley software industry. Through authentic project work, students master modern software engineering methods and technologies across the lifecycle, learn to align software engineering decisions with the company's business goals, and develop the communication, teamwork, and negotiation skills critical to successful technical leadership.

For questions about the program please contact Sylvia Leong, director of admissions, at Sylvia.leong@west.cmu.edu or by telephone at 650/335-2808.

Carnegie Mellon West and UC Berkeley Hosted One-Day Conference on The Mobile Future

In a not-too-distant future, the computing platform of choice for a significant number of consumers will be a hand-held device. Signs of this trend are already apparent in Asia and Scandinavia, and all indicators suggest that this evolution transforms the lives and work of individuals in ways that are both chaotic and enriching. Given the diversity of global communications mechanisms, how can network operators, software vendors, and handset providers foster this evolution?

Sofcon 2008 brought together experts from industry and the research community to share and discuss their visions of possible futures, along with technology and business models for achieving them. Held April 22nd at the Santa Clara Convention Center, Sofcon featured 15 great companies, 2 great universities, 20 panelists, 300 attendees.

The Mobile Future conference, sponsored by Carnegie Mellon West and the Fisher Center at UC Berkeley's Haas School of Business, brought together industry experts and academics to explore the background, current status, and future of the mobile communications industry. New demands from competition and advances in technology and innovation continue to rock the mobile technology and communications industry as well as its customers in ways that will alter how everyone lives and does business. So much is changing that we need a slice-in-time picture, viewed from many angles at once.

Did you know that Carnegie Mellon University is located in NASA Research Park near Mountain View?

We offer flexible full-time or part-time graduate programs:
MS in Software Engineering & MS in Software Management

Prospective Students:

http://west.cmu.edu/prospective_students

Directions to Campus:

http://west.cmu.edu/who_we_are/visitor

Our website: <http://west.cmu.edu>

Contact: 650-335-2808 or admissions@west.cmu.edu

Issues discussed were: What do consumers want? How can providers deliver it? What obstacles must be cleared? What partnerships make sense? What grand challenges need to be solved? How can Silicon Valley help close the gap with the rest of the world? Where should investors, creators, and customers of the mobile industry place their bets?

Industry experts and academic pundits learned about the state and future of mobile technology – its demands, challenges, and opportunities from innovation to delivery of services.

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human factors issues that will arise when astronauts live in Mars' remote desolation.

The talk featured three videos shot by Discovery Television, Canada, showing Lee surveying Haughton Crater from a helicopter, a robotics field trial conducted by Dr. Utz of K-10 Rovers "Red" and "Black" and a space suit test led by Dr. Glass and Martian lakes expert Dr. Lim.

"Yuri's Night was a huge success because it motivated people to think about space exploration using technology, science, music and art," Kajiyama said. His favorite images were of the space fashion show, a dance performance, slinky performers on stilts and children interacting with a robot.

To look at Photozig images of Yuri's Night go to:
<http://m2.pepcast.com/pz/zindex.php>

For Yuri's Community Photo Sharing go to www.pepcast.com
 The Community Photo Sharing allows the 198 Yuri's Night events around the world to upload photo albums offering a world view of all Yuri's Night events.

For other Yuri's night photos visit: <http://sf.yurisnight.net/2008/> (for the Bay Area) and <http://www.yurisnight.net/2008/> (for Yuri's Night around the world images).

Ecliptic Enterprises Corp's CEO Rex Ridenoure flew in from Pasadena to take part in Yuri's Night, and was joined by local intern Tina Le. Ecliptic presented a video compilation of "RocketCam's Greatest Hits", which showed a sampling of onboard "launch-to-orbit" video footage from 30 space projects (including NASA shuttle launches), many with sound, taken by Ecliptic's onboard RocketCam camera. Images included many delta and shuttle launches, SpaceShipOne spacecraft-rocket separation sequences and XCOR Aerospace test flights. The onboard video views showed the drama of what it's like to ride a rocket into orbit, plus behind-the-scenes insights

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Photo courtesy of Photozig

Photozig staff and Yuri's Night guest

Prior to the talk, a "surprise" guest in a vivid red shirt jumped onstage — Astronaut Buzz Aldrin -- who spoke passionately about using the Moon as a way station and a "safe haven" for astronauts and using Mars' moons Phobos and Deimos as a fuel source for Mars travel.

