

Next wave of launches: 'Year of Earth'

By Mark Whalen

Now only about 18 months away, JPL's next wave of launches will be dedicated to Earth science, with a quartet of missions that will study our home planet. The projects are being developed at a time when a recent Pew Research poll finds that about two-thirds of Americans now believe there is strong evidence of global warming over the past few decades. An increasing proportion also says that the planet's temperature rise has mostly been caused by human activity. Here are highlights of the upcoming missions.

RapidScat, a follow-on to JPL's QuikScat mission launched in 1999, will monitor ocean winds from a new vantage point—the International Space Station. Plans call for the instrument to be launched to the station from Kennedy Space Center onboard a Dragon vehicle built by SpaceX in early 2014.

The payload—to be built and tested at JPL—is built around a flight spare of a SeaWinds scatterometer instrument and engineering model hardware. A new antenna, structure, digital interface and other elements will adapt it to the space station. RapidScat will cross the orbits of QuikScat and other scatterometers, making it uniquely positioned to allow cross-calibration between instruments.

Orbiting Carbon Observatory-2

is being prepared for a July 1, 2014 launch from Vandenberg Air Force Base. The two-year mission will use a replica of the original Orbiting Carbon Observatory satellite that was lost in 2009 due to a launch vehicle failure. The new satellite will provide the first global measurements of carbon dioxide from space and revolutionize our understanding of the global carbon cycle.

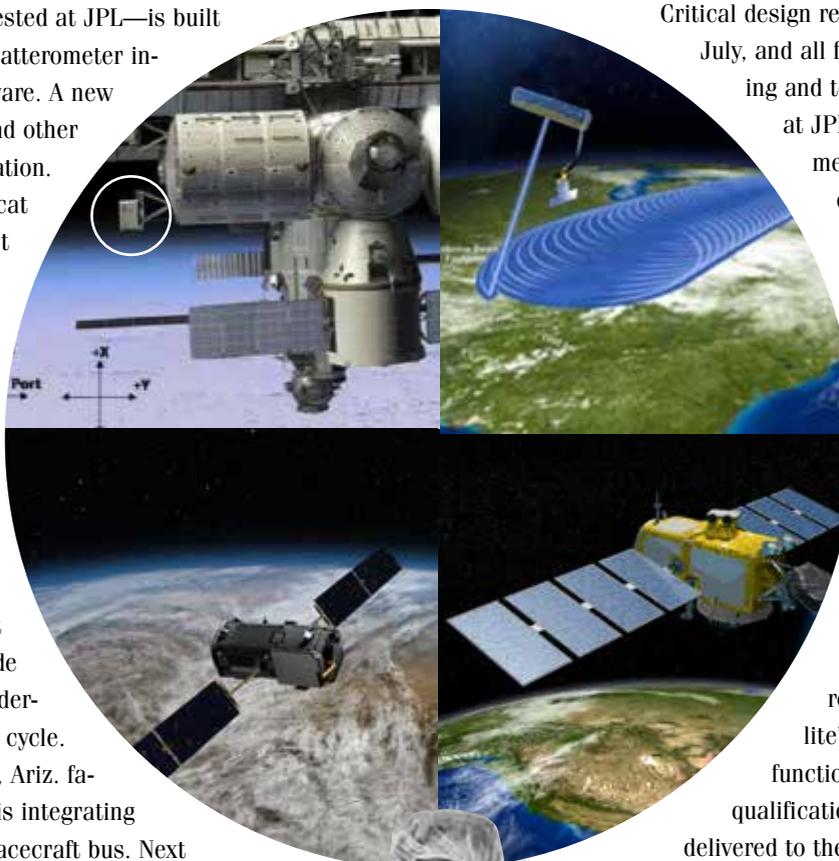
The spacecraft is now at the Gilbert, Ariz. facility of Orbital Sciences Corp., which is integrating the JPL-built instrument with the spacecraft bus. Next milestone: The satellite will undergo observatory-level thermal vacuum tests at Orbital in December.

The Soil Moisture Active Passive mission is due to be sent into space Oct. 31, 2014 from Vandenberg. The satellite will analyze processes that link water, energy and carbon cycles, extending the capabilities of models that predict weather and climate.

Critical design review was successfully completed in July, and all flight subsystems are in manufacturing and test. The spacecraft is being developed at JPL, as is the majority of the instrument—specifically, the radar and mechanical structure. Mission operations and science data processing will also be conducted at JPL.

