

News Briefs	2	Officers Salute the JPL Way . . .	3
Special Events Calendar	2	Passings, Letters	4
Low Award Presented	2	Classifieds	4

Rovers go into third overtime

By Guy Webster



Opportunity's view near "Vostok Crater."

NASA has approved up to 18 more months of operations for Spirit and Opportunity, the twin Mars rovers that have already surprised engineers and scientists by continuing active exploration for more than 14 months.

"The rovers have proven their value with major discoveries about ancient watery environments on Mars that might have harbored life," said Dr. Ghassem Asrar, deputy associate administrator for NASA's Science Mission Directorate. "We are extending their mission through September 2006 to take advantage of having such capable resources still healthy and in an excellent position to continue their adventures."

The rovers have already completed 11 months of extensions on top of their successful three-month prime missions. "We now have to make long-term plans for the vehicles because they may be around for quite a while," said rover Project Manager Jim Erickson.

Erickson cautioned, though, "Either mission could end tomorrow with a random part failure. With the rovers already performing well beyond their original design lifetimes, having a part wear out and disable a rover is a distinct possibility at any time. But right now, both rovers are

in amazingly good shape. We're going to work them hard to get as much benefit from them as we can, for as long as they are capable of producing worthwhile science results."

"Spirit and Opportunity are approaching targets that a year ago seemed well out of reach," said Doug McCuiston, director

of NASA's Mars Exploration Program. "Their successes strengthen NASA's commitment to a vision with the ambitious targets of returning samples from Mars and sending human explorers to Mars."

Opportunity is within a few football fields' length of a region called "Etched Terrain," where scientists hope to find rocks exposed by gentle wind erosion rather than by disruptive cratering impacts, and rocks from a different time in Mars' history than any examined so far. "This is a journey into the unknown, to something completely new," said Dr. Steve Squyres of Cornell University, principal investigator for the rovers' science instruments.

To reach the Etched Terrain, rover planners have been pushing the rover fast. Opportunity has overtaken Spirit in total distance driven. It has rolled more than 4.9 kilometers (3 miles)—eight times the original goal. On March 20, Opportunity also set a new martian record of 220 meters (722 feet) in a single day's drive. Drive-distance estimates can vary by a few percent. The long drives take advantage of crossing a plain so smooth it's "like an East Coast beach," said JPL's Jeff Favretto, mission manager on the Opportunity shift in recent weeks. Also, Opportunity's solar panels, though now dustier than Spirit's, still generate enough power to allow driving for more than three hours on some days.

Spirit is in much rougher terrain than Opportunity, climbing a rocky slope toward the top of "Husband Hill." However, with a boost in power from wind cleaning its solar panels on March 9 and with its formerly balky right-front wheel now working normally, Spirit made some longer one-day drives last week than it had for months. "We've doubled our power," said JPL's Emily Elkema, mission manager. "It has given us extra hours of operations every day, so we can drive longer and we've used more time for observations."

The jump in power output has taken some urgency out of Spirit's southward climb. With Mars now beginning southern-hemisphere spring, the Sun is farther south in the sky each day. If not for panel-cleaning, Spirit might be facing the prospect of becoming critically short of power if still on the north-facing slope by early June.

"We still want to get to the summit of Husband Hill and then head down into the 'Inner Basin' on the other side," Squyres said. "But now we have more flexibility in how we carry out the plan. Before, it was climb or die." Cresting the hill is now not as crucial for solar energy, but it still offers allures of potential exposures of rock layers not yet examined, plus a vista of surrounding terrain. In orbital images, the Inner Basin farther south appears to have terracing that hints of layered rock.

Both rovers do have some signs of wear and exposure. Spirit's rock abrasion tool shows indications that its grinding teeth might be worn away after exposing the interiors of five times more rock targets than its design goal of three rocks. Researchers probably won't know the extent of wear until Spirit's next rock-grinding attempt, which may be weeks away. Also, troubleshooting continues for determining whether Opportunity's miniature thermal emission spectrometer is still usable despite tests indicating a problem last month. All other instruments on both rovers are still working normally.

Employee survey results discussed

By Mark Whalen

22%

93%

50%

"It's very important that all of us know exactly what's going on. . ."

13%

Safety and environment, along with ethics and integrity in the workplace, were the most positively rated areas in JPL's recent employee survey. Less well-rated were career development and training, and management effectiveness.

About 65% of JPL employees, or 3,796 people, participated in the survey, the first in 10 years, said JPL Director Dr. Charles Elachi in a von Kármán Auditorium presentation on March 31.

Elachi was "delighted" with the participation level, noting that survey professionals consider anything over 50% participation a good sample. "We have a fairly broad and comprehensive survey," Elachi said.

In addition to the 49 multiple-choice questions in nine topic areas, employees also ranked by importance the current and potential perquisites offered at the Lab. Scoring highest among current perks was employee recognition awards, followed by tuition reimbursement and wellness/fitness programs. Alternative work schedules was the overwhelming winner among potential perks.

Another survey query about employees' willingness to pay for the privilege of using a parking structure received little support—Labwide, 63% said no.

The rating system asked employees to rank, on a scale of 1 to 5, their impressions in various areas. Responses were combined to rate survey answers as "favorable," "mixed" or "unfavorable." Elachi said he was particularly happy about the safety and environment (93% favorable rating), ethics and integrity (82% favorable) and diversity (78% favorable) categories.

"In all areas," Elachi said, "when we compare where we are today to 10 years ago, we are better to significantly better. I am delighted, the EC is delighted, but there is still room for improvement."

On management effectiveness, which received a 63% favorable rating but also a 13% unfavorable vote, Elachi noted that about 22% of respondents felt JPL was lacking in effective communication between management and employees. "We need to address that," he said. "It's very important that all of us know exactly what's going on—both upward and downward."

Elachi and the Executive Council are committed to make JPL "not only a great place to work but the best place in the world to work," the director said. "We need to make sure that across the board, at every level

of management at JPL, at every level of interaction, that everybody do whatever they can physically do to make this the best place to work."

Elachi noted 86% of participants said that JPL's success can be attributed to employees at all levels. "One way or another, each employee here makes this place an environment where we can succeed, and the majority of employees have agreed with that through the survey."

The survey results showed the need for significant improvement in career development and training, which received 53% positive responses, the lowest of any category.

