Mission controllers are in the final stages of preparation for the launch of JPL’s Stardust spacecraft, the first-ever sample return mission to a comet, scheduled for liftoff Feb. 6 at 1:07 p.m. Pacific time from Cape Canaveral Air Station, Fla.

The primary goal of the mission is to collect comet dust and related measurements during a planned close encounter with Comet Wild-2 in January 2004. Additionally, the Stardust spacecraft will bring back samples of interstellar dust particles, recently discovered material streaming into the solar system.

Ground-based analysis of these samples after their return in January 2006 should yield important insights into the evolution of the Sun and planets, and possibly into the origin of life itself. Stardust is being developed under NASA’s Discovery Program of low-cost solar system exploration missions with tightly focused science goals.

Stardust’s launch window continues through Feb. 25, with one launch opportunity per day. During the cruise phase, interstellar dust collection will take place between March and May next year and again between July and December 2002, and will be accomplished with ice cube tray-like collectors containing aerogel, the lightest-weight, lowest-mass solid known.

“We will use the back side of the collector to gather interstellar grains that are currently in space,” said Principal Investigator Dr. Donald Brownlee of the University of Washington, “while the comet samples will include interstellar grains as well as solar nebular material that accumulated together 4.6 billion years ago.”

Brownlee said “thousands to millions” of tiny particles will be collected, most between a micron (a millionth of a meter or 1/25,000th of an inch) and 100 microns. At the time of the encounter, Stardust will be about 389 million kilometers (242 million miles) from Earth. The spacecraft will fly between the comet nucleus and the sun, said Project Manager Dr. Ken Atkins of JPL.

“Once we get to comet Wild-2,” he said, “we will make a pass within about 150 kilometers (93 miles) of the surface so we can obtain up-close-and-personal pictures” with the spacecraft’s navigation camera, which is a combination of adapted spare components left over from previous missions, enhanced by high-tech modern electronics. During distant imaging of the comet’s coma, the camera will take pictures through a periscope in order to protect the camera’s primary optics as the spacecraft enters the coma.

Other instruments onboard Stardust are a German comet and interstellar dust analyzer, which will intercept and perform instantaneous compositional analysis of dust as it is encountered by the spacecraft, and a dust flux monitor provided by the University of Chicago, which will measure the size and frequency of dust particles in the comet’s coma.

On Jan. 15, 2006, the sample-return capsule will be gently parachuted onto the salt flats of the U.S. Air Force’s Utah Test and Training Range. Samples will be analyzed at a Johnson Space Center curatorial facility.

The Y2K problem does not spell doom for the world’s PCs. It can be solved by testing and, if necessary, repairing the BIOS. This renders a PC Y2K “compliant.” Software applications can also be tested and, if necessary, repaired with a software “patch” or replaced. The biggest Y2K problem lies in the fact that many organizations with large numbers of PCs have not recognized the problem soon enough to solve it by 2000. NASA, on the other hand, established its Y2K Project several years ago and, due to time...
Agency issues technology development challenge

Program seeks to meet needs across NASA disciplines

By Dr. EUGENE TRINH
Senior research scientist

The exciting and challenging array of future missions for science, deep-space probing, robotic and human exploration envisioned by NASA requires the development and validation of radically new technologies in order to accommodate the demanding scientific, engineering and limited-cost requirements.

In response to the inter-disciplinary nature of this endeavor, NASA has introduced a cross-enterprise technology development program, aiming to integrate the diverse agency-wide future technical requirements and to maximize the potential for synergistic benefit.

The program serves four primary customers: the Earth Science Enterprise, the Human Exploration and Development of Space Enterprise, the Space Science Enterprise and the Office of the Chief Technologist’s strategic technology areas. Cross-enterprise technology is defined as long-range strategic technologies that have broad potential to span the needs of more than one enterprise.

While concerned with primary mission-oriented needs, the program will also address high-risk controversial technologies that could potentially revolutionize NASA by introducing long-term, controversial, high-value, cross-enterprise technologies.

See Technology, page 4
Earth missions would study clouds, aerosols, volcanic plumes

JPL will manage and develop payload for CloudSat, an alternate ESSP mission

By MARY HARDIN

NASA has chosen to develop three small satellite missions designed to explore the Earth’s dynamic systems under its Earth System Science Pathfinders (ESSP) program, one of which will be managed by JPL.

JPL will provide mission management and payload development for CloudSat, an Earth-orbiting radar that was chosen as one of two alternate missions. The principal investigator for CloudSat is Dr. Graeme Stephens of Colorado State University.