According to Lee and his team, lessons learned from Haughton include: helping scientists figure out where to look for life's biosignatures on Mars (at the bottom of a gullies and under rocks), realizing that impact craters tend to create habitable zones for new opportunistic life forms, and knowing that drilling and excavating on Mars could provide important resources for astronauts to "live off the land" on Mars.

NRP tenant Photozig was very visible at Yuri's Night. From Exhibit #46 located at the main door of the N-211 Hangar, CEO Bruno Kajiyama and his busy team of staffers and Yuri's volunteers masterminded the "Photozig Web Albums Live" exhibit, broadcasting a real-time slideshow montage of images of Yuri's on a large overhead screen, posting photos to a photo sharing web site and video filming the event. Photozig shot over 2,000 images and interviewed over 100 people, including NASA Ames Director Dr. Peter Worden and Apollo Astronaut Buzz Aldrin.



Photo by Rex Ridenoure, Ecliptic Enterprises

Yuri's Night guest enjoying RocketCam's Greatest Hits

UCSC Deeply Invested in Silicon Valley

Where we do business

UCSC has four major sites and employs 800 people in Silicon Valley. Its education and research programs serve more than 18,000 students from pre-K through executive levels.

UCSC's Silicon Valley Center is based in NASA Research Park in Mountain View and includes distance learning classrooms, faculty and student offices, and computer labs. Associated research facilities include the Advanced Studies Laboratory.



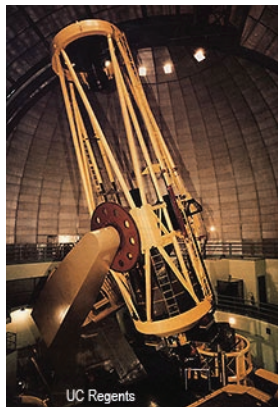
Building 19 (above): Classrooms, conference rooms, faculty offices, graduate offices, computer labs, staff offices, access to NASA Research Park facilities and conference center.

Building 239: 5,744 square feet of dry and wet lab space.

University Extension has sites in Cupertino and Sunnyvale that include classrooms, computer labs, and office space. Each year more than 18,000 Silicon Valley professionals turn to Extension for more than 40 professional development programs.

UCSC's New Teacher Center operates a satellite office at the Extension Cupertino facility. An intensive mentoring initiative focuses on some of East Palo Alto's lowest performing elementary and middle schools.

Lick Observatory, established on Mount Hamilton in 1888, was the first major mountaintop observatory in the world. It continues to be an important research site and is a leader in the development of instrumentation for adaptive optics.



Shane Telescope

The observatory's three-meter Shane Telescope plays a key role in the discovery of planets around distant stars, and the Automated Planet Finder now under construction will be the observatory's seventh major telescope.

By the numbers

Silicon Valley Employees:

- UCSC Extension: 500 instructors, 75 staff members
- Lick Observatory: 15 researchers, 25 staff members
- Silicon Valley New Teacher Center: 5 staff members
- Silicon Valley Center: 135 researchers, 25 faculty members, 25 staff members

UCSC alumni in Silicon Valley: 7,719

Silicon Valley enrollments:

- Silicon Valley Center: 200
- Extension Facilities: 18,000

UCSC and NASA: Allies in Innovation

The University Affiliated Research Center (UARC), a partnership between NASA and the University of California, is a 10-year, \$330 million research contract managed by UC Santa Cruz. UCSC and NASA scientists work side by side on UARC research tasks in critical areas.

- UARC teams have developed award winning software tools to improve the nation's air traffic management systems.
- Nanotechnology researchers are developing technology that incorporates nanoscale features into advanced semiconductors.
- Computer scientists have developed a computer-based spoken-dialogue system that responds to voice commands and talks astronauts through complicated procedures in space.