In addressing the issue of JPL providing opportunity for advancement, Elachi said, "We are already looking at how best to structure job classifications and salary levels. That's one of our management goals over the next year, to revisit this whole process. Is it serving us well, and are we doing it right?"

Within career development and training, 23% disagreed with the notion that their supervisor acts as a coach and mentor. Elachi said he would continue to communicate to supervisors at all levels the importance of helping employees improve their performance. On the positive side, he said, a very high percentage of respondents said their supervisor shows interest in their career and encourages them to get training.

In summary, based on the survey Elachi cited JPL's strengths as ethics and integrity; job design; employee satisfaction and commitment; quality and customer focus; job performance and review; diversity; and safety and environment. Areas to improve are freedom for employees to voice opinions; career development; and management effectiveness and teamwork.

Analysis of the survey results will continue. This month, the Executive Council will establish focus group topics for JPL's surveying company, Watson Wyatt, to conduct sessions—both Labwide and by some of the demographic subgroups—that will seek to validate areas of concern with a cross section of employees. In May, Watson Wyatt will report and summarize focus group findings to the Executive Council. An action plan will be developed.

In June, plans call for the Executive Council to communicate survey results to all employees.

For a copy of the initial survey presentation, visit <http://dailyplanet> and select the "Survey Results" icon.

Lab contractor wins Low award

By Vicki Laidig

Deputy Director Eugene Tattini presents Low Award trophy to ASI's René Fradet.

JPL contractor Alliance Spacesystems, Inc. (ASI) recently received the George M. Low Award, NASA's premier honor for quality and technical performance. Acting NASA Administrator Fred Gregory presented the award to René Fradet, chief executive officer of ASI, at the 19th Continual Improvement and Reinventions Conference in March. ASI won top honors across the agency in the Small Business Product category.

Among many notable products that ASI has developed for JPL and NASA are the robotic arms currently providing critical functionality on the Mars Exploration Rovers, Spirit and Opportunity. Supporting four instruments, each robotic arm has operated flawlessly throughout the 90-sol primary mission and the extended rover activities on Mars. For this award, ASI was evaluated on the quality, safety, customer satisfaction and technical performance of all its NASA-related contracts and subcontracts.



"It is a tremendous honor to receive this award," Fradet said. "We work hard at ASI to provide NASA, and all our customers, with the highest-quality engineering and manufacturing possible, and it is gratifying to have that effort recognized."

ASI, based in Pasadena, provides robotics, mechanisms, composite structures and mechanical analyses for systems operating in extreme environments.

Low greatly contributed to the early development of NASA space programs during his 27 years of government service. His accomplishments were legendary as an engineer, mathematician, scientist, NASA director and deputy administrator, chairman of the National Research Council and president of Rensselaer Polytechnic Institute.

Nominations for next year's awards are now open. Qualifications include significant performance in customer satisfaction and contract technical performance, schedule, cost, management initiatives responsive to NASA's strategic goals, leadership and continuous improvement, research and development and/or innovative technology breakthroughs, and items of special interest to NASA.

If you know of a subcontractor whose performance you believe deserves consideration for a Low Award nomination, contact award coordinator Martin Johnson of Office 108 at ext. 3-6060 or via e-mail, or contact the acquisition subcontractor manager working with the subcontractor up for consideration.

Ellis Island honor to Naderi

For his contributions to space exploration, Dr. Firouz Naderi, JPL Associate Director for Programs, Project Formulation and Strategy, has been selected as one of the recipients of the Ellis Island Medal of Honor for 2005.

The Ellis Island Medals of Honor are presented to Americans of diverse origins for their outstanding contributions to their own ethnic groups and to American society. Honorees typically include U.S. presidents, members of Congress, Nobel Prize winners, leaders of industry, and gifted artists, performers and athletes.

Naderi, a native of Iran, has worked at JPL for 26 years. Prior to his current position, he led the Mars and Origins programs.

Winners of the Ellis Island Medal of Honor are listed in the Congressional Record. The award will be given at a dinner on Ellis Island, N.Y., on May 14.



Dr. Firouz Naderi

Service awards

For the period of January through March 2005 the following JPL recipients celebrated 25 or more years of service and were invited to attend a luncheon and ceremony in their honor on March 29.

45 years: Robert Freeland.

40 years: Kenneth Bartos, Stephen Bridges, Gerald Humphrey, Donald Royer, Larry Simmons.

35 years: Thomas Bicknell, Richard Brace, Geraldine Bridges, Philip Callahan, Veronica Carter, Luis Constenla, Elaine Dobinson, Arthur Freiley, Gene Goltz, Dimitri Papanastassiou.

30 years: Peyton Bates, Robert Carlson, Roger Diehl, Fred Hammer, Lawrence Hawley, Michael Jahan, Terry Linick, Daniel McCleese, Stephen Slobin, Stephen Synnott, Harry Woo.

25 years: Juan Ayon, Janis Chodas, Elaine Corl, Cindy Cornish, Margaret Easter, Bruce Fischer, Sven Grenander, Walter Hoffman, Ann Ibaven, William Imbriale, Robert Jarnot, Anita Lacroix, Robert Leland, Todd Litwin, Mario Loo, Jan Magee, Larry Meeks, Stephen Mitchell, Phillip Morton, Robert M. Nelson, Michael Nieto, Edith Nir, Carol Oken, Charles Presley, Phuong Reder, Betty Rippey, Socorro Shiraishi, Robert Spero, Jean Walker, Linda Worrel, Thomas Wynne.

For more information about JPL awards, visit <http://hr/esr>.

Correction

An article in the March 25 issue of the Universe about the Mars Education Workshop incorrectly attributed the discovery of hematite on Mars to the Thermal Emission Imaging System (THEMIS). The Thermal Emission Spectrometer (TES) on Mars Global Surveyor was the first instrument to reveal hematite on Mars.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meets Wednesdays at 11:30 a.m.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (the Wellness Place).

Codependents Anonymous—Meets at noon every Wednesday.

Lambda (Gay, Lesbian, Bisexual and Transgender Networking Group)—Meets the first Friday and third Thursday of the month at noon in Building 111-117. For more information, call Randy Herrera, ext. 3-0664.

Parents Group for Children With Special Needs—Meets the second Thursday of the month at noon in Building 167-111 (the Wellness Place).

For more information on any of the support groups, call the Employee Assistance Program at ext. 4-3680.