CloudSat is a mission focused on understanding the role that thick clouds play in the Earth’s radiation budget—a balance of solar energy reaching the Earth and lost to space that ultimately controls the temperature of the Earth. CloudSat would use an advanced cloud-profiling radar to provide information on the vertical structure of highly dynamic tropical cloud systems. This new radar would enable measurements of cloud properties for the first time on a global basis, revolutionizing our understanding of cloud-related issues. CloudSat would launch in 2003.

CloudSat will fill a significant gap in the existing and planned Earth observation missions by measuring the vertical profile of clouds using active remote sensing (94-GHz radar) and a profiling oxygen A-band spectrometer/imager. CloudSat information will be enhanced by formation flying with the IceSat lidar, a NASA ice and cloud mission set to launch in 2001.

The estimated mission cost of CloudSat would be $144.6 million, with NASA contributing $119.6 million. Collaboration with Canada is being explored for the provision of critical components for CloudSat’s cloud-profiling radar.

In addition to CloudSat, NASA has chosen one additional concept, the Volcanic Ash Mission (Volcam), as an alternate mission. Volcam would monitor volcanic clouds and aerosols from a geostationary orbit. CloudSat and Volcam will go through an extended development and technology assessment before NASA selects one as a primary mission and one as an alternate.

At the same time, NASA selected the Pathfinder Instruments for Cloud and Aerosol Spaceborne Observations—Climatologie Etendue des Nuages et des Aerosols, or Picasso-Cena mission, for development as a primary mission. Picasso-Cena, led by NASA’s Langley Research Center, Hampton, Va., will fly instruments designed to address the role of clouds and small atmospheric particles known as aerosols and their impact on Earth’s radiation budget.

These missions join NASA’s two current ESSP missions, the Vegetation Canopy Lidar, which will launch in 2000, and the JPL-managed Gravity Recovery and Climate Experiment (GRACE), which will launch in 2001. The VCL mission will provide the first global inventory of the vertical structure of forests across Earth using a multi-beam laser device. GRACE employs a satellite-to-satellite microwave tracking system between the two satellites to measure the Earth’s gravity field and its time variability over five years.

The philosophy of the ESSP program is to achieve maximum science value while complementing existing or planned flight missions. The principal investigator is responsible for developing the flight mission hardware from selection to a launch-ready condition within 36 months, with minimal direct NASA oversight. The principal investigator and mission team are responsible for accomplishing the stated scientific objectives and delivering resulting data to the broader Earth science community and general public as expediently as possible.

Stone emphasizes importance of JPL’s ISO 9001 effort

JPL is rapidly headed toward its ISO 9001 registration audit at the end of March. JPL Director Dr. Edward Stone provided context for the ISO effort in a recent meeting with group supervisors in von Kármán Auditorium. The text of that Dec. 7, 1998 meeting is offered here for Lab personnel.

As you all know, for the last six years there has been a real emphasis in Washington on reinventing government. That’s an emphasis both in the administration and in the Congress. The emphasis has been on adopting the best business practices of private industry in government.

Under Dan Goldin, NASA is actually recognized as one of the leading, if not the leading agency, in reinventing itself in government. And within NASA, JPL is widely recognized as leading that change within the agency.

It’s very clear to me that the fact that the agency took the step of reinventing itself has contributed to the stabilization of the NASA budget over the last several years. It has certainly contributed to the growth within the NASA budget of the space science part of the budget.

In fact, just last week the NASA Advisory Council spent two days here in one of their meetings. They went away very impressed with what they saw at the Laboratory, and the way that we have put together the space program for the third era of exploration.

ISO 9000 is one of those best practices from the private sector. It’s not a new program at all. It’s been around for at least a decade, and is now a well-established best practice. And the administrator, Dan Goldin, has committed the agency to again lead the way within the government with respect to ISO 9000.

Now, in this case, this time, we’re not in the lead. Johnson Space Center, Kennedy Space Center and Marshall Space Flight Center have all been certified for six to 10 months, since their earliest audits were last February. And, in fact, Kennedy is undergoing its periodic audit, its follow-up audit, this week.

The aeronautics and simulation part of the Ames Research Center activity has also been certified. So, in this particular case, we are not in the lead.

Our registration date is March 29, 1999, and we have a lot to do between now and then.