Bio-Info-Nano Research and Development Institute

With NASA and industry, UCSC is spearheading the establishment of research and development facilities through which industry, government, and university scientists will seek breakthrough technologies based on the convergence of biotechnology, information technology, and nanotechnology. Hewlett-Packard is the first partner in the BIN-RDI's industry affiliates program.

Potential innovations include the development of:

- Sustainable energy technologies, such as thermoelectric materials, novel photovoltaic devices, and fuel-cells.
- Ultra-miniature medical and surgical tools for noninvasive surgery and microelectronic prosthetic devices
- Machines that optimize and conserve energy with attributes similar to biological systems

Partnerships with UCSC's School of Engineering

UCSC's Baskin School of Engineering

(BSoE) is collaborating with industry partners including Cisco Systems, General Motors, Google, Lockheed Martin, Yahoo, and others to create new opportunities in research and education for Silicon



Baskin School of Engineering at Santa Cruz campus

Valley. The school is building and maintaining excellence in three major research areas: information technology, biotechnology, and nanotechnology. These three areas are closely linked and synergistic in nature, and activities in each area are supported and enhanced by contributions from the others. Many BSoE research programs also have strong ties with Silicon Valley industry.

- **The Storage Systems Research Center** is working to improve the performance and profitability of the data storage industry through strong focus on the software and systems aspects of data storage.
- **The Information Technology Institute** conducts collaborative research in a wide range of areas related to the Internet, computer systems, and communication technologies.
- **The High-Speed Networks Lab** is developing the next generation of high-capacity routers and switches for network communications.
- **The Center for Biomolecular Science and Engineering** blends cutting-edge computational approaches with new research in biology, chemistry, and engineering and maintains the UCSC Genome Browser, a valued resource for biomedical and biotechnology research.

Campus and Industry Representatives Discuss Benefits of Partnerships in Silicon Valley

By LaRae West, larae@ucsc.edu

UCSC officials joined industry representatives in April to discuss the benefits of industry-university partnerships in Silicon Valley. They provided insights into managing successful research and development partnerships.



Vice chancellor for university relations Donna Murphy (center) panelists Anna Williamson of Genentech (L) and Lou Witkin of HP Labs (R).

Nirvikar Singh, Special Advisor to the Chancellor for the School of Management, noted the economic benefits of such partnerships.

"Universities such as Bologna and Oxford are the oldest continuously functioning institutions in the world. Since their founding, they have been critical to the success of their surrounding economies," said Singh, a professor of economics. "Modern industry-university partnerships offer the potential for cutting-edge research, as well as challenges of intellectual property management and culture alignment."

The panel, held April 1 at the NASA Ames Conference Center, included Lou Witkin, program manager of HP Labs Open Innovation Office; Anna Williamson, senior manager of business development at Genentech; William Berry, director of UC-NASA Ames University Affiliated Research Center; and Gerald Barnett, director of UCSC's Office for Management of Intellectual Property. Steve Zornetzer, associate center director for institutions and research at NASA Ames, was the moderator.

Berry discussed UCSC's Silicon Valley Initiatives-- the Bio-Info-Nano Research and Development Institute, UCSC Extension and the proposed School of Management. Through these initiatives, UCSC is partnering with NASA Ames and Silicon Valley industry and universities at NASA Research Park.

Partnerships offer opportunities to engage university students in open collaborations that bring new ideas to help shape industry and the world and create an entrepreneurial environment.

Witkin discussed the phases necessary to establish a partnership, noting that *"if any one of the steps are skipped there will be less than optimal partnering."* Williamson said Genentech is interested in collaborations with universities because to continue to be creative they need *"internal and external people to work at the forefront of science."*

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Today NASA is engaged in developing the reuse of Moffet Field as NASA Research Park, attracting industry and academic partners.

Airship Ventures - The Zeppelin Revival

Zeppelin has been operating an NT airship in Germany profitably, for sightseeing, science missions, advertising and media. Their studies show that the ideal place with an appropriate demographic, tourist base and climate for a similar operation is the San Francisco Bay Area. Airship Ventures principal, Brian Hall, embraced a partnership with Zeppelin Luftschifftechnik and during the past year, invested significant dollars and countless man hours in clearing regulatory and operational hurdles and raising the financing for this new business.