Friday, April 8

Caltech German Language Film Series—"Hot Summer," a 1968 East German film, will be presented with English subtitles at 7:30 p.m. in Baxter Lecture Hall. This is a teenage musical with two pop stars of the time. Free admission and reception after the movie. For more information, e-mail aebi@hss.caltech.edu.

Systems Engineering Advancement Seminar—Join Dr. Robert Rasmussen, chief engineer for the Systems and Software Division (31), for "State Analysis: Software Systems Engineering through Model-based Architecture" at 12:30 p.m. in Building 180-101.

Saturday, April 9

Caltech Folk Music Society—Banjo and dulcimer player Mary Z. Cox will appear at 8 p.m. in Dabney Lounge. Tickets are \$15 for adults and \$5 for children under 12. For more information, call (626) 395-4652 or visit www.folkmusic.caltech.edu.

Professor Kubínek, Certified Lunatic—Tomás Kubínek, an acrobat, magician and clown, will perform at 2 p.m. in Caltech's Beckman Auditorium. His experiments use outrageous theatrics and surreal feats and include such antics as a backward somersault while drinking a glass of water balanced on his forehead. Tickets are \$12 for adults, \$7 for children. For more information, call (626) 395-4652.

Sunday, April 10

Caltech Ballroom Dance Club—The second in an eight-week series of beginner-level standard and Latin dances will be offered at Winnett Lounge, second floor. Standard dances (including waltz, quickstep and Viennese waltz) will be taught from 2 to 3 p.m., while Latin (including cha-cha, rumba, jive/samba) will be taught from 3 to 4 p.m. Cost: \$40 per series.

Tuesday, April 12

JPL Stamp Club—Meeting at noon in Building 183-328.

TIAA/CREF Enrollment Meeting—This workshop, to be held at noon in T1720-137, is designed to assist employees newly eligible for the Caltech/JPL retirement plan with selection of investment options and the completion of their enrollment forms.

Wednesday, April 13

"Art and Science: A DaVinci Detective Story"—John Brewer, Caltech professor of humanities and social sciences and professor of history and literature, will give this free lecture at 8 p.m. in Beckman Auditorium. For more information, call (626) 395-4652.

JPL Amateur Radio Club—Meeting at noon in Building 238-543.

JPL Library Orientation—Stop by at 11:30 a.m. at Building 111-104 for an overview of the Library's products and

services, and learn how to access numerous electronic resources from your desktop. For more information, call the reference desk, ext. 4-4200.

JPL Toastmasters Club—Meeting at 5 p.m. in conference room 167. Call Dirk Runge, ext. 3-0465, or visit www.jplcaltechtostmasters.com.

JPL Web Developers—Meeting at noon in Building 180-101. Gayathri Kamath of JPL's AFS and Web Customer Advocate Group will discuss ITAR Web-based use cases. For more information, visit <http://webmasters.jpl.nasa.gov> or contact webdev-chairs@jpl.nasa.gov.

Thursday, April 14

Caltech Ballroom Dance Club—The third in an eight-week series of intermediate-level standard and Latin dances will be offered in Winnett Lounge, second floor. Standard dances (including waltz, quickstep, Viennese waltz, tango and foxtrot) will be taught from 8 to 9 p.m., while Latin (including cha-cha, rumba, samba and jive) will go from 9 to 10 p.m. Cost: \$40 per series.

Friday, April 15

Nai-Ni Dance Company—The Asian American company will perform at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$22, \$18 and \$14; high school age and younger, \$10. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Saturday, April 16

Caltech Ballroom Dance Semiformal—Ballroom, Latin and swing dancing start at 9 p.m. in Dabney Lounge. Free admission.

Sunday, April 17

Chamber Music—Imani Winds will perform at 3:30 p.m. in Caltech's Beckman Auditorium. Tickets are \$29, \$25, \$21 and \$17. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Wednesday, April 20

JPL Library Orientation—Stop by at 11:30 a.m. at Building 111-104 for an overview of the Library's products and services, and learn how to access numerous electronic resources from your desktop. For more information, call the reference desk, ext. 4-4200.

Wed.-Thu., April 20-21

Investment Advice—TIAA/CREF will offer one-on-one counseling in T1720. For an appointment, log on to www.tiaa-cref.org or call (877) 209-3140, ext. 2614.

Thursday, April 21

Clogging Class—Meets at noon in Building 300-217. For more information, call Shary DeVore at ext. 4-1024.

Thu.-Fri., April 21-22

Von Kármán Lecture Series—Galaxy Evolution Explorer Principal Investigator Dr. Christopher Martin will present "A New Window on the Evolving Universe" at 7 p.m. Thursday in von Kármán Auditorium and Friday in Pasadena City College's Vosloh Forum, 1570 E. Colorado Blvd. Thursday's lecture will be webcast at www.jpl.nasa.gov/events/lectures/apr05.cfm. For more information, call Public Services at ext. 4-0112.

Friday, April 22

Caltech Women's Club Welcoming Coffee—All women of the Caltech/JPL community are invited from 9 to 10:30 a.m. at 100 Broad Center. Meet friendly people and gather information about living in Pasadena and the varied activities of the club. For questions, contact Welcoming Committee members Katie Clark, (626) 403-7163 or Jane Eiler, (626) 355-4124.

Air Force officers salute the JPL way

By Susan Braunheim-Kalogerakos

Nine Air Force lieutenants from the Space and Missile Systems Center (SMC) at Los Angeles Air Force Base, El Segundo, are working on Lab as part of an Air Force/Industry Employee Exchange Program.

This is the second group of Air Force officers to participate in the program; the first worked at JPL in 2003.

The aim of the program is to facilitate the exchange of information and institutional mentalities between the Air Force and NASA and JPL. The program provides benefits to both institutions, including the rejuvenation of the Air Force's systems engineering skills, as well as improving JPL's abilities in program/project management and providing skilled, low-cost labor.

Lynn Baroff helped start the exchange program at JPL about two years ago and now serves as its coordinator. "The program is benefiting JPL," he said, "because it allows a variety of JPL supervisors and project leaders to have excellent skilled help for their work, at only minor costs for incidentals like computer equipment and supplies because the Air Force pays the salaries of the officers."

