



## The Dawn of new discoveries

Mission to the asteroid belt launches this summer

By Mark Whalen

JPL IS NOW CLOSE TO EMBARKING ON ANOTHER OF ITS TRADEMARK, ONE-OF-A-KIND MISSIONS, THIS TIME TO THE HEART OF THE ASTEROID BELT.

The Dawn mission is being prepared for launch this summer from Kennedy Space Center.

Dawn will explore Ceres and Vesta, the two largest known asteroids in our solar system, which lie in the vast expanse between Mars and Jupiter. In the process, the mission will make history on several fronts.

Besides being the first spacecraft to orbit a main-belt asteroid and the first to ever orbit two targets after leaving Earth, Dawn will be the first science mission powered by electric ion propulsion, the world's most advanced and efficient space propulsion technology. Ion propulsion was validated on JPL's Deep Space 1 mission, conducted from 1998 to 2001.

"Ion propulsion for this mission is the enabling technology and that's what made this mission fit into the Discovery Mission requirements," noted Dawn Project Manager Keyur Patel. "We've done anything and everything in the design, development and testing of the system to make sure it's successful."

"I have full confidence in this system," added Christopher Russell of UCLA, Dawn's principal investigator. "The major technical challenge is to operate in deep space for 10 years, with sufficient reserve that when surprises occur, we can respond to them whether these surprises are unexpected scientific discoveries or operational difficulties."

The spacecraft is currently undergoing closeout activities at Astrotech Space Operations near Kennedy Space Center. Patel said two solar arrays — stretching to about 20 meters (66 feet) — were integrated the third week of May, after which the hydrazine and xenon will be loaded to fuel the mission. A flight readiness review was scheduled for the week of May 27. Finally, spin-balance testing will occur for the spacecraft prior to its integration with the launch vehicle for the June 30 liftoff.

Boosted by a gravity assist from Mars in March 2009, the spacecraft will arrive at Vesta in September 2011, where it will orbit and explore for about eight months, then continue to Ceres for a February 2015 encounter. The mission is scheduled to end in July of that year with Dawn remaining in orbit around Ceres.

The allure of Ceres and Vesta lies in their distinct characteristics. Ceres shows a primitive surface with evidence of water content, indicating that this body is representative of the icy moons of the outer planets, while Vesta appears dry and evolved, with surface features that include a huge crater at the south pole, as well as lava flows.

"Vesta and Ceres are the two most massive asteroids, each individually interesting and quite different from each other," noted Russell. "They are the obvious pair to study first. Moreover, they are close to the ecliptic plane and accessible. Dawn represents the fourth time we proposed a dual body rendezvous/orbital mission. The first three times, Vesta and Ceres were too far apart in the sky for such a dual rendezvous. Beginning with a launch between 2005 and 2007, the dual Vesta-Ceres visitation became possible."

Russell added that the science team has been thinking "very hard" about the nature of Vesta and Ceres, having taken telescopic and meteoritic data and using them to make models of the two bodies. "The team consists of some of the best experts on these two minor planets, who know everything one could possibly know about them from existing data. One thing we all agree on is that we are going to be surprised many times over when we reach Vesta and Ceres, because all the existing knowledge is incomplete."

JPL built Dawn's ion propulsion system and other components of the spacecraft. Currently, about 90 to 100 JPL employees and affiliates are preparing the mission for launch, in addition to 80 to 90 from Orbital Sciences Corp., which built the spacecraft.

**"We've done anything and everything in the design, development and testing of the system to make sure it's successful."**

Dawn Project Manager  
Keyur Patel

**dawn** *Continued from page 1*

Two JPLers, Carol Raymond and Alex Konopliv, are members of the Dawn science team. Raymond is also the mission's deputy principal investigator.

A little over a year ago Dawn was reinstated after having been canceled due to technical and cost issues. "The project and the institution responded to the independent assessment team's findings and we put a replan forward to get the project restarted," said Patel. "Headquarters approved the replan, which included a number of risk-mitigation activities. We have systematically gone through and performed the tasks we agreed to do according to the new plan, and that has given everybody a lot of confidence in us being able to succeed.

"This hasn't caused a delay in our launch plan," he added. "The team really stepped up and put in the extra hours and effort to get this solved."

This is Patel's first project manager position. He's been at JPL since 1985, when he came in as an academic part-timer to contribute to the Voyager attitude control system. After graduation from Cal Poly Pomona a year later, he worked on Voyager's attitude control flight software and was the attitude control subsystem engineer for the spacecraft's Neptune encounter.