Airship Ventures' new Zeppelin

Airship Ventures at NASA Research Park

In February 2008 Airship Ventures took up temporary residence in Building 156 while they continue negotiating to lease a historic building to base their headquarters at NASA Research Park. Their vision involves sympathetic renovation to preserve a historic building.

On May 21, 2008, Zeppelin Luftschifftechnik and Airship Ventures announced the successful first flight of the fourth and latest Zeppelin NT airship over Friedrichshafen, Germany. Airship Ventures has witnessed over the past year the frame assembly, gondola fitting, helium put into the envelope, the engines' first start up and now her maiden flight.

The Airship Ventures logo and "Going Places" branding evoke images of flightseeing trips to come – iconic locations in California including San Francisco, Lake Tahoe, Napa Valley, Treasure Island, Hollywood and Yosemite. The Airship plans to arrive in the Bay Area in October 2008, 75 years almost to the day since the Macon arrived on October 15, 1933.

Airship Ventures continued on back page

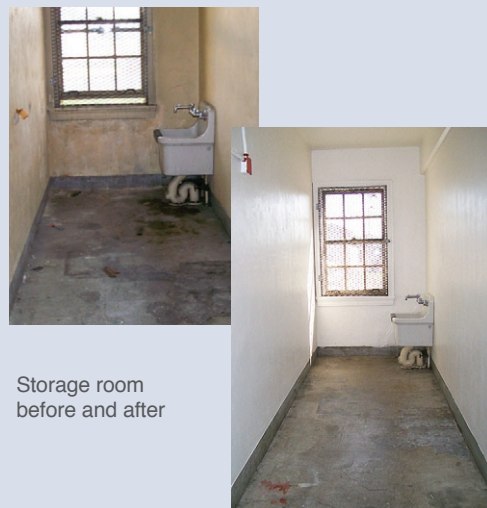
Historic Building 20 Restoration



View of Lobby after renovation

Building 20, one of NASA Ames' historic buildings located in the Shenandoah Historic District at NASA Research Park, has recently undergone a facelift in preparation for reuse as a partner occupied building. This building, built in 1933, served as the military Bachelor Office Quarters until 1999 when it became vacant.

In compliance with the National Historic Preservation Act of 1966 and environment and fire codes, the Center made an effort to repair the building deficiencies to preserve this historic building for interim partner occupancy on the first floor. A



Storage room before and after

Xeriscape Gardens by Kathleen Burton



Office space before and after



substantial investment was made to repair roof, gutters and flooring; wall, ceiling and external damages; and abatement of hazardous material. In addition, upgrades and replacements were made to building systems such as the boiler unit, steam radiators, hot and cold water, electrical, data and phone, fire alarm and exit/emergency lighting.

The Shenandoah Historic District is an attractive site to the commercial and university partners who have a collaborative and programmatic relationship with NASA.

The repair efforts brought Bldg. 20 back to life in the Ames community. The investment will prevent on-going deterioration while making it habitable for future business occupancy.



Lobby fireplace before and after

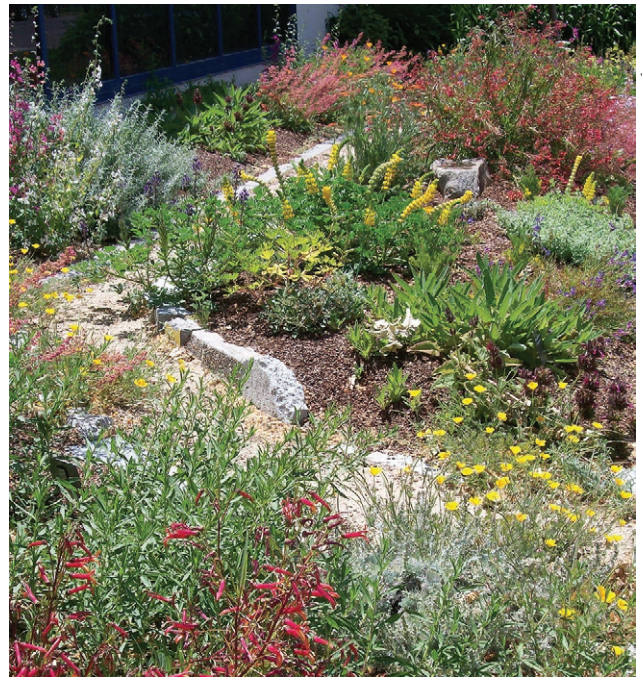


Photo by Christine Nolasco

Center Director S. Pete Worden is encouraging green initiatives at Ames. As one of his objectives in 2008, he is interested in the development of Ames as a center for green energy technologies in Silicon Valley.