Deputy Lab Director General Eugene Tattini is an enthusiastic supporter of the program. "Bringing these individuals on Lab gives us the ability to provide mentoring to people in the same kind of business we are in. It also provides the young officers an opportunity to see how systems engineering is done. They don't get hands-on experience in the Air Force like we are giving them here," Tattini said. "In addition, the program provides JPL with more arms and legs to help us get our job done. It is a win-win situation."

Prior to joining JPL in 2001, Tattini served as SMC commander.

Robert Cox is assistant director for the Earth Science and Technology Directorate and director of the National Space Technology Applications Office, sponsor of the exchange program. "This six-month program gives these young officers an opportunity to learn at an early point in their careers the value and importance of systems engineering, architecture development, mission design and concept evaluation," he said. "In addition, they develop contacts and networking opportunities with world-renowned JPL space and Earth science and program experts, which will serve them throughout their careers."



Dutch Slager / JPL, Photolab

1st Lt. Jennifer Berger, a developmental engineer working on the Space Interferometry Mission, considers her time at JPL to be a real learning experience. "This program is really an educational opportunity for the nine of us Air Force officers to experience on-the-job education and exposure to another government agency," she said. "We are here to enhance our management, professional and technical skills while gaining insight into organizational structure, management methods and technologies of modern industry."

When the call for applications went out, 2nd Lt. Matthew Lee was definitely interested. "The program is a good fit because my background, education and career goals match well with the Employee Exchange Program objectives," he said. Lee is a space tracking surveillance systems engineer and is working on the Prometheus Project, helping to document project risks in the active risk manager database.

1st Lt. Michael Deelo, a materials engineer, is finding his work with the Mars Science Laboratory and the Prometheus projects to be very valuable not only technically but organizationally as well. He feels his time spent at JPL is giving him the ability to "develop a better knack for technical foresight, especially for a project in the early phases. The better you design things up front, the fewer problems you'll encounter later on when the stakes are high," he said.

The most interesting aspect of working at JPL for 2nd Lt. Dan Itsara, a systems engineer working in JPL's Strategic Systems Technology Section, has been the experience of working in a completely different atmosphere.

JPL Deputy Director Eugene Tattini welcomes Air Force lieutenants from the Space and Missile Systems Center at Los Angeles Air Force Base as they begin their employment at JPL.

"People here have an entirely different wealth of knowledge than at the SMC. At SMC, you really get into the Air Force way of doing business," Itsara said. "To come out here to a different community and hear about big NASA programs is definitely an educational and broadening experience."

The lieutenants seem to enjoy the relaxed atmosphere JPL provides but it has taken some getting used to. 2nd Lt. John Wei, an electrical engineer working for the System and Software Division, said the most interesting part of working at JPL is "being able to work in a civilian company at a place with the latest space technology." He also indicated that "trying to adapt to JPL culture" was one of the more challenging aspects of the program.

In addition to Berger, Lee, Deelo, Itsara and Wei, the other Employee Exchange participants are 2nd Lt. Brian McLaughlin, 2nd Lt. Andrew Miller, 2nd Lt. Nathan Pitcher and 2nd Lt. Brian Zark.

Although considered an exchange program, no JPLers are currently working at SMC. "This program is designed to be self-funded and, as such, the Air Force pays the full freight on its officers they send here," Cox said. "It's problematic for JPL to send employees to work at SMC, but we are continually evaluating options."

Lab thanked for supporting Guards, Reserves

JPL was presented with an Employer Support of the Guard and Reserve (ESGR) plaque in a ceremony on March 14.

From left: Eric Enriquez (Air Force, Section 2243), Deputy Director Eugene Tattini, David Lebman (Navy, Division 1400), Eugene Ramos (Air Force, Section 314B).



Tom Wymec / JPL, Photolab

The plaque recognizes JPL's commitment and support for the United States National Guard and Reserve.

The ESGR is an agency of the Department of Defense under command of the Office of the Assistant of Defense for Reserve Affairs, and is dedicated to gaining and maintaining active support from all public and private employers for the men and women of the National Guard and Reserve.

Deputy Lab Director General Eugene Tattini accepted the plaque on behalf of JPL. The plaque affirms that JPL recognizes the United States National Guard and Reserve as essential to the strength of the nation and well-being of communities.

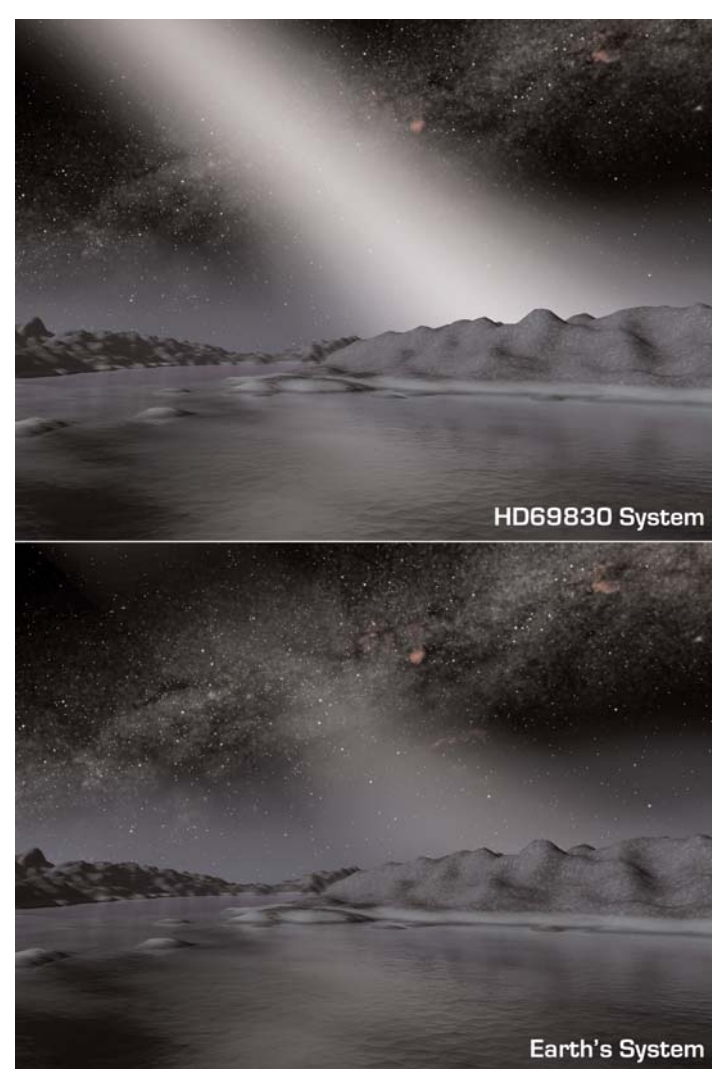
Upon receiving the plaque, Tattini signed a statement of support pledging that employment at JPL will not be denied because of service in the Guard or Reserve, job and career opportunities will not be limited or reduced because of service in the Guard or Reserve, employees will be granted leaves of absence for military service in the Guard or Reserve consistent with existing laws and this agreement and its resultant policies will be made known throughout the JPL organization.