Later, he worked on Topex/Poseidon and Mars Observer, spent a few years in line management, then went back to flight project work with StarLight and Spitzer, and most recently before Dawn, was deputy project manager and project engineer on Deep Impact.

Patel noted that as a child his passion was airplanes, and all of his education has been concentrated in that area. "I wanted to be an aerospace engineer," he said. However, he noted, "After I came here in the summer of 1985, I've never looked back. I wouldn't do anything else." ■

*In the Astrotech Space Operations facility, technicians verify that a computer chip is securely bonded to a side brace on the Dawn spacecraft. The silicon chip holds the names of more than 360,000 space enthusiasts worldwide who signed up to participate in a virtual voyage to the asteroid belt and is about the size of a nickel.*



# Open House 2007



**About 32,000 people attended JPL's open house May 19-20 and enjoyed a wide variety of exhibits and attractions. Among the most popular were the Robo-Dome, a pair of 700-pound robots in a high-tech arena under artificial stars in Building 199 as part of the Universe theme area, and Mars exhibits on JPL's past, present and future rovers and orbiters.**





# Shuttle awaits ex-JPLer

By Mark Whalen

## Olivas preparing for June 8 Atlantis launch

As a boy, John “Danny” Olivas would join his dad up on the roof of their house in El Paso, Texas, and use his small telescope to view the wonders of the dark skies, dreaming of one day making a personal journey to the stars.

That goal is now almost here for the former JPL employee, who is scheduled to make his first space shuttle flight in June after being selected for the astronaut program in 1998. Olivas, who turned 42 on May 25, will join five other astronauts on the STS-117 mission aboard Atlantis on a flight to the International Space Station. Launch is scheduled for June 8 at 4:38 p.m. Pacific time.

The crew of that 11-day shuttle flight will install a new truss segment, retract a set of existing solar arrays and unfold a new set on the starboard side of the station. A mission specialist, Olivas will make two of the three spacewalks scheduled for the flight.

Olivas joined JPL in 1996, following completion of his doctorate in mechanical engineering and materials science from Rice University. His first JPL position was as a senior engineer in the Quality Assurance Section, where his research included the development of tools and methodologies for nondestructively evaluating microelectronics and structural materials subjected to space environments. He was then promoted to program element manager of JPL's Advanced Interconnect and Manufacturing Assurance Program, a research effort that included investigations aimed at evaluating the reliability and suscep-

tibility of state-of-the-art microelectronics for use in future NASA projects. He was also the JPL lead for the NASA Safety Reliability and Quality Assurance Nondestructive Evaluation Program.

Olivas credited his time at JPL with helping him learn “how NASA works, how budgets work, how spacecraft are built.”

“I’ve been very fortunate; I had a lot of good opportunities to work with dynamite people

and I think that really helped me progress in my career,” he said. “If you’ve got the right people around you to support you, you can do pretty much everything.”

During Johnson Space Center training Olivas’ most recent position was lead of the Hardware Integration Section of the Space Station Branch, with responsibility for ensuring proper configuration and integration of future station modules and visiting vehicles. Previously, he had served in the Extravehicular Activity Branch, supporting research focused on developing materials, tools and techniques to perform on-orbit shuttle repair.

Olivas said he likes the Earth-based portion of an astronaut’s job description: interacting with the public and helping others to realize their potential, especially children, who need to understand why it’s important to study science.

He noted in a recent interview that straight As in school are not a requirement for success at NASA or anywhere else, recalling his own struggles. “I’m no different than they are,” he said. “I had the same kind of challenges and decisions they do. If I can do it, they can do it.” ■




## Lab garners funding for International Polar Year proposals

JPL fared well in NASA’s recent selections for the Research Opportunities in Space and Earth Sciences 2006 International Polar Year solicitations. Out of the 92 proposals submitted, NASA opted to fund 33. JPL submitted 16 principal investigator–led proposals, 10 of which were selected.

Six of the winners were from JPL’s Division 33, with two each from Division 32 and Division 38. JPL also submitted nine co-investigator proposals, of which three were selected.

The selected JPL principal investigators and their winning proposals:

Ziad Haddad: Combining Measurements From CloudSat’s Radar, Aqua’s Advanced Microwave Scanning Radiometer-E and NOAA’s Advanced Microwave Sounding Unit-B To Estimate Precipitation In Polar Regions.

Ronald Kwok: Satellite Observations of Sea Ice: Pan-Arctic Ice Export and Assessment Of Sea Ice Models.