ISO 9000 is a framework for how we work and the certification audit looks for evidence of that framework. That framework is very simple. It says to document what you’re going to do, do what you say you’re going to do in your documents, and then verify it. And the audit is about where the documents are, are you following the documents, and how do you verify that you have followed those documents. It’s up to us what those documents are. But the audit’s purpose is to look to see that we have those three pieces, that framework.

Having such a framework is not new for the Laboratory. The big missions did this for the Laboratory every seven to 10 years. One of my earliest recollections from the Voyager mission back in the early ’70s was during the first year there was a tremendous effort spent Laboratory-wide getting the documentation up to date, so that there was a Voyager set of documents about how that mission was going to be built.

And that was based on taking

See ISO, page 6
O’Neil to manage Mars sample return missions

William O’Neil, who served as project manager of JPL’s Galileo mission to Jupiter from 1990 to 1998, has been named manager of NASA’s first two Mars sample return missions, scheduled for launches in 2003 and 2005.

O’Neil, who was appointed in mid-November, served as chief technologist for the Mars Exploration Program in the interim, overseeing all aspects of technology development and implementation for NASA’s long-range program of robotic exploration of Mars. This past summer he played a key role in the comprehensive effort at JPL to redesign the architecture of the Mars sample return missions to determine the best approach for these first-ever missions.

Before serving as Galileo project manager, he was Galileo’s science and mission design manager during the spacecraft’s development phase. In the mid-1960s, O’Neil worked as a trajectory design and navigation engineer for the Lunar Surveyor project, the first robotic spacecraft to soft-land on the surface of the moon. He also served as navigation chief on the 1971 Mariner mission to Mars, the first U.S. spacecraft to orbit another planet.

See O’Neil, page 5

Cook new MSOP manager

Richard Cook, who served as flight operations manager for 1997’s Mars Pathfinder lander and rover mission, has been named manager of the Mars Surveyor Operations Project. Cook replaces Glenn Cunningham, who was recently appointed deputy director of the Mars Exploration Directorate.

Cook will assume the hands-on role of daily management of flight operations for missions, including the three spacecraft currently en route to or in orbit around Mars. His responsibilities include activities such as orchestrating spacecraft tracking, telecommunications operations and data collection among multiple spacecraft that will be conducting their primary science missions concurrently.

He will also manage flight operations planning for future Mars missions, including the 2001 Mars mission and the 2003 and 2005 Mars sample return missions.

Joining JPL in 1989, Cook worked on the Magellan mission to Venus and helped plan concepts for projects to Mars and the moon before joining the Mars Pathfinder Project in 1992 as a mission designer.

Cook earned a bachelor’s degree in engineering physics in 1987 from the University of Colorado and a master of science degree in aerospace engineering in 1989 from the University of Texas. He is the recipient of a NASA Outstanding Leadership Medal for his work on Pathfinder.

See Wilson, page 5

Wilson named CSMT manager, chief technologist

Dr. Barbara Wilson has been named program manager for the Center for Space Microelectronics Technology at JPL. She will also serve as the Lab’s chief technologist.

The Center for Space Microelectronics Technology was founded in 1987 to develop high-risk, high-payoff concepts and devices to enable future space missions and to enhance current and planned missions. The center conducts research and development in such fields as solid-state devices, photonics, custom micro-circuits and advanced computing.

Technology

Continued from page 2

payoff technologies.

In addition, an effort is made to leverage off the entire nation’s scientific and engineering capabilities by offering specific research funding opportunities to industrial, academics and other non-NASA government institutions for competition.

Not only will this approach offer the chance for the entire research community to participate in our space exploration efforts, but it will also provide NASA technologists with the unique opportunity to integrate innovations and advanced capabilities through collaborative efforts with the best and most forward-looking institutions in the world.

In the near term, the release of a NASA research announcement is planned for early 1999 through the Office of Space Science to solicit advanced technology development targeting future NASA missions. Nine specific technology areas are to be emphasized in this initial release:

• Spacecraft technology development for advanced power and onboard propulsion;
• Development of “breakthrough” technology sensors and instrument components;
• New distributed spacecraft control architectures, methodologies and hardware components;
• Flight- and ground-based systems for high-rate knowledge delivery;
• Intelligent systems for autonomous control;
• Technology for micro/nano sciencecrafts;
• Next-generation infrastructure for radically new design, development and execution of NASA missions;
• Systems for in-situ extraterrestrial surface exploration and utilization;
• Technology for ultra-lightweight space structures and observatories.