Employee Relations Manager Cheryl Ortenburger oversees all leaves of absence at JPL, including military leaves. "JPL fully supports ESGR and it was a real pleasure to be part of the ceremony where JPL's efforts were recognized in such a prominent way," she said.

Spitzer sees far-off asteroid belt

By Whitney Clavin

This artist's concept illustrates what the night sky might look like from a hypothetical alien planet in a star system with an asteroid belt 25 times as massive as the one in our own solar system (alien system above, ours below).



NASA's Spitzer Space Telescope has spotted what may be the dusty spray of asteroids banging together in a belt that orbits a star like our Sun. The discovery offers astronomers a rare glimpse at a distant star system that resembles our home, and may represent a significant step toward learning if and where other Earths form.

"Asteroids are the leftover building blocks of rocky planets like Earth," said Caltech's Dr. Charles Beichman, lead author of a new paper that will appear in the *Astrophysical Journal*. "We can't directly see other terrestrial planets, but now we can study their dusty fossils."

Asteroid belts are the junkyards of planetary systems. They are littered with the rocky scraps of failed planets, which occasionally crash into each other, kicking up plumes of dust. In our own solar system, asteroids have collided with Earth, the moon and other planets.

If confirmed, the new asteroid belt would be the first detected around a star about the same age and size as our Sun. The star, called HD69830, is located 41 light-years away. There are two other known distant asteroid belts, but they circle younger, more massive stars.

While this new belt is the closest known match to our own, it is not a perfect twin. It is thicker than our asteroid belt, with 25 times as much material. If our solar system had a belt this dense, its dust would light up the night skies as a brilliant band.

The alien belt is also much closer to its star. Our asteroid belt lies between the orbits of Mars and Jupiter, whereas this one is located inside an orbit equivalent to that of Venus.

Yet, the two belts may have one important trait in common. In our solar system, Jupiter acts as an outer wall to the asteroid belt, shepherding its debris into a series of bands. Similarly, an unseen planet the size of Saturn or smaller may be marshaling this star's rubble.

One of NASA's future planet-hunting missions, SIM PlanetQuest, may ultimately identify such a planet orbiting HD69830. The mission, which will detect planets as small as a few Earth masses, is scheduled to launch in 2011.

Beichman and colleagues used Spitzer's infrared spectrograph to observe 85 Sun-like stars, of which only HD69830 was found to possibly host an asteroid belt. They did not see the asteroids themselves, but detected a thick disk of warm dust confined to the inner portion of the star system. This inner dust most likely came from an asteroid belt in which dusty smash-ups occur relatively frequently, about every 1,000 years.

"Because this belt has more asteroids than ours, collisions are larger and more frequent, which is why Spitzer could detect the belt," said Dr. George Rieke of the University of Arizona, co-author of the paper. "Our present-day solar system is a quieter place, with impacts of the scale that killed the dinosaurs occurring only every 100 million years or so."

To confirm that the dust detected by Spitzer is indeed ground-up asteroids, a second, less-likely theory will have to be ruled out. According to the astronomers, it is possible that a giant comet almost as big as Pluto got knocked into the inner solar system and is now slowly boiling away, leaving a trail of dust. This hypothesis came about when the astronomers discovered that the dust around HD69830 consists of

Continued on page 4



Dr. Michael Griffin

Griffin is new NASA administrator

Dr. Michael Griffin reported to work April 14 as NASA's 11th administrator. Griffin was confirmed April 13 by the U.S. Senate. An official swearing-in ceremony will be scheduled later.

"I have great confidence in the team that will carry out our nation's exciting, outward-focused, destination-oriented program," Griffin said. "In the coming days, I'll be spending a good deal of my time reviewing our progress toward returning the space shuttle safely to flight. I will also be reviewing the activities of our mission directorates and our various supporting functions. I share with the agency a great sense of privilege that we have been given the wonderful opportunity to extend humanity's reach throughout the solar system."

During his confirmation hearing on April 12 before the Senate, the administrator stated his priorities, consistent with the President's Vision for Space Exploration, will be:

- Fly the space shuttle as safely as possible until its retirement, not later than 2010
- Bring a new Crew Exploration Vehicle into service as soon as possible after the space shuttle is retired
- Develop a balanced overall program of science, exploration and aeronautics at NASA, consistent with the redirection of the human spaceflight program to focus on exploration
- Complete the International Space Station in a manner consistent with NASA's international partner commitments and the needs of human exploration
- Encourage the pursuit of appropriate partnerships with the emerging commercial space sector
- Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations

"It is my firm belief that the United States can afford well-executed, vigorous programs in both robotic and human space exploration, as well as in Earth science and aeronautics," Griffin said. "I look forward to working together to advance a bold exploration program."

"I will get out to all of the NASA centers and meet with our team members as soon as possible, so that I can hear your questions and comments," he added.

President George W. Bush nominated Griffin as NASA Administrator in March, while Griffin was serving as the Space Department Head at Johns Hopkins University's Applied Physics Laboratory in Baltimore.

Griffin was president and chief operating officer of In-Q-Tel, Inc., before joining Johns Hopkins in April 2004. He also served in several positions within Orbital Sciences Corporation, Dulles, Va., including chief executive officer of Magellan Systems Inc.

Earlier in his career, Griffin served as chief engineer at NASA and as deputy for technology at the Strategic Defense Initiative Organization. He has served as an adjunct professor at the University of Maryland, Johns Hopkins University and George Washington University.

Griffin has taught courses in spacecraft design, applied mathematics, guidance and navigation, compressible flow, computational fluid dynamics, spacecraft attitude control, astrodynamics and introductory aerospace engineering. He is the lead author of more than two dozen technical papers, as well as the textbook "Space Vehicle Design."