Jason 3, which will build on measurements of sea level begun by Topex/Poseidon and Jason 1 and 2 in a quest to address questions about global climate change, is being prepared for a December 2014 launch from Vandenberg Air Force Base.

JPL-built science instruments—a radiometer, GPS payload and a laser reflector array to determine the satellite's orbital position—have completed functional, performance and environmental qualifications tests. The instruments will be delivered to the French space agency in early 2013 for integration onto the spacecraft. SpaceX is providing the Falcon-9 launch vehicle.



Lab celebrates 76th birthday

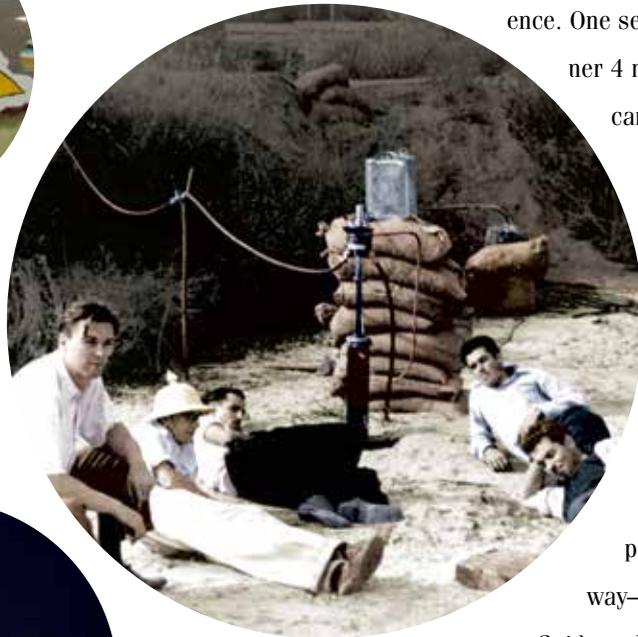
JPL celebrated its 76th birthday Oct. 31 with ice cream and cupcakes, a sneak preview of an upcoming documentary film on JPL's first efforts to reach the planet Mars, and the introduction of a unique way to look at the Lab.

Communications and Education Director Blaine Baggett (far left) screened a section of the upcoming fourth installment in the "Beginnings of the Space Age" series to a von Karman audience. One section of the 90-minute film interviews key team members of the 1964 Mariner 4 mission and reveals the trials and tribulations of using the world's first digital camera to obtain the first closeup pictures of Mars.

Not long after joining JPL, Luke Johnson of the Employee Resources Group (left) embarked on a personal journey of discovery through the Lab's buildings in numerical order, picking up some obscure tidbits of JPL history along the way. The result, "An Insider's Guide to the Mysteries and Curiosities of JPL," takes a whimsical look at how the Lab has developed through its 76 years.

The guide comprises a large foldout map with two sections. One side describes walking tours through the Lab ("easy," "medium" and "hard"), pointing out popular and some not-so-well-known places of interest along the way—such as the location of the best bathroom on Lab. The flip side, "An Insider's Guide to JPL," reveals curious facts such as Lab lingo, the wide variety of flora and fauna that call JPL home and factoids on the Lab and its people.

JPLers can get a new Mysteries and Curiosities app for smartphones. iPhone users can download the app at <http://jplmobile.jpl.nasa.gov> from Safari on JPL-issued iPhones. Users must be connected to the JPL's internal wireless network (JPLWireless), not JPL guest Internet. For more information, e-mail mysteries@jpl.nasa.gov.



Tis the season for spooky pumpkins

The Spacecraft Mechanical Engineering Section (352) recently held its second annual Halloween Pumpkin carving contest. Here are some highlights.

The Politcally Correct Pumpkin



The Parachute Pumpkin



The Charles Elachi Pumpkin



Chris Ballard, a maneuver analyst in Section 343, carved this pumpkin design (unlit, at left, and lit) with the likeness of JPL Director Charles Elachi. The pumpkin was on display at the Cassini Pumpkin Carving Contest.