Total funding of approximately $10 million per year for three years will be provided to sponsor the winning proposals in the form of three-year tasks at the $150,000 to $500,000 per year level.

Subsequent research announcements will be issued to bring the total number of research projects to a steady level after the initial three years. The first will be targeted toward industrial, academic and non-NASA federal institutions.

Although JPL scientists and technologists will not be involved as principal or co-investigators in the initial research announcement, they will participate as collaborators and in supporting roles on a cost reimbursable basis. This would, therefore, provide an opportunity to establish new working relationships that could mature into efficient and synergistic joint research, leading to JPL-led tasks in response to future research announcements.

The expected final research announcement release is tentatively projected to be in February 1999, with the proposal due date in April 1999.

The Technology and Applications Programs Directorate is coordinating the activities at JPL for these cross-enterprise technology research announcements by providing information, a centralized database of all potential JPL-based collaborative efforts and future proposals, and limited levels of bids and proposals funding.

It is expected that all JPL researchers and engineers will be contributing to this important initiative which will impact the very foundation of JPL goals. The first-level contact for research-announcement coordination at JPL is Dr. Eugene Trinh in Section 354.

Dr. Barbara Wilson
AVIRIS helps study Georges damage

Scientists studying the aftermath of Hurricane Georges on coastal areas in Louisiana are using NASA images to help them understand where sand moved and how vegetation was impacted by salt water on two coastal barrier islands and the Atchafalaya River Delta.

Scientists are particularly interested in images of the Chandeleur Island chain because of the severe damage caused by Hurricane Georges in October 1998.

The images were gathered Oct. 28 by JPL’s Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) onboard a National Oceanic and Atmospheric Administration (NOAA) plane. The instrument measures 224 spectral channels, which means it can give scientists a highly detailed look at what is happening on the surface in ways that are invisible to the naked eye.

“The damage from Hurricane Georges on the Chandeleur Islands was as bad as that of Hurricane Camille almost 30 years ago,” said Dr. Shea Penland, a scientist at the University of New Orleans. “Having the chance to use imagery from the AVIRIS scanner gives us a great opportunity to understand the full extent of the hurricane’s damage and look at ways to deal with the damage. The AVIRIS data are so rich in imagery and the resolution is so good that we have for the first time the ability to completely characterize the landcover on Louisiana’s barrier islands.”

“Imaging spectroscopy is a technique that represents a fundamental new way of doing remote sensing,” said Robert Green, the AVIRIS experiment scientist at JPL. “We are measuring in detail how light is absorbed or reflected by various materials on Earth’s surface and that gives us an accurate picture of what those materials on the ground are made of and how the surface is changing.”

NOAA and university scientists believe they will be able to use the imagery to study Louisiana’s coastal wetlands, such as the Chandeleurs Islands, to gain a much better understanding of how they function and react to outside forces such as storms. The university, NOAA and JPL will also be offering the data to other scientists conducting coastal habitat research on a wide variety of issues, including marine fish habitat conservation and coastal wetlands restoration.

People who live on or near the Louisiana bayous protected by these barrier islands, along with those who make their living from the bountiful natural resources of the Mississippi delta, will be the ultimate beneficiaries of the information that is expected to be learned from this extensive data.

The University of New Orleans will receive the AVIRIS imagery from NOAA and JPL and will serve as a technical information center in the analysis of the storm’s impact on the Chandeleur Island chain. The public can also view some of the imagery on the Internet at http://makalu.jpl.nasa.gov (click on “AVIRIS Low Altitude Deployment” and look for images of Chandeleur, Timbalier and Atchafalaya Bay on the “Quicklook Index”).

TOPEX/Poseidon autonomous navigation experiment a success

By MARY HARDIN

In an experiment that could change the way satellites are flown in Earth orbit, the U.S./French TOPEX/Poseidon satellite has successfully completed the first-ever NASA autonomous navigational maneuver.

The experiment, which was designed to help validate technology that allows Earth-orbiting satellites to autonomously adjust their orbits, was conducted in early December from the TOPEX/Poseidon mission control room at JPL.

“The importance of this maneuver lies in the fact that it provides confidence that autonomous satellite actions can be affordably developed and executed at an acceptable level of risk,” said Charles Yamarone, program manager of JPL’s Earth Science Flight Projects Office. “It is the first step in demonstrating a complete autonomous navigation system for Earth-orbiting satellites.”

In the experiment, flight controllers uplinked software to TOPEX/Poseidon that autonomously planned the satellite’s actions and generated a series of commands to steer it.