A registered professional engineer in Maryland and California, Griffin is a fellow of the American Institute of Aeronautics and Astronautics (AIAA). He is a recipient of the NASA Exceptional Achievement Medal, the AIAA Space Systems Medal and the Department of Defense Distinguished Public Service Medal, the highest award given to a non-government employee. He is a certified flight instructor with instrument and multiengine ratings.

Griffin received a bachelor's degree in physics from Johns Hopkins University; a master's degree in aerospace science from Catholic University of America; a doctorate in aerospace engineering from the University of Maryland; a master's degree in electrical engineering from the University of Southern California; a master's degree in applied physics from Johns Hopkins University; a master's degree in business administration from Loyola College; and a master's degree in civil engineering from George Washington University.

NASA / Bill Ingalls

News Briefs

Lab garners Laurel Awards

NASA accomplishments in aviation and aerospace were honored at Aviation Week and Space Technology's recent Aerospace Laurel Awards. Laurel honorees were nominated by the editors of the aerospace magazine for "extraordinary individual and team accomplishments in the global aviation, aerospace and defense industries."

The Laureates Hall of Fame Award in the space category went to a collaborative team that includes JPL, Cornell University, the aerospace industry and the Mars Exploration Rover mission team "for its remarkable year investigating the Martian surface with Spirit and Opportunity."

JPL Director DR. CHARLES ELACHI was recognized for his leadership of the Mars Exploration Rover program and the Cassini mission team, and the magazine recognized the accomplishments of Cassini's engineers and scientists. Also, the JPL/Lockheed Martin Stardust team was honored for designing and guiding the Stardust spacecraft to within 140 miles of the nucleus of the comet Wild 2.

"We indeed enjoyed a historic year in science exploration in 2004," said AL DIAZ, NASA's Associate Administrator for Science. "In the months and years to come, we look forward to more developments in science that will advance our understanding of Earth and the worlds beyond."

The complete list of winners was published in the Feb. 21 issue of Aviation Week and Space Technology.

Spilker honored by CS Fullerton

Cassini Deputy Project Scientist DR. LINDA SPILKER was presented with the Distinguished Alumni Award from California State University, Fullerton at the 12th annual Vision and Visionaries gala on April 16.



Dr. Linda Spilker

This is the university's highest honor afforded alumni. Approximately 500 alumni, community leaders and university officials recognized Spilker's outstanding career achievements.

Ocampo named PCC keynote speaker

ADRIANA OCAMPO, a research scientist in the Geophysics & Planetary Geosciences Element, has been selected by the Pasadena City College student body to be keynote speaker for the college's commencement ceremony in June.



Adriana Ocampo

A 28-year JPL employee, Ocampo last year was named California Community College League Outstanding Alumni. She graduated from PCC in 1978.

Ocampo has been credited with the discovery that a ring of sinkholes found in the Yucatan Peninsula is related to an impact crater known as Chicxulub, which scientists believe caused the extinction of more than 50% of the Earth's species, including dinosaurs, some 65 million years ago.

Blood drive in May

The next JPL/Red Cross blood drive will be held in von Kármán Auditorium on Tuesday, May 17, from 10 a.m. to 4 p.m. and Wednesday, May 18, from 7 a.m. to 1 p.m.

JPL's Occupational Health Services Office says that blood supplies are critically low, especially with the high demand for type O blood.

Use the Red Cross' scheduling program for confidential donor signups at www.givelife.org/index.cfm?hcl=JPL. Under step one, "Find a blood drive," enter "JPL" instead of zip code or sponsor code. Click "Search" and the JPL blood drive dates will come up.

You will receive an automatic confirmation via e-mail. Call the Red Cross at (213) 400-0140 if you need further assistance.

Advance signup sheets will also be available at Occupational Health Services, Building 310-202, prior to the blood drive. For last-minute signups, or to change your appointment, call the Red Cross at (626) 960-6956, ext. 225.

To donate blood you must be at least 17 years old, weigh no less than 110 pounds, have lived in the United States for at least three years, and be in good health. If you have donated recently, there must be 56 days between blood donations.

For more information, visit www.redcross.org/services/biomed/blood/supply/tse.html.

Student robot winners named

A three-team alliance proved best at the April 1-2 Southern California Regional for FIRST (For Inspiration and Recognition of Science and Technology) Robotics, one of 30 such regional competitions held around the country. FIRST is a non-profit organization whose mission is to generate interest in science and technology.

The championship team alliance—Hope Chapel Academy, Hermosa Beach; Van Nuys High School; and Quincy Public School, Quincy, Mass.—will work together in the national competition April 21-23 in Atlanta.

View an animation of this year's game at <http://robotics.nasa.gov/first/2005/kickoff.htm>. Find more information about the competition at <http://www.usfirst.org>.

County Board honors MER Team

The Mars Exploration Rovers Team and the Laboratory were recognized by the Los Angeles County Board of Supervisors in a March 29 ceremony for work on developing and managing the rovers.

Three scrolls were presented by Supervisor MICHAEL ANTONOVICH, who represents the district that includes JPL, to commemorate the twin rovers' one-year anniversary. MER team members presented Antonovich and the board with pictures taken by the rovers' cameras.

Goddard Award to MER Team

Former MER Project Manager PETE THEISINGER accepted the Goddard Memorial Trophy on April 1 in Washington, D.C., on behalf of the Mars Exploration Rovers Team. The National Space Club selected the team for this recognition.

The trophy, named for rocketry pioneer ROBERT H. GODDARD, is the group's premier award. It goes to the individual, group or program deemed to have made the most significant contribution to space activity in the previous year. Theisinger was project manager from mid-2000 until after both rovers landed on Mars in early 2004.

Lee recognized by UC Berkeley

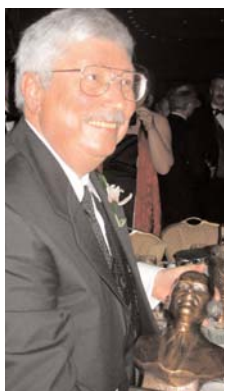
WAYNE LEE, supervisor of the Flight System Analysis and Technology Group and chief engineer for the Mars Exploration Rovers' entry, descent and landing, was honored April 16 by his alma mater, UC Berkeley.