Michael Mahoney: An Uninhabited Aerial Vehicle Microwave Temperature Profiler for International Polar Year.

Mahoney: Microwave Temperature Profiler Support for Oracle-03 Activities.

Delwyn Moller: An Interferometric Ka-band Synthetic Aperture Radar: A New Technique for Glacier and Ice-sheet Topography Mapping.

Son Nghiem: The State of Arctic Sea Ice Cover: Integrated Decadal Satellite Observations of Properties and Processes in a Changing Environment.

Eric Rignot: High-Frequency Radar Sounding of Glaciers In Greenland and Antarctica for Force and Mass Balance Calculations.

Leslie Tamppari: Antarctic Dry Valley Soil/Ice History and Habitability.

Xiaoping Wu: Ice Mass Variations From Multi-Satellite and Interdisciplinary Data.

International Polar Year proposals were also solicited in the education and public outreach area, and two from JPL were selected. Anita Sohus will lead Polar Literacy Networks, while Richard Shope is the principal investigator for Exploring Ice In the Solar System: Arctica Science Research Projects for Urban Use.

Three proposals were selected with JPL co-investigators:

Kwok: Assessment of Sea Ice Thickness Estimates Obtained From Satellites Using

Submarines, and Other In Situ Observations. Ignatius Rigor of the University of Washington is principal investigator.

Kwok: Sea Ice Roughness As An Indicator of Fundamental Changes In the Arctic Ice Cover: Observations, Monitoring and Relationships to Environmental Factors. James Maslanik of the University of Colorado is principal investigator.

Dong Wu: The Roles of Gravity Waves In the Polar Atmosphere. Varavut Limpasuvan of Coastal Carolina University is principal investigator.

This solicitation offered opportunities for research to contribute to the objectives of the International Polar Year for the period March 2007 to March 2009. NASA estimated that total funding for the selected investigations will total \$18 million to cover three programmatic years of research activity.

For more information on the proposals, visit <http://nspires.nasaprs.com>.

A workshop for the selected principal investigators to present their work to JPLers is planned for the month of June. Please log on to <http://dailyplanet.jpl.nasa.gov> for more details. ■

# GOING GREEN

## Lab honored for ongoing energy conservation



For its successful efforts in energy conservation, JPL has been named a “Flex Your Power” award winner for 2007 in the Best Overall category.

Each year, the Flex Your Power Awards go to companies, governmental entities and other organizations that have demonstrated leadership and results in saving energy. Flex Your Power, California’s statewide energy efficiency marketing and outreach campaign, is a partnership of the state’s utilities, residents, businesses, institutions, government agencies and nonprofit organizations working to save energy.

Flex Your Power said JPL “has taken a characteristically high-tech approach to energy efficiency. In 2006 JPL completed a wide range of efficiency measures resulting in over 4.2 million kilowatt-hours in annual energy savings, \$379,660 in cost savings and 3.3 million pounds of carbon dioxide reduction. JPL worked closely with Southern California Edison’s engineering staff to make major upgrades to heating, ventilation and air conditioning, and lighting and motor efficiency. JPL has entered into contracts for future SCE efficiency programs affecting new construction, retro-commissioning and industrial efficiency; these programs are expected to save an additional 6 million kilowatt-hours annually. JPL also uses a cutting-edge demand response program that shifts nearly 1.5 megawatts to off-peak; plans are in place to increase shifting to 2.7 megawatts next year. Finally, JPL has an education program to spread efficiency information to employees and the public.”

Flex Your Power said that cumulatively, award winners over the last two years have saved more than \$172 million, 1 billion kilowatt hours and reduced greenhouse gas emissions equivalent to removing more than 80,000 cars from the road. Besides the awards for overall excellence, the organization also gave honors for energy efficiency, demand response, education and leadership, and innovative products and services. For more information, visit [www.fypower.org](http://www.fypower.org).

Mark Gutheinz, manager of the Facilities Engineering and Construction Section (281), along with Matthew Berbee of Section 281’s Engineering and Design Group, accepted the Flex Your Power award May 5 in San Francisco. Later that month, the pair attended a luncheon to receive another award from Southern California Edison associated with JPL’s accomplishments in the Flex Your Power program.



By Mark Whalen

*Matthew Berbee (left) and Mark Gutheinz accepted Flex Your Power’s Best Overall Award on behalf of JPL.*

Gutheinz discussed the Laboratory’s efforts to lower energy consumption while saving money doing it.