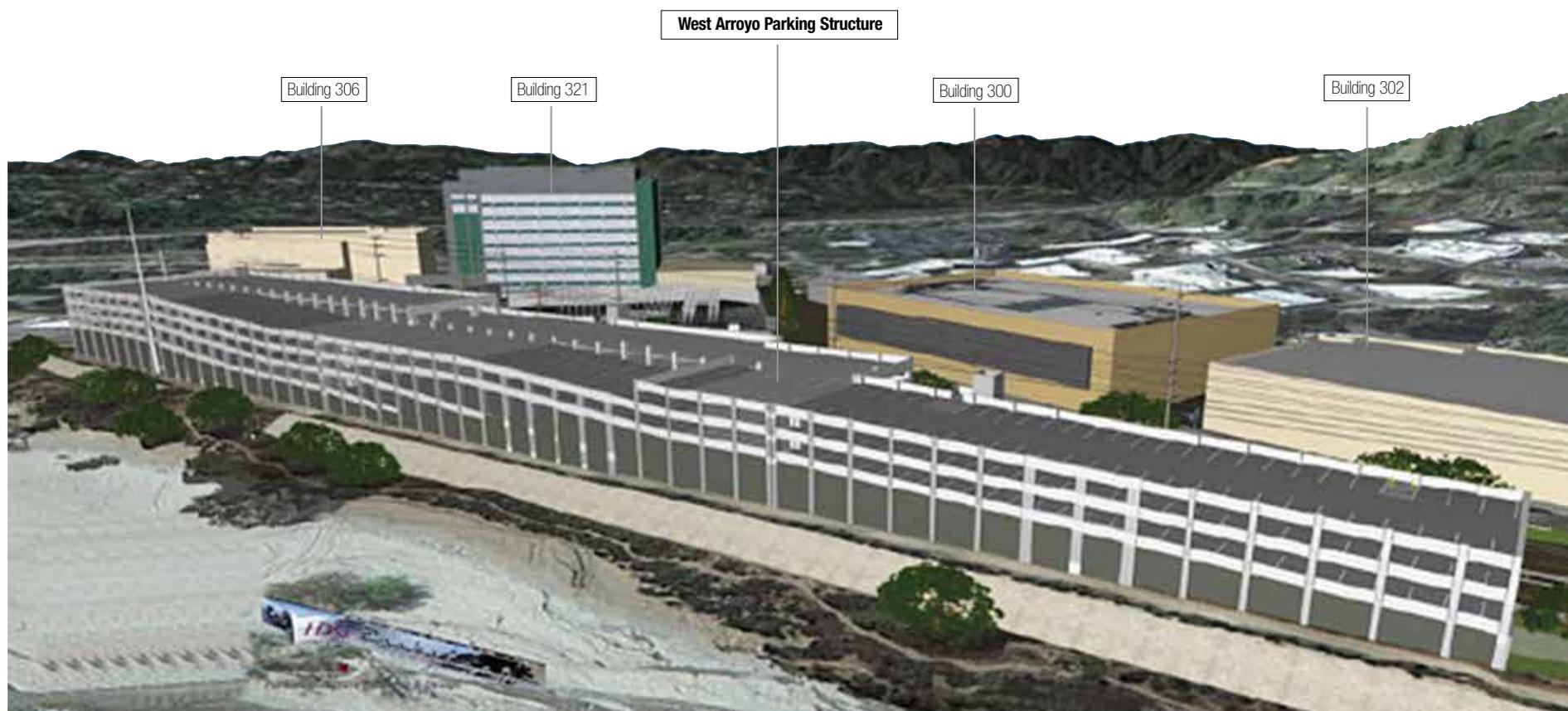
The iPumpkin



Time to pinch yourself? Parking structure to become reality

By Mark Whalen

Construction to begin in early 2013



It's been in JPL's master plan since 1965—and, in the not too distant future, will become a reality. On Nov. 7, a groundbreaking ceremony is scheduled for a parking structure in JPL's West Arroyo lot.

The long-awaited structure will compensate for the loss of the East Lot, which JPL has leased from the City of Pasadena for about half a century. Five years ago, the city informed the lab that it would terminate the lease by June 2013 in order to expand the existing spreading basins the city uses for its water supply.

Last year JPL received funding from NASA to build the structure. Swinerton Builders is scheduled to begin construction in January 2013, with completion expected in May or June 2014.

Before construction begins, the access road from the east gate into the site will be widened as a dedicated access road to the new structure.

The four-level parking structure (including roof deck) will have about 1,400 spaces, the same amount as is currently leased.