An early green initiative at Ames was the development of Ames' Xeriscape gardens. Xeriscape gardens consist of California native plants that require little water. They reduce landscaping needs and associated waste, saving maintenance and disposal costs. *"Such gardens provide healthy habitats for native butterflies, birds and other species,"* said Steve Frankel, Chief of the Plant Engineering Branch. Frankel is responsible for center maintenance, repairs and landscaping.

Visit Xeriscape Gardens at Ames Megabyte Café and across from Bldg. 269.



Matija poppies

Photo by Christine Nolasco

LifeZig Personalized Reminiscence Video with Free Slideshows and Music for Individuals with Alzheimer's and Dementia

Photozig, Inc., located at NASA Research Park, announced the expansion of its free LifeZig program to create personalized video channels for individuals with Alzheimer's Disease and other dementia, as it is recruiting eligible organizations that provide care for dementia patients in the San Francisco Bay Area.



CEO Bruno Kajiyama (R) and John DiMario (L) of Photozig Inc.

LifeZig, funded by the National Institute on Aging under grant 2R44AG022261-02A1, aims to develop a new reminiscence activity for dementia patients based on personalized reminiscence slideshows, which may contribute to enhancing quality of life, reducing agitation, and decreasing the burden of care.

This program is free for eligible organizations and caregivers. Compensation and an optional free DVD with personalized digital photo album and slideshow video will be provided to participants.

"LifeZig enables an enhanced reminiscence activity for dementia. In our pilot tests, we were impressed by participants' reactions, when watching their own video," said Bruno Kajiyama, CEO of Photozig. "Initial results suggest that LifeZig may help to improve their mood and decrease anxiety by providing pleasant events, and facilitating communication with caregivers. The possibilities of such digital photo technology to improve behavioral interventions for dementia are very encouraging."

According to Ames Technology Partnerships, LifeZig technology could potentially be used for ISS crews skill training.

There are many tasks aboard ISS or longer duration future missions that could benefit from multimedia skills training or refresher courses, according to one of the technology partnership managers. For example, this type of vivid training (as opposed to dry technical manuals) would be useful in emergencies (medical and otherwise), unplanned mission contingencies and cross-training. LifeZig technology could also provide videos, music, photos, and art exchange between ISS crews and their families.

Dementia care providers are encouraged to contact LifeZig, at 650-694-7496 ext.3 or "info @ photozig.com".

Yuri's Night continued from page 9

into aerospace vehicle development and testing. Ecliptic's presentation was located in the "chill area", an area in the Northwest part of the Hangar N-211, designed to provide a respite from the high-voltage energy of Yuri's Night.

In the chill area, people lounged on pillows and couches and alternated listening to the Yuri's Night DJ spin metallic space rock and Ecliptic's launch audiotape, set against dramatic images shot by RocketCam of the shuttle and other space vehicles in all phases of launch and flight.

About 800 people viewed the RocketCam video, Ridenoure noted. There was definitely enthusiasm. After viewing SpaceShipOne's onboard video sequence from take-off to landing, one group of viewers burst into spontaneous applause, Ridenoure said. *"You can almost feel the launch vibration when you look at RocketCam images,"* said another Yuri's Night attendee.

"I was very pleased to see such a wide variety of people there -- age, ethnicity, formality (or not), geographic origin -- and to also see how "non-NASA" the overall setup and event details were," Ridenoure noted.

"I was also pleased to see so many people stroll by the RocketCam video, stop, spend a few minutes gawking at the video clip, and then walking away saying, "Wow! That was SOOOO cool!"