**Q: What measures did Facilities Engineering and Construction staff take in the past year to achieve this significant energy savings and cost savings?**

A: One major effort was to install variable speed drives on air handlers and cooling tower fans, in addition to using variable speed chillers and chilled water pumping. We also used premium-efficiency motors on all replacement and new applications, and installed T5 highbay lighting and 3rd-generation 25 watt T8 lighting, technologies that use considerably less power than our older lighting system.

**Q: How will the Lab’s agreements to implement future Southern California Edison efficiency programs work?**

A: There are several aspects to this. First, the Laboratory entered into a Savings By Design (new construction) contract with Edison, in which JPL is implementing maximum efficiency design in the new Flight Projects Center. Incorporating the latest technologies in lighting, heating, ventilation and air conditioning, as well as windows and insulation, JPL will reduce the new building’s load by 200 kilowatts and 1 million annual kilowatt-hours. In addition, the Flight Projects Center will receive a Leadership in Energy and Environmental Design Gold certification.

Then through Edison’s Retro Commissioning Program, JPL and Edison identified operational measures that JPL is currently implementing, and will reduce the Lab’s energy consumption by an additional 300 kilowatts and 2 million annual kilowatt-hours.

Finally, JPL is currently working through Edison’s Industrial Energy Efficiency Program to identify areas of their process operations that will benefit from energy efficiency. A detailed study is currently underway on JPL’s air compression and heating, ventilation and air conditioning systems that will soon generate a reduction of more than 500 kilowatts and 3 million annual kilowatt-hours saved.

**Q: During heat spells last year, the Lab took extra efforts to reduce energy consumption by asking employees to conserve. Were those useful exercises?**

A: JPL has been, and is, in a leadership role for what is called demand response. In 2006 JPL participated in Edison’s Demand Bidding program, and has taken a “response through awareness” approach to achieve its load-curtailement goals. When called on for a power curtailment, a series of all-hands e-mail messages are distributed to JPL’s 5,500 staff members, public announcements are



# Flight Projects Center dedicated



JPL officials and other dignitaries joined forces to dedicate the Lab's new Flight Projects Center on May 7. From left: Eugene Trinh, director, NASA Management Office; Julianne Hines, district director, office of Assemblyman Anthony Portantino; William Bogaard, mayor of Pasadena; Gust Soteropulos, operations manager, Swinerton Construction; Jean-Lou Chameau, President of Caltech; David Spence, Mayor of La Cañada Flintridge; Charles Elachi, JPL

director; Adam Schiff, U.S. House of Representatives, 29th District; Mark Harmsen, district director, Office of Representative David Dreier; Thomas Gavin, JPL associate director, Flight Projects and Mission Success; Howard Kass, NASA Facilities and Real Property Division; Richard O'Toole, manager, JPL Office of Legislative Affairs. The new building will accommodate between 500 and 600 people and is expected to be completed by fall 2008.

Dutch Slager / JPL PhotoLab

## energy *Continued from page 4*

broadcast throughout the event, and call desks are set up to handle feedback. JPL achieved nearly 1.5 megawatts of electrical curtailment by shifting the facility to an off-hours, weekend operational heating, ventilation and air conditioning schedule. The computerized energy management system is utilized to unload critical facilities to the fullest extent possible without effecting operations.

Also in 2006, JPL participated in Edison's Technical Audit/Technical Incentive Program to identify even further potential for demand response reductions. The program showed JPL could reduce load by an additional megawatt, bringing the

**"Incorporating the latest technologies in lighting, heating, ventilation and air conditioning, as well as windows and insulation, JPL will reduce the [Flight Project Center's] load by 200 kilowatts and 1 million annual kilowatt-hours."**

—Mark Gutheinz

total site contribution to 2.27 megawatts; as a result, JPL has drafted a plan to achieve even greater results in the coming years.

### **Q: What more does JPL need to do in future years?**

A: By executive order, all federal agencies must show a 30 percent reduction in energy use by fiscal year 2015. This program began in 2005 and utilizes a 2003 baseline measured in BTUs per square foot. JPL is currently ahead of the curve in reductions, but the requirement will become more difficult year by year.

So over the next seven years we have much more to do. As we learn about further energy reduction methods and determine our course of action, awareness and outreach is a necessary prerequisite for this kind of a reduction, and JPL's energy team has taken steps to help this effort. Some of those include demand response posters, an Earth Day presentation, an Energy Awareness Month campaign with lectures on energy talks, and an Energy Tip of the week on JPL TV.