Lee received the inaugural Mark Bingham Award for Excellence in Achievement, to be given annually to "a graduate of UC Berkeley who has achieved great distinction through professional achievements and/or public service at a relatively early stage of his or her career."

The award was named in honor of Bingham, a UC Berkeley alumnus, who was aboard the United Airlines flight that crashed in Pennsylvania on Sept. 11, 2001. Bingham and others were credited with attacking the hijackers, who were thought to be targeting the U.S. Capitol.



From left: Patty Rhee (Office of Legislative and International Affairs), John Callas, Chase Rief, Andrew Mishkin, Jake Matijevic, Grace Tan-Wang, Art Amador, Jim Erickson, Daniel Hurley, Albert Haldemann, Supervisor Mike Antonovich.



Pete Theisinger



Wayne Lee

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meets Wednesdays at 11:30 a.m.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (the Wellness Place).

Codependents Anonymous—Meets at noon every Wednesday.

Lambda (Gay, Lesbian, Bisexual and Transgender Networking Group)—Meets the first Friday and third Thursday of the month at noon in Building 111-117. For more information, call Randy Herrera, ext. 3-0664.

Parents Group for Children With Special Needs—Meets the second Thursday of the month at noon in Building 167-111 (the Wellness Place).

For more information on any of the support groups, call the Employee Assistance Program at ext. 4-3680.

Friday, April 22

Caltech Women's Club Welcoming Coffee—All women of the Caltech/JPL community are invited from 9 to 10:30 a.m. at 100 Broad Center. Meet friendly people and gather information about living in Pasadena and the varied activities of the club. For questions, contact Welcoming Committee members Katie Clark, (626) 403-7163 or Jane Eiler, (626) 355-4124.

Von Kármán Lecture Series—Galaxy Evolution Explorer Principal Investigator Dr. Christopher Martin will present "A New Window on the Evolving Universe" at 7 p.m. in Pasadena City College's Vosloh Forum, 1570 E. Colorado Blvd. For more information, call Public Services at ext. 4-0112.

Sunday, April 24

Bill Nye, the Science Guy—"The Great Big Book of Tiny Germs (And Other Cool Stuff)" will be presented at 2 p.m. in Caltech's Beckman Auditorium in this Skeptic Society-sponsored lecture. Advance tickets are available at events@caltech.edu, from the Caltech Public Events Office (626/395-4652) or at the door: \$8 for society members, \$12 for nonmembers, \$5 for children under 18.



Tuesday, April 26

Research Opportunities in Space and Earth Sciences—Overview meetings will be held in the 180-101 conference room from noon to 1:30 p.m. ROSES contains 56 basic space and Earth science and technology research elements of the NASA Science Mission Directorate. The agenda includes an overview of ROSES program elements of the three NASA HQ/SMD science divisions; small proposal class and ROSES website for supporting proposal preparation; proposal submission processes; a description of funding flow and processes from HQ to JPL; ROSES program management policy; and a question-and-answer session.

Technology Transfer Open Forum—Join JPL Chief Technologist Erik Antonsson at noon in the 167 conference room for a lively panel discussion on how to capitalize on your innovations. You will have an opportunity to ask questions and learn from other JPLers who have taken the leap into the world of start-ups. Patents, licensing and royalties will also be discussed. The panel will include Siamak Forouhar, Muthu Jegannathan, Sarath Gunapala and Ara Chutjian.

Wednesday, April 27

"Co-Existence: Cooperation or Competition?"—USC anthropology professor

Craig Stanford will speak at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$12. For more information, call (626) 395-4652.

JPL Library Orientation—Stop by at 11:30 a.m. at Building 111-104 for an overview of the Library's products and services, and learn how to access numerous electronic resources from your desktop. For more information, call the reference desk, ext. 4-4200.

JPL Toastmasters Club—Meeting at 5 p.m. in conference room 167. Call Dirk Runge, ext. 3-0465, or visit www.jplcaltechoastmasters.com.

University of La Verne Open House—Hosted by Professional Development from 11:30 a.m. to 1 p.m. in von Kármán Auditorium. Learn about the university's degree programs (M.S. in Leadership and Management, master's and bachelor's in Business Administration and B.S. in Organizational Management) and certification in Applied Management. For more information, visit <http://ulv.edu/sce>. For other questions regarding the open house, call Professional Development at ext. 4-3750 or visit <http://hr/et>.

Volunteer Professionals for Medical Advancement—Meeting at 10:30 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Thursday, April 28

Caltech Architectural Tour—Hosted by the Caltech Women's Club, from 11 a.m. to 12:30 p.m. Free and open to the public. Meet at the Athenaeum front hall, 551 S. Hill Ave. For reservations, call Susan Lee, (626) 395-6327.

JPL Golf Club—Meeting at noon in Building 306-302.

JPL Information Providers Fair—"Connecting Knowledge: Celebrating the Power of Networking" will be presented from 10 a.m. to 2 p.m. in the Library's customer service area, Building 111-104. Information providers Labwide will highlight their resources and services with 20 poster sessions and 10 online demonstrations. Refreshments will be provided and there will be several raffles for prizes, including a \$25 gift certificate from the JPL Store. For more information, call Susan Hendrickson, ext. 4-9233 or Teresa Bailey, ext. 4-9233.

Fri., April 29-Sunday, May 1

Capitol Steps—The political-comedy troupe will appear in Caltech's Beckman Auditorium Friday and Saturday at 8 p.m., Sunday at 3:30 p.m. Tickets are \$32, \$28 and \$24; high school age and younger, \$10. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Sunday, May 1

Chamber Music—The Coleman Chamber Ensemble Competition Winners Concert will be held at 3:30 p.m. in Caltech's Ramo Auditorium. Winners of the four awards from the competition will be presented in a formal concert. Tickets are \$25 for adults, \$10 for youth. For more information, call (626) 395-4652 or visit www.events.caltech.edu.

Tuesday, May 3

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

Wednesday, May 4

Associated Retirees of JPL/Caltech—Meeting at 10 a.m. at La Cañada United Methodist Church, 104 Berkshire Place, La Cañada. Call (626) 794-1698 to leave a message for an ARC board member.

Thursday, May 5

JPL Gun Club—Meeting at noon in Building 183-328.