The structure as proposed is designed for easy in-and-out access, said Facilities Division Manager Bob Develle. "This is the best design we evaluated, particularly in terms of traffic flow," he said.

Parking stalls will be 9 by 18 feet, with a 25-foot-wide drive aisle. The building will have three elevators.

Develle said plans call for maintaining a balanced traffic flow on Windsor Avenue and on Oak Grove Drive during and after construction.

The four-level structure (including roof deck) will have about 1,400 spaces. Parking stalls will be 9 by 18 feet, with a 25-foot-wide drive aisle. The building will have three elevators.



News Briefs



Olivier Guyon

Guyon named MacArthur Fellow

JPL astronomer Olivier Guyon has been named a 2012 MacArthur Fellow for his contributions and creative potential toward the study of planets outside the solar system and for his vision of involving the public in their discovery.

Guyon, a physicist who works in the Exoplanet Exploration Program, uses his expertise in optics to design telescopes that investigate contemporary astronomy, particularly the search for Earth-like planets outside the solar system. He has a joint appointment in the University of Arizona's Department of Astronomy and the College of Optical Sciences; is a principal investigator in NASA's Astronomy and Physics Research and Analysis program; and leads a coronagraphy project at the Subaru Telescope in Hawaii. In 2007, Guyon was a recipient of the Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the U.S. government on scientists and engineers in the early stages of their independent research careers.

Guyon was one of 23 MacArthur Fellows selected this year in a variety of fields. The MacArthur Fellowships are awarded by the independent

MacArthur Foundation, a philanthropic organization. The \$500,000 award is given annually to "talented individuals who have shown extraordinary originality and dedication in their creative pursuits and a marked capacity for self-direction."

For more information, visit <http://planetquest.jpl.nasa.gov/news/72>.



Anita Sengupta

Sengupta receives Indian honor

JPLer Anita Sengupta has been named engineer of the year by the American Society of Engineers of Indian Origin.

A senior systems engineer for the entry, descent and landing team for Mars Science Laboratory, Sengupta joined the Laboratory in 2001 as a staff

engineer and has taken on increasingly responsible tasks on a wide variety of projects, including technical leadership of a Discovery mission concept proposal to obtain a Mars sample and return it to Earth and developing an entry system for a New Frontiers Venus lander mission concept. Most recently, she was named manager and lead systems engineer for an upcoming International Space Station instrument payload proposal.

Sengupta, who received the award at the society's annual convention on Oct. 6 in Dearborn, Michigan, also teaches spacecraft design in the Department of Astronautical Engineering at the USC Viterbi School of Engineering.

Goebel named society fellow

Dan Goebel, a senior research scientist in the Propulsion and Materials Section, has been named a Fellow of the American Physical Society.

The society said Goebel was honored "For the invention, development and fielding of novel plasma devices used in science and industry, including magnetic fusion, propulsion, microwave-



Dan Goebel

sources, and semiconductor-processing research."

Goebel, who has been with JPL since 2003, works on research and development in electric propulsion. He is responsible for the development of high-efficiency ion and Hall thrusters, advanced long-life components such as cathodes and grids, and thruster life model validation for deep-space missions. He is an expert in ion and electron beams, wireless communications, high-voltage power modulator technology, and the modification of materials by plasmas.

Goebel is also an adjunct professor at USC and teaches spacecraft design at UCLA.

Passings

Retiree **Paul Ripley**, 90, died June 23.

Ripley worked at the Lab from 1967 to 1982. He earned NASA group awards for contributions to the Viking and Galileo orbiters. At retirement he was a member of the Design and Mechanical Support Section (356).

He is survived by his wife, Hazel, three children, five grandchildren and four-great-grandchildren.

Retiree **Herbert Strong Jr.**, 94, died July 8.

After serving as a naval officer in World War II, Strong joined JPL in 1946. In the subsequent 40 years at the Lab he worked on a variety of projects ranging from section chief for supersonic and hypersonic wind tunnels and the space simulator to manager of the Office of Computing and Information Systems.

Predeceased by his two wives, Strong is survived by his sister Elizabeth, daughter Diane Frank, son Davis Strong, grandchildren Lisa, Michael and Erika, and great-grandchildren Leila and Soraya.



Rob McGrath

William (Rob) McGrath, 56, retired manager of the Submillimeter-Wave Superconductive Sensors Group, died Aug. 8.