### **Q: What about the use of solar power or other renewable energy at JPL?**

A: We are about to begin construction of a 30-kilowatt photovoltaic system on the roof of Building 302 that will be installed in conjunction with a new "cool roof" for the building. A cool roof is one that is specially designed to reflect heat instead of absorb it.

Also, we are in the final design phase of a 30- to 50-kilowatt system that will go on the roof of Building 300. This system is very special because it is a beta test configuration from a company called Energy Innovations that uses prisms to concentrate the solar energy for better absorption. Also, we are about to start design on a 50- to 100-kilowatt system to be located on the roof of Building 301 that will be installed in the fiscal year 2008 budget cycle.

Finally, in response to a new federal energy law, we will continue to plan and install additional renewable sources as funds become available. Our goal is to produce 3.5 percent of the Lab's power consumption from on-site renewable sources.

### **Q: How can JPL employees find out more about the Lab's energy conservation efforts?**

A: Visit our website at <http://construction.jpl.nasa.gov>. ■



## Top performers receive Explorer Bonus Awards

TWENTY OF JPL'S TOP PERFORMERS WERE FORMALLY HONORED AT AN EXPLORER BONUS AWARD CEREMONY AND DINNER IN APRIL AT CALTECH'S ATHENAEUM.

JPL's Bonus Award Program consists of various award levels for individuals and teams. The Explorer Bonus Award is designed to honor individuals based on four categories of excellence and is the highest award level in JPL's program.

The 2007 Explorer Bonus Award honorees:

**Strategic Leadership:** Ralph Basilio, Eastwood Im, Veronica McGregor, Jeffrey Norris, Suzanne Smith, Eric Sunada.

**Scientific and Technical Excellence:** Ronald Boain, Theodore Drain, Allan Lee, John T. Schofield, Timothy Sink, Marshall Smart, John Trauger.

**Effective Business Management:** Dorice Odell, Irene Schwab.

**Effective Partnerships & Relationships:** Ann Mercuri, William Reinholtz, Lawrence Wade.

The Bonus Awards ceremony also included recognition for the annual **Ed Stone Award for Outstanding Research Publication**. Winners are Candice Hansen and Rui Yang.

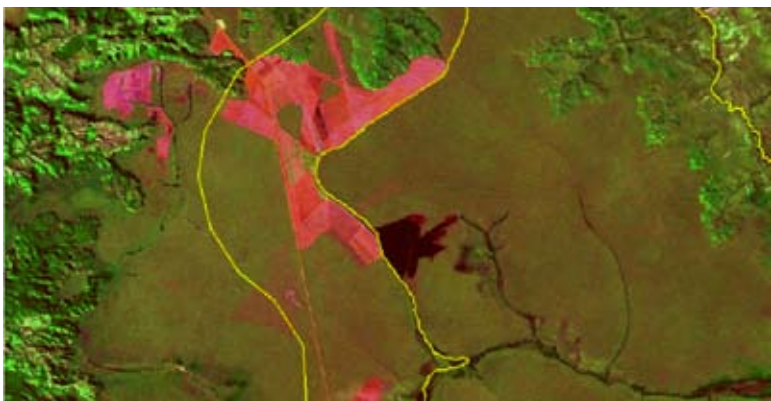
For more information about the Bonus Awards and the 2007 winners, visit <http://eis.jpl.nasa.gov/hr/esr/BONUS>.

*Back row, from left: Ed Stone, Dan McCleese, Eastwood Im, Ralph Basilio, Ronald Boain, Dorice Odell, Rui Yang, Marshall Smart, Ann Mercuri, Eric Sunada, Helen Lee (wife of honoree Allan Lee), Gene Tattini. Middle row, from left: Veronica McGregor, John Schofield, William Reinholtz, John Trauger, Suzanne Smith. Front row, from left: Candice Hansen, Lawrence Wade, Jeffrey Norris, Theodore Drain, Irene Schwab.* ■



Dan Sliger / JPL Photolab

## Image archive honored for environmental contributions



*The TerraLook archive compares images such as these two of Emas National Park in Brazil. The top photo is a 1976 image from the Landsat satellite; bottom photo is the same area imaged by JPL's instrument in 2002.*

TerraLook, a JPL-developed online cataloging system that maintains and distributes a wide variety of images generated from Earth-orbiting satellites, has been awarded \$10,000 for becoming a finalist in the recent St. Andrews Prize for the Environment competition.

The St. Andrews Prize is an initiative by the University of St. Andrews in Scotland and international integrated energy company ConocoPhillips that recognizes significant contributions to environmental conservation.