Top performers receive Level A Bonus Awards



Doruch Slagter / JPL, Photolab

Standing, from left: Dr. Moustafa Chanine, Eugene Tattini, Shin Huh, Susan Fawcett, Herbert Pickett, M. Mark Colavita, William Taber, Joe Waters, Daniel Tran, Reinhard Beer, Dr. Charles Elachi, Dr. Ed Stone.

Seated, from left: David Allestad, Philip Callaban, Mark Maimone, Andrew Minskin, Joseph Charles, George Hajj.

Twenty of JPL's top performers were formally honored at a Level A Bonus Award ceremony and dinner March 31 at the Brookside Country Club in Pasadena. JPL Director Dr. Charles Elachi, Deputy Director Eugene Tattini, former JPL Director Dr. Edward Stone and several of JPL's senior managers, including the Executive Council, were in attendance along with the honorees and their guests.

"Tonight, the senior management team at JPL has set aside this time to formally recognize the honorees by showing our appreciation for excellence in performance and congratulating them on a job well done," Tattini told the gathering.

The JPL Bonus Award Program was established in 1999. Today, the program consists of various award levels for individuals and teams. The Level A Bonus Award is designed to honor individuals based on four categories of excellence and is the highest award level in JPL's program. Award categories are Scientific and Technical Excellence, Effective Business Management, Effective Partnerships and Relationships, and Strategic Leadership. "These categories are critical elements and part of the JPL Implementation Plan," Elachi said. "Excellence in these areas will ensure JPL's success today and help us plan for an exciting future."

In addition, three individuals were honored with the Dr. Edward Stone Award for Outstanding Research Publication, which was presented by Stone and Dr. Moustafa Chahine, a senior scientist in the office of the JPL Chief Scientist.

Elachi closed the ceremony by thanking the honorees. "Your contributions and achievements have enabled JPL to enjoy much success over the last couple of years," he said. "You are the Laboratory's greatest asset and we are proud to have you on our team."

The 2005 Level A Bonus Award honorees:

Scientific and Technical Excellence

David Allestad: Outstanding technical accomplishment as the cognizant engineer for the development, test and execution of the sequences for the Huygens probe sequences for the Cassini-Huygens program.

Reinhard Beer: Outstanding scientific accomplishment in infrared remote sensing as shown successful in the flight of

the Tropospheric Emission Spectrometer on NASA's Earth Observing System Aura.

M. Mark Colavita: Outstanding accomplishment in delivery of the first operational mode of the Keck Interferometer and achievement of first fringes with the mid-infrared nuller instrument.

Michael Gunson: Exceptional technical leadership in the Tropospheric Emission Spectrometer ground data system in support of NASA's Earth Observing System Aura.

Shin Huh: Outstanding technical accomplishment as the cognizant engineer for the development, test and execution of the Saturn orbit insertion maneuver sequence for the Cassini-Huygens program.

Daniel Limonadi: Exceptional technical leadership of the Mars Exploration Rovers engineering team, enabling the streamlined evaluation of rover system state during extended mission reconnaissance of Columbia Hills and Endurance Crater.

Mark Maimone: Outstanding technical accomplishment in the design, development and incorporation of code into the Mars Exploration Rovers flight software that compensates for slip while driving on sloped terrain on Mars.

Andrew Minskin: Outstanding technical accomplishment in the design and development of Earth-time-based operations processes, enabling the first and second Mars Exploration Rovers extended missions.

Herbert Pickett: Exceptional technical leadership in the development and performance of the 2.5-THz radiometer system for the Microwave Limb Sounder on NASA's Earth Observing System Aura.

Daniel Tran: Outstanding technical achievements in flight software development and resolution of multiple in-flight anomalies critical to the success of the Autonomous Sciencecraft experiment, enabling flight validation of autonomy technology for future missions.

Joe Waters: Outstanding scientific accomplishments in pioneering the development of microwave limb sounding for the Microwave Limb Sounder on NASA's Earth Observing System Aura.

Effective Business Management

Joseph Charles: Exceptional business leadership as the manager of the Office of Protective Services, creating a

stable and secure environment for the high-visibility, well-attended Mars Exploration Rovers landings and Cassini flyby.

Susan Fawcett: Exceptional business leadership as the Dawn Project Business Manager in the implementation of enhanced business operations practices, including Earned Value Management.

Effective Partnerships and Relationships

Michelle Viotti: Outstanding contribution to Mars public engagement by establishing creative alliances with scientists, engineers, museums and universities to extend the accomplishments of the Mars Exploration Rovers.

Strategic Leadership

Philip Callahan: Strategic leadership as the supervisor of the Scatterometry Processing Algorithm and Analysis Group in leading the Cassini radar team that processed and delivered science data products within hours of receipt on Earth.

Riley Duren: Strategic leadership of project systems engineering and Verification & Validation, incremental Preliminary Design Reviews and the mission-level Preliminary Design Review for Kepler's mission architecture and requirements.

William Taber: Strategic leadership as the supervisor of the Navigation Software Group, leading the Software Quality Improvement Project to achieve JPL's first Capability Maturity Model Integration Level 2 rating.

Dr. Edward Stone Award for Outstanding Research Publication

George Hajj: "CHAMP and CAC-C Atmospheric Occultation Results and Intercomparisons."

Ronald Kwok: "Annual Cycles of Multi-Year Sea Ice Coverage of the Arctic Ocean: 1999-2003."

Eric Rignot: "Accelerated Ice Discharge from the Antarctic Peninsula Following the Collapse of the Larsen B Ice Shelf."

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



One NASA Peer Award presented

Farook Shoar of Section 372 was awarded a One NASA Peer Award on March 23. He was honored for his role in facilitating collaboration between JPL and Goddard Space Flight Center to develop electrical system engineering/cabling design tools that increase efficiency throughout NASA.

The One NASA Peer Award recognizes individuals and teams who demonstrate the One NASA behaviors of decision-making for the common good, collaborating to leverage existing capabilities and standardizing to achieve efficiencies agency-wide. Candidates must be nominated by their peers, rather than by their supervisors.

In addition to winning this award, Shoar is eligible to be considered for the "Center Best Award." The JPL Center Best Award winner will then be eligible for the NASA "Best of the Best Award."

To nominate someone and/or for more information about this award, see <http://hr.jpl.nasa.gov/esr/OneNASA>.



Employee Services and Recognition Manager Suzanne Bradfield Spencer presents One NASA Peer Award to Farook Shoar.

