



JPL Director Charles Elachi delivers his final State of the Lab address