Ridenoure believes that the goals of Yuri's Night were met. *"It raised the awareness level about space exploration,"* he said, *"and everyone had fun doing it."*

Inform Art/Gary Air presented "Share a Ride and Sustain the Earth", whose centerpiece was a Cessna single-engine piston airplane outfitted with state-of-the-art air taxi avionics, allowing ride sharing by air to avoid the congestion below.

Yuri's Night continued on next page



Photo by Paul Langston

Tricia and Dave Guerrieri, a short-haul pilot, presented "Share a Ride and Sustain the Earth"



Steve Wozniak



Trekkie with Astronaut Yvonne Cagle



Ames CIO Chris Kemp and Dr. S. Pete Worden



Yuri's Night photos by Paul Langston, John Schultz, Jim Taylor and Photozig

Yuri's Night continued from previous page

A collaborator, Zimride, whose role is to set up air “carpools” using social networks such as FaceBook, also took part.

The purpose of Gary Air’s exhibit was to demonstrate the concept of “ride sharing” by air.

“Yuri’s Night was the right venue for this,” said company principal David Guerrieri. One powerful positive for Guerrieri was that the event showcased the essence of the NRP — to foster collaborations. *“Yuri’s let Inform Art/ Gary Air join together with Cessna and Zimride to show people this new air taxi concept,”* he said. The purpose of air taxi is to lower commute costs and reduce greenhouse emissions from both cars and airplanes, in keeping with the Yuri’s Night theme, he noted.

InformArt, Zimride, Google and others are joining forces to foster social network data sharing for air taxi rides, he said. For example, if someone signs up on Craigslist to share an air ride, that database will be automatically matched with ride share names also listed on social network databases.

Yuri’s Night also showcased NRP tenant Makani Power, who provided a model of their wind-powered hydrofoil boat, developed by founder Don Montague. In addition, Makani Power CEO Saul Griffith gave a talk on sustainability.



Photo by Paul Langston

Makani Power’s model of a wind-powered hydrofoil

Google continued from page 3

Google's innovative search technologies connect millions of people around the world with information every day. Founded in 1998 by Stanford University Ph.D students Larry Page and Sergey Brin, Google today is a top web property in all major markets. Google is headquartered in Silicon Valley with offices throughout the Americas, Europe and Asia.

Airship Ventures continued from page 12

Collaborative Opportunities

Airship Ventures is working with a number of NASA science research partners to maximize the opportunity to conduct earth and atmospheric science, both done by the Zeppelin and traditional blimps in the past. The Zeppelin has also been used successfully for surveillance, is a wonderful educational tool, and in partnership with Hiller Aviation Museum and NASA, will support teachers and students who are inspired by the world's longest commercial airship (246ft) in Bay Area skies.

For further information visit:
www.airshipventures.com or
Airshipventures.blogspot.com

Apprion continued from page 7

Prior to joining Wonderware, Bradley was CEO of Projexsys, an electronic business intelligence company serving industrial and financial markets. Before starting Projexsys, Bradley spent 14 years as CEO for Cimtek Commerce Inc. and Cimtek Inc., which were e-Commerce and marketing database companies serving the industrial and medical marketplaces. Early in his career, Bradley was a sales and marketing manager for Texas Instruments for 10 years in the Industrial Systems Division.

Apprion has been a partner in Bldg. 19 NASA Research Park since Nov. 15, 2004. #SAA2-401893 is their current lease.

Upcoming Events



**4th Annual
NRP Summer Picnic
July 23rd, 2008**

**11:30 am - 1:30 pm
Chase Park**

Announcements

NRP Lease Payment Location Changes

Effective July 1, 2008, all NASA billings and collections -- including NASA Research Park lease payments -- will be processed centrally at the following address:

NASA Shared Service Center (NSSC)
FMD Accounts Receivable
Attn: For the Accounts of NASA Ames Research Center
Bldg. 1111, C Road
Stennis Space Center, MS 39529

NRP Partners should mail lease payments to this address by the first of each month. Any questions, please contact your NRP Account Manager. Thanks for your assistance.

NRP Post

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