The software required minimal input from ground controllers, consisting only of changes in velocity and the time to execute the maneuver. The software then computed the changes in satellite orientation and the amount and timing of satellite thruster burns with no further input from ground controllers.

TOPEX/Poseidon was selected for this experiment because it is an operational satellite that needs to precisely maintain its ground track. It also has an onboard computer that could be used for the experiment without interrupting or jeopardizing satellite normal operations. This computer is part of the experimental global positioning system receiver that is normally used for precision orbit determination.

NASA’s first mission planned to test completely autonomous navigation is the New Millennium Program’s Earth Orbiter 1, planned for launch in late 1999 or early 2000.

Wilson

Continued from page 4

Wilson succeeds Dr. Carl Kukkonen, who left JPL last fall to head a new company, ViaSpace Technologies LLC of Pasadena. As JPL’s chief technologist, Wilson’s office will provide strategic leadership and integration for all aspects of technology development throughout JPL. Both positions are effective Feb. 11.

A physicist with a doctorate from the University of Wisconsin-Madison and a bachelor’s degree from Mount Holyoke College in Massachusetts, Wilson joined JPL in 1988 as technical group supervisor of the Microdevices Section. Shortly thereafter she was named manager of the Microdevices Lab-oratory, a facility operating under the CSMT umbrella.

She most recently served as program manager for JPL’s Earth Science Program Office and technologist for the New Millennium Program. She is the recipient of the NASA Special Achievement Medal for her contributions to New Millennium.

Before joining JPL, she served as supervisor of the Opto-electronic Materials Research Group at AT&T Bell Labs, where she was awarded the company’s exceptional contribution award for her work in semiconductor devices.

O’Neill

Continued from page 4

et, and navigation chief for the Viking mission to perform the first soft landings on Mars.

O’Neill earned his bachelor’s degree with distinction in aeronautical engineering in 1961 from Indiana’s Purdue University and his master’s degree in aerospace engineering in 1967 from USC.

He is the recipient of NASA’s highest award, the Distinguished Service Medal, and Purdue’s Distinguished Alumni Award. He also holds an honorary doctorate from the University of Padova, Italy, home of the Galileo spacecraft’s namesake, 16th century astronomer Galileo Galilei.

Spectroscopy is focus of AVIRIS Feb. workshop

A one-day introductory course on imaging spectroscopy will be offered to scientists during the AVIRIS Earth Science and Applications Workshop at JPL on Feb. 8 in von Kármán Auditorium.

AVIRIS is a unique airborne optical instrument that is used to identify, measure and monitor constituents of the Earth’s surface and atmosphere based on how the surface absorbs or scatters molecules.

For information, access the AVIRIS web site at http://makalu.jpl.nasa.gov.

Passings

Milton Brockman, 80, a retired engineer from Section 330, died of cancer Nov. 27 at his Carlsbad home. Brockman worked at JPL from 1955–85. He is survived by his wife, Jean, daughter Suzanne and son Jeffery. Funeral was private.

Thomas Loesch, 53, a software engineer in Section 345, died of cancer Dec. 4 at Verdugo Hills Hospital in Glendale. Loesch had been with JPL since 1978. He is survived by his daughter, Dawn, and son Eric.

Peter Balzer, 91, a retired senior guard from the former Section 123, died of natural causes Dec. 10 at an Illinois nursing home.

See Passings, page 7
Y2K

Continued from page 1

pressure and scrutiny from Congress and the federal government, has given it priority status. NASA is systematically following the General Accounting Office (GAO) five-phase (awareness, assessment, repair, testing and implementation) Year 2000 Conversion Model. JPL is doing the same.

Y2K progress on Lab

The Laboratory’s assessment phase (inspection and inventory of items needing repair) is complete. Most system software and hardware components (JPL-developed and commercial) have been checked for possible malfunction. This process involved combing through millions of lines of code. Everything from antennas to elevators to business systems was checked. (An exception is desktop computers. While desktop computers and software have been assessed as a class, not every desktop computer at JPL has been tested yet. See below for users’ responsibility in this area.)

During the past year, most (more than 160) applications and other deliverables were either replaced or repaired in order to eliminate Y2K problems. Some results include:

• The high efficiency antennas at Goldstone; Canberra, Australia and Madrid, Spain were equipped with the new microwave configuration control group, a Y2K-compliant design originally developed for the beam waveguide antennas.