TerraLook provides satellite images along with simple tools to view and use them, all at no cost to users. It consists of a website where users can create their own custom collections of images, as well as a toolkit, which is software that allows users to view and do useful tasks with the collection.

Many of the TerraLook images were generated by the Advanced Spaceborne Thermal Emission and Reflection Radiometer, whose U.S. science team is based at JPL. Gary Geller, deputy manager of NASA's Ecological Forecasting Program, conservation liaison for the JPL flight project and the lead for TerraLook, noted that the system was formerly known as the Protected Area Archive, reflecting its origins in conservation.

Geller conceptualized TerraLook after talking with park managers in southeast Asia, where he learned they were unable to access the instrument's images because the data format was quite specialized and the tools were very sophisticated and expensive.

Today, the U.S. Geological Survey's National Center for Earth Resources Observation Science operates TerraLook and provides the permanent home for the system, which has a range of users from more than 50 countries in disciplines including sustainable development, education, urban studies and conservation.

Geller said the prize money would largely be dedicated to outreach activities for the system.

For more information on TerraLook, visit <http://asterweb.jpl.nasa.gov/terralook.asp>. ■



# News Briefs



Yoseph Bar-Cohen

## Elachi receives award, elected to board

JPL Director Charles Elachi is the recipient of two recent honors.

Elachi was selected to receive the 2007 International von Kármán Wings Award given by the Aerospace Historical Society. The award recognizes him for his "exceptional leadership at JPL, along with related distinguished technical contribution to our country and (aerospace) industry."

Previous honorees in the 23-year awards program include Lab founder Theodore von Kármán, and former JPL directors William Pickering and Ed Stone. The award was presented in a ceremony and banquet May 10 at Caltech.

In other news, Elachi has been elected by the members of the National Academy of Engineering to serve on the academy's Board of Councillors for a three-year term.

## Optical society honors Bar-Cohen

Yoseph Bar-Cohen, supervisor of the Advanced Technologies Group, has been selected as the recipient of the 2007 President's Award by the International Society for Optical Engineering.

Bar-Cohen, a JPL senior research scientist and a physicist, was honored in recognition of his significant contributions to the organization's interdisciplinary presence in the scientific community as the chair of its Smart Structures Symposium over the past eight years and, in particular, "for his unique ability to recognize opportunities for stimulating the public interest in science and engineering through his imaginative ideas and events."

The President's Award is given to an individual who has rendered a unique and meritorious service of outstanding benefit to the society. Bar-Cohen will receive the honor in late August at the organization's award banquet in San Diego.

## Readers like Mars orbiter

JPL's Mars Reconnaissance Orbiter was among "America's 100 Best" in a list of innovations, ideas, people and places selected by editors of Reader's Digest.

The orbiter "has been taking extraordinary photos," said the May 2007 issue of the small-size, big-circulation magazine.

## Rideshare program, Miranda earn kudos

JPL's Rideshare Program was presented with a "Diamond Award" in the Corporate category from the Los Angeles County Metropolitan Transportation Authority.

JPL was recognized for its contribution to reducing vehicle trips, traffic congestion and pollution. Employee Transportation Coordinator John Miranda, who accepted the award on behalf of

JPL on May 23, was specifically acknowledged for leading a model rideshare program, mentoring other companies in the development of their own plans and contributing to a variety of Metro programs.

## Help on spending available

All employees are responsible for ensuring that their expenditures do not result in costs that would be unallowable against the NASA prime contract. Cost allowability requirements derive from the prime contract and federal acquisition regulations.

Many of the applicable requirements are spelled out in Laboratory policies and procedures available through JPL Rules! For guidance on this subject, please call Michael Jameson of the Contract Administration Office at ext. 4-8390. Jameson is also available to conduct brief training sessions for your group on the unallowable costs that are most likely to be encountered.

## Burn survivors quest underway

The annual Firefighters Quest for Burn Survivors fundraiser is now underway through early June. A caravan of Quest vehicles will conduct a statewide rally the morning of June 8, visiting participating fire departments, including JPL.

Last year JPL firefighters raised about \$2,400 on T-shirt sales. For information on participation, call firefighter Robert Franco at ext. 4-3311 or visit the JPL Fire Department.

## American heritage celebrated June 14

JPL's annual celebration of American heritage is scheduled for Thursday, June 14, from 4:30 to 7 p.m. in the mall.