McGrath joined JPL in 1987. A senior research scientist and principal physicist, he developed quantum-noise limited superconductor insulator superconductor heterodyne receivers and pioneered

terahertz hot-electron superconducting bolometers. McGrath's honors include the Lew Allen Award for Excellence, three other JPL recognition awards and 16 NASA achievement awards, including two NASA Space Act Awards. He held six patents and authored more than 180 publications.

McGrath retired in February 2012. He is survived by his wife, Lisa, daughter Kelly, sisters Kathy Prichard and Royan McCleskey, and extended family members. Services were held at Forest Lawn in Glendale.

Ivan (Dale) Wells, 86, a retired Deep Space Network engineer who was highly instrumental in the development and implementation of the 64-meter antenna at the Goldstone Deep Space Communications Complex, died Aug. 24.

Wells joined JPL in 1966 and retired in 1991. As cognizant operations engineer, he was responsible for the maintenance of the structural and electromechanical parts of the antenna and two others like it at the network's facilities in Spain and Australia. He also supervised the rehabilitation of the 64-meter antenna pedestal in 1982. He received the NASA Exceptional Achievement Award for his efforts to correct a bearing failure on a new 70-meter antenna in Madrid, Spain in 1979, shortly after the launch of the Galileo spacecraft.

He is survived by his wife, Joyce, son Rick and granddaughters Christa, Marcy and Lauren.

Retiree **Floyd Paul**, 89, died Aug. 31.

Paul joined JPL in 1951, and after two years left the Lab to direct a Northrup missile program similar to the one he had been doing at JPL. After stints at two aviation companies he returned to JPL to work in the Reliability and Quality Control Section. At the time of his retirement in 1978, he headed the Reliability Section, having contributed to the Mariner, Surveyor and Seasat missions.



Floyd Paul

Paul's wife, Dorothy, preceded him in death by three years. He is survived by his daughters Carol Anderson and husband, Ed; Jane Bozarth and husband Randy; and grandchildren Matthew, Erik, Morgan, Taylor and Kelsey. A memorial service was held Sept. 7 at Salem Lutheran Church in Glendale.

Robert Klotz, 72, a retired administrator, died Sept. 12.

Klotz retired from JPL in 2004 following 20+ years as a financial planner

and contract administrator, contributing to the Infrared Astronomical Satellite and TOPEX/Poseidon projects, among others. He received the NASA Exceptional Service Medal in 1993.

He is survived by his wife, Joanne, and children Kimberly, Brian and Philip. Services were held Sept. 25 at Assumption of the Blessed Virgin Mary church in Pasadena. The Klotz family requests consideration of donations in his memory to the U.S.S. Pasadena Foundation (<http://usspasadena.org/>).



Bob Klotz

Letters

Thank you to my JPL family and Section 388 friends for your thoughts, prayers and kind words at the passing of my father. Thank you also to the ERC for the beautiful plant; every time I see it, it reminds me of how my JPL family cares. Thank you.

Rosemary Guerrero (3818)

To my JPL family: Today my heart is beating fast. The final sendoff from JPL was better than any movie I have ever seen. The love and support you have given me over the years is something I will cherish forever. To Dr. Charles Elachi, Gen. Gene Tattini, Steve Proia, Randy Aden, Joe Courtney, Charles Wainwright, Nicole Garrett, Diana De La Torre, Phyllis Zambrano, Brenda Jackson, Micki Hurtado, Colleen Mattocks, Thomas Wynne, Robert Kennedy, John Callas, the Personnel Badging and

Security Office, Travel Reservations and Accounting, the Credit Union, Division 32 and Spitzer. I thank you from the bottom of my heart for the privilege and honor of representing you in the front for 33 years. Each and every one of you is a hero to me. God bless all of you and while my physical presence is absent I am with you always in spirit. Love,

Bobbie Jean Fishman

Retirees

The following employees retired in November: **Frank Grunthaler**, 39 years, Section 382D; **Paula Grunthaler**, 38 years, Section 3120; **Victor Legerton**, 34 years, Section 343K; **Bobbie Fishman**, 33 years, Section 2031; **Katherine Cresto**, 22 years, Section 2663; **Danan Dong**, 19 years, Section 335N; **Robert Werner**, 16 years, Section 343L.

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