• Routers in the Mars Surveyor program were upgraded to ensure Y2K compliance.

• The former JPL business system mainframe software was replaced by a Y2K-compliant Oracle Applications suite.

Status and compliance information on hardware, software, embedded systems and commercial-off-the-shelf (COTS) products in use across the entire Lab are now centralized online in what is known as the “JPL Y2K Database.”

During the last quarter of 1998, focus shifted from inventory and repair to testing repairs that had been done. This is the most expensive part of solving the Y2K problem. Although searching through code was a huge task, it was successfully automated to a large extent with YDC, the tool developed by JPL for this purpose. Testing is more labor-intensive. It requires setting up systems that simulate operational systems, but are used solely for the purpose of Y2K testing. JPL is working toward NASA’s deadlines of Jan. 31 for completion of testing and Feb. 28 for reinstallation of software components.

The Y2K Project also began developing contingency plans to provide JPL with a systematic approach to unknowns that may arise. NASA expects JPL to finalize these plans by March 31, 1999.

What still needs to be done at JPL?

JPL’s Y2K Project appears to be on track; NASA is pleased with the progress, said Dick Mathison, Y2K project manager. But there is still much to do. Testing and reinstalling software, and contingency plans, must be completed, along with testing the plans and training personnel for emergency scenarios. Desktop PCs must all be tested and test failures addressed.

“The Y2K Project continues to monitor commercial software in use at the Lab,” said Dr. Robert L. Miller, the project’s engineering manager. “It is imperative that Y2K-compliant COTS updates be obtained and implemented. Desktop software for both Mac and PC must be assessed and, if necessary, replaced or patched.”

Individual users responsible

“Because the schedule for accomplishing the Year 2000 project’s goals is so tight, the Y2K Project Team requests the cooperation of everyone at the Lab,” said Tim Scheck, project control and communications manager. “Each directorate is responsible for the compliance of their hardware, software and embedded elements. Supervisors should ensure that their employees are taking appropriate action.”

Each user should take the initiative to check his or her own PCs, or have them checked, so JPL can report compliance by the end of February, he said. Users of both Macs and PCs must also ensure that their software is Y2K compliant.

The OAODNS Alliance website (http://alliance.jpl.nasa.gov) provides software employees can download to test the BIOS of PCs running Windows (95, NT, 3.1x and Windows for Workgroups).

(Note: Advancing the clock on your PC is not a good way to test it. This can cause more problems.)

You can run the test yourself or call the DNS Support Center (4-HELP) for help with testing. Depending on the test results, follow the instructions on the testing site, which includes a contingency plan for PCs that fail the test. Basically, here’s what to do:

If your PC hardware is compliant, remember that your software must also be compliant (see below).

Call 4-HELP for assistance if your PC is not Y2K compliant or if the test won’t run on your computer. If the computer is older than 18 months, it must be replenished (replaced).

If your PC is not subscribed with OAODNS, you will be charged on a per-event basis.

OAODNS is responsible for the Y2K compliance of JPL core software. Individual users are responsible for compliance of other software they use (on either a PC or a Mac). Check the COTS database (see below) or the software vendor’s Web site for Y2K information on these products.

Where to find more information

The online Y2K Project library home page offers links to pertinent Y2K documents. Access it via the “General Computing” section of the icis home page (http://icis.jpl.nasa.gov). From there, you can connect to policies and requirements, the JPL year 2000 database (and from there to the COTS database) and the NASA Y2K web site. Also check the January/February 1998 CIS News (in “News & Events” on the ICIS home page) for previous articles on the Y2K issue at JPL.

ISO

Continued from page 3

old Viking orbiter documents and bringing them up to date. I could well imagine Galileo did the same when they began back in the late 70s. I suspect Cassini may well have done the same thing again. So every seven to 10 years the big missions were working for the Laboratory. But unfortunately there’s nothing we can do about it; we’re where we are. We obviously have to launch our six launches; the third era is here. We are launching six spacecraft in six months. NBS, the New Business Solutions system, is here, and we are struggling and need to master the new processes to use that new business system. Unfortunately we can’t delay that. And I’m sure each of you has a list of other must-do’s that just can’t be delayed in the next three or four months. That is just the challenge we have.

There is no doubt the next six months will be very challenging. But with your help and focus on what we really need to do to be ready for ISO 9000, it is all feasible.

For more information on the upcoming ISO audit, go online to http://iso/march/march.html.