The event, sponsored by the JPL Diversity and Inclusion Oversight Committee, will include free sampling of African-American, Armenian, Austrian, Chinese, East Indian, Filipino, German, Iranian/Persian, Japanese, Korean, Latino, Native American and Thai cuisine. Singers and dancers will provide the entertainment, and various groups will give demonstrations.

The celebration is also open to friends and family of JPL employees and contractors. For more information or to volunteer, call Katrina Melendez at ext. 4-4164.

## Summer childcare available

The Child Educational Center is now enrolling children for the summer months. Full- and part-time schedules are available.

The Child Educational Center is a nationally accredited program that features innovative and research-based curriculum, a spacious play yard and a 1-to-7 ratio of adults to children.

For more information, call ext. 4-3418 or visit <http://ceconline.org>.

## Six earn JPL Fellow designation

From left: Charles Elachi, Michael Werner, Rob Manning, Robert Rasmussen, Mark Adler, Gerard Holzmann, Dara Sabahi.



Six engineers, scientists and technologists have been selected as JPL Fellows, the top rung of the Laboratory's technical career ladder.

Those chosen for 2007 are Mark Adler, Gerard Holzmann, Rob Manning, Robert Rasmussen, Dara Sabahi and Michael Werner.

The designation of Fellow recognizes those who have made extraordinary technical contributions to JPL over an extended period of time. Fellows will be sought out for

advice on strategic technical decisions on missions, systems and projects as well as future directions in research and technology. Following the solicitation of nominations, selections were recommended by a Fellow Promotion Advisory Board, which includes the existing JPL Fellows.

For more information about the new JPL Fellows, please visit <http://dailyplanet.jpl.nasa.gov/onlab/JPL-fellows.php>. ■

# Passings



**Homer Stewart, 91**, who played key roles in developing America's first satellite, the JPL-built Explorer 1, and also helped organize NASA after the agency was formed in 1958, died May 26. Stewart—known as “Homer Joe” to colleagues and friends—earned a bachelor's degree in aeronautic engineering from the University of Minnesota in 1936, then joined the Caltech faculty in 1938, receiving a doctorate in aeronautics from Caltech in 1940. He participated in many rocketry-related projects during the 1940s—working, for

example, with Frank Malina to draft the original proposal for the WAC Corporal rocket in three days in 1944.

In 1955, the Defense Department appointed him to chair a committee (later known as the Stewart Committee) that validated that it was possible for the United States to launch a satellite during the International Geophysical Year in 1957–58. The committee's majority later backed the Navy's proposal for the Vanguard rocket, while Stewart himself voted for an Army proposal that later evolved into the rocket that launched Explorer 1.

After NASA was created in 1958 its first administrator, T. Keith Glennan, recruited Stewart to Washington for two years to help organize the fledgling agency, serving as its first director of program planning and evaluation. He returned to Caltech in 1960 and served in various positions, heading JPL's advanced studies office at JPL from 1963 to 1967. He also continued to serve on the Caltech faculty as a professor of aeronautics.

**Louie Frausto**, a former draftsman and data checker in the Technical Facilities Management Group, died April 2.

Frausto worked as an affiliate before becoming a JPL employee in 1995, and left the Lab in 2006. He is survived by his daughter, Vanessa.

**Roy Chafin, 76**, retired from Section 347, died April 7.

Chafin joined JPL in 1966 and retired in 1990. Among the projects he worked on were Ranger, Surveyor, Mariner and Mars Observer.

He is survived by his wife, Glendola, and sons Kenneth and Andrew. Services were private.

**Harry Ashkenas, 84**, retired from Section 109, died April 26. He worked at JPL from 1951 to 1993.

**Herb Tice, 81**, a retired JPL administrator, died April 30.

Tice, who retired from JPL in 1988 after 30 years of service, had served as city councilman and mayor of West Covina in the late 1970s. He is survived by daughters Diane and Marci, and six grandchildren. Services were private.

**Robert Taylor**, a former member of the technical staff, died April 30 in New Hampshire.

An avant garde musician who performed throughout the world, Taylor helped finance his own electronic studio by working in the Deep Space Tracking Network, responsible for computer software quality assurance and technical standards, from 1975 to 1980. He contributed to the Viking, Voyager and Galileo projects.

Taylor is survived by two nephews.



**Sheila Hogan, 83**, a retired registered nurse in the Medical Services Group, died May 11.

A native of Ireland, Hogan came to the United States in 1954 and began her 28-year JPL career in 1959. For many years she dedicated her weekends to Flying Samaritans, traveling to Mexico to help conduct health clinics in remote villages with no medical care.