Retirees

The following employees retired in January:

Fraser Draper, 37 years, Section 620; Clyde King, 36 years, Section 352; George Morris Jr., 33 years, Section 333; Fred Miller, 30 years, Section 920; Robert Somoano, 30 years, Section 875; Gerald Herrriott, 20 years, Section 357; Wilson Watkins, 13 years, Section 344.
News Briefs

Dr. John Huang of the Spacecraft Telecommunications Equipment Section 336 has been elected a fellow of the Institute of Electrical and Electronics Engineers (IEEE), the world’s largest technical professional society.

Huang, a lecturer and recognized authority on the microstrip antenna field, was honored for his contributions to the development of micro-strip antennas for spacecraft and ground mobile applications.

The winners of JPL’s Notable Organizational Value-Added (NOVA) awards for December have been announced:

Section 312: Shyamkumar Bhaskaran, George Carlisle, Louis D’Amario, Gregory Dube, Scott Fullner, Dongsuk Han, Jeremy Jones, Brian Kennedy, Timothy McElrath, Raymond Solomon, Tseng-Chan Wang, Robert Werner, Steven Williams.

Section 333: Farrokh Baber, Paula Brown, Chau Buu, Wodek Gawronski, Jan Lorenz, Leslie Manalo, Sharon Miller, Yakov Vodonos, Susan Welch, Paul Willis.

Section 335: Shailen Desai.

Section 391: Daniel Hurley.

Section 393: Lonny Ching.

The Director’s Advisory Council for Women (ACW) currently has two openings for new members.

Appointed by Laboratory Director Dr. Edward Stone, the volunteer council works in an advisory capacity to the director regarding issues as they relate to women JPL employees.

Those interested should contact the ACW at ext. 4-8533, write to mail stop 241-107 or e-mail to ACW@jpl.nasa.gov.

William Lynch III of the Transportation/Distribution Group in Section 643 was recently recognized with the naming of an asteroid in his honor.

JPL astronomer Eleanor Helin, who discovered the asteroid in September 1991, presented the honor to Lynch, a 16-year JPL employee.

Lynch was recognized “based on his outstanding model of efficiency, friendliness and dedication to his work and responsibilities,” according to his supervisor, Michael Nieto.

“Bill is the epitome of the NASA/JPL ‘faster, better, cheaper’ motto, in the sense that anyone who works in a highly charged, positive fashion, streamlined for action, leads to a more successful and economical operation.

“Always with a big smile and a cheerful greeting, he is one of JPL’s biggest assets,” Nieto added.

Passings

Continued on page 5

Jeroen Balzer worked at the Laboratory from 1959–75. He is survived by sons John and Patrick.

Services were held Dec. 12 in Leves Park, Ill.

Jay Dettinger, 61, retired project element manager in Section 3501, died of cancer Dec. 14 at his home in La Cañada.

Dettinger joined the Lab in 1977 and retired in 1996 as element manager of the Mars Pathfinder propulsion system. He is survived by his wife, Elisabeth, and son John.

Cremation services were held Jan. 7 at Forest Lawn in Glendale.

Raymond Tripp, 76, a retired senior engineer from Section 661, died of stroke Dec. 18 at a rehabilitation center.

Tripp, who worked at JPL from 1978–81, is survived by his wife, Veneta, six children, 20 grandchildren and two great grandchildren.

Memorial services were held Dec. 22 in Sun City, Calif.


Carr had been with JPL since 1984. He is survived by his wife, Linda Mason Carr, and daughters Lindsey and Ashley.

Services were held Jan. 6 at Oak Park Cemetery in Claremont.

Mitchell Shellman, 48, a project element manager in Section 346, died of heart failure Dec. 28 at his home in Covina.

Shellman co-authored the successful proposal for the Mars Environmental Compatibility Assessment Project, a set of instruments on the Mars 2001 Lander that will investigate hazards on the surface of Mars that could effect human exploration of the planet.

He was project element manager for MECA’s sensors, sampling systems and resource management.

Shellman had worked at JPL since 1990. He is survived by his wife, Janet, daughter Kimberly and son Scott.

Burial was at Queen of Heaven Cemetery in Rowland Heights. A JPL memorial service was held Jan. 15.

The family has asked that donations in Shellman’s memory be made to an education fund for his children and can be sent to Mrs. Janet Shellman at 868 N. Edlander, Covina, CA 91723.

Lida Bates, 74, a retired senior engineering assistant from the former Section 230, died of stroke Dec. 30 at Saddleback Memorial Hospital.

Bates joined JPL in 1961 and retired in 1986. She is survived by her husband, Eugene, and six children.

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FOR SALE

BASEBALL, autographed by Reggie Smith, mint cond. $50. 951-6880.

BASEBALL CARDS, Leaf set, 201 cards, major stars/rookies, $100. 626/683-7018.

BASEBALL, autographed by Reggie Smith, mint cond., $50. 951-6880.

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COMPUTER, Toshiba Satellite 315CDT laptop, 200 MHz MMX, includes MS Office, Netscape, etc. $626/568-8298.

COMPUTER, complete home office, 486-DX2/66 PC w/16 MB RAM, 2.2GB HD, active matrix 12” screen, 32 MB RAM, 56K modem, very fast, very comfortable, cost $2,300, sell $1,200. 626/336-6856.

COMPUTER, complete home office, 486-DX2/66 PC w/16 MB RAM, 2.2GB HD, active matrix 12” screen, 32 MB RAM, 56K modem, internal 24 CD + floppy drive, carrying case included, hardly used, exec. cond., $1,500/obo. 909/987-4323.

CRIB/MATTRESS, Simmons, exquisite, bleach white; great for new baby or extra for grandparents home; free delivery within 30 miles/DM. $35/obo. 626/568-8298.

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CREEK KITCHEN CABINET/TABLE, 32” x 23” x 9”, wood box, rollerblades sz 1& 2, make reasonable offer. 626/797-4758.

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PICTURE FRAME, three made of brass, 22" x 28", $10 each, $21 for all three. 626/568-6296.

PRINTED, previously owned, black, like new, $39.95 each. 626/568-7202.

PROPER, a fashion house, for all conditions, 40" x 50", $45. 626/568-7286.

SCANNER, UMAX 1200 S, exc. cond., comes w/original SCSI card, driver software included. 909/393-4089.

SOFTWARE. Microsoft Publisher 98 ($49); Picture it! ($19); Word 97 upgrade. Eudora 4.0 or Adobe PhotoDeluxe ($19), used never hands-free hot-key for Nokia 2100 series cell phone ($25); BATTERY, never used, hand-sewed for life for Nokia 6161/6190 ($29).

TREE, 6-foot foot fuchsia ($19); CELL PHONE, Motorola, with case and charger ($39). 566-6134.

SOFTWARE, for Mac, all $25 and under. 790-3889.

SPA, Hot Springs portable, new, $2,800; like new, $800. 626/568/5562.

speakers, power, audio, like new. 570-2862.

SOFTWARE, Microsoft Publisher 98 ($49); Picture it! ($19); Word 97 upgrade. Eudora 4.0 or Adobe PhotoDeluxe ($19), used never hands-free hot-key for Nokia 2100 series cell phone ($25); BATTERY, never used, hand-sewed for life for Nokia 6161/6190 ($29).

TREE, 6-foot foot fuchsia ($19); CELL PHONE, Motorola, with case and charger ($39). 566-6134.

SOFTWARE, for Mac, all $25 and under. 790-3889.

STEREO RECEIVER, Yamaha 100/101, built-in 5 band equalizer, remote, on stand, exc. cond., $99. 790-256-0279. Onkyo Dolby Prologic surround sound with center/rear channel amps, remote, $99. Yamaha pre-amp, Dolby surround sound decoder, many av inputs, uni remote, exc. cond. $79. 909/256-2279.

SWEATER, Coogi, from Australia, new, sells in Nordstrom for $325. 105, 790-3889.

TABLE, din. room, round, mahogany, sits 8 with 2 extensions, almost new, comes with 6 matching chairs, $700/obo. 626/578-1503, Jim Douglas.

TABLE, dining room, round table has 1 leaf, opens to oval size, $400/obo. 626/256-6242.

TABLE, living room, 7-car fenced parking lot. 714/535-2994.

TALENT, Ohio-Forge pro series, 10", $150/obo. 626/256-6242.

TATTOO, long, cool, expensive, $150. 626/791-0872.

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TABLE, living room, round table has 1 leaf, opens to oval size, $400/obo. 626/256-6242.

TALENT, Ohio-Forge pro series, 10", $150/obo. 626/256-6242.

TAPES, Audio, standard, 2200, exc. cond., $200. 626/256-6242.

TAPE VIDEO CAPTURE BOARD, for PowerMac; Pinnacle Systems/Spotlight ($49); T1 by Sony ($299); Tundra ($349). 626/256-6242.

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