Hogan is survived by niece Mary Jo Wynne and her husband Tom and children Thomas and Alice, along with nephew Finbar Walsh.



**Kenneth Russ, 79**, retired supervisor of JPL's Defense Space Technology Program, died May 15.

Russ joined JPL in 1966 and retired in 2000. He is survived by his wife, Dorothy; son Mark; daughters Barbara and Anne; and grandchildren Katie, Brian and Annie.



**Elaine Lowrie, 58**, an administrator in Section 274, died April 5.

Lowrie had worked at JPL since 1999. She is survived by her mother, Cleo Hostler, niece and nephew Anna and Larry Lee, and nephew Robert Knollmiller.

Services were private.

**Richard Decker, 93**, retired from Section 344, died April 1.

Decker worked at JPL from 1968 to 1978. He is survived by his wife, Hilda, and brother Robert. Services were held in Lower Lake, Calif.

## Letters

When I walked out the back door of our Building 249 so many of you greeted me with a warm welcome back and a genuine good wish for continued good health in the days ahead. With you in mind, I say to myself what a wonderful world. During my illness you were so supportive. The Security/Plant Protection Group along with so many of my JPL family went above and beyond the call of duty to support me during this challenged time in my life. Your prayers, cards, letters, flowers and good wishes were such a large part of my recovery. A few years ago when my mom passed away you were also there for me but I was too emotional to even discuss her passing. Again, today I am filled with emotion; however, I must let you know I am feeling much better and how grateful I am for all of you here at JPL. As my health continues to improve, I will always remember the kindness you have shown me. This thank-you is with love to you from the bottom of my heart.

*Bobbie Fishman, Visitor Control*

My family and I would like to thank the JPL community for their kind thoughts and condolences at

the passing of my father. We appreciated the support and encouragement given during his illness. The beautiful plant from JPL and the card from my co-workers was greatly appreciated.

*Tim Kaufman*

I would like to thank my co-workers from the Voyager/Ulysses Project for the cards and prayers, the JPL ERC for the beautiful plant and my friends at JPL for their heartfelt gestures during the time of my father's illness and passing in April 2007.

*Andrea Angrum*

Thank you for the beautiful plant you sent following the passing of my father. My family and I really appreciate your support and consolation during this difficult period.

*Debjani Biswas*

My family and I would like to express our deep appreciation for the many beautiful cards, the plants and flowers and other caring gestures from friends and co-workers at JPL, following the recent passing of my mother after her long battle with cancer. Your thoughts, prayers and good wishes have meant more to us than you will ever know. JPL truly is a special place, due to the wonderful people who work here and we thank you for all the sup-

port, which has meant so much to us in this difficult time.

*Jean Walker*

Thank you all for the expressions of support and understanding to me and my family during the days of sorrow surrounding my father's death. The abundant flowers, cards and condolences provided a surprising level of comfort.

*Annette Ling*

My family and I would like to express our gratitude to friends and co-workers at JPL for their support and flowers after the sudden passing of my sister, Gayle.

*Bruce Woodward*

Jay and I would like to thank our JPL family for their prayers and warm wishes during my father's illness and ultimate passing. My dad was a wonderful man who is dearly missed. The lovely plant sent by JPL will be planted in our garden to keep Dad's memory forever blooming.

*Jay and Natalie Sucher*

My family and I would like to thank all my friends and coworkers here at JPL for their kind thoughts and prayers since the recent death of our father. Your support and comforting words have been greatly appreciated. Special thanks to my

team members in MGSS CM, the Spitzer and Dawn projects, Section 172 and JPL for the cards and beautiful flowers and plants that we received. Sincerely,

*Socorro M. Rangel*

My family and I wish to thank our friends and colleagues at JPL, especially the ESTO and JESE offices, for their thoughts, prayers and kind expressions of sympathy on the passing of our beloved mother.

The flowers we received from JPL were beautiful and deeply appreciated. Thank you.

*William V. Moore*

I would like to express my sincere appreciation for the lovely flowers, cards, and the “JPL plant” sent to my family for the passing of my mother, Concepcion. My family and I gratefully acknowledge your kind expressions on the sympathy cards.

*Mirna A. Roach*

## Retirees

The following JPL employees retired in June:

**Richard Woo**, 43 years, Section 333; **Stephen Bridges**, 42 years, Section 182; **William Hurd**, 40 years, Section 912; **Kenneth Jewett**, 21 years, Section 352; **Newton Packard**, 16 years, Section 374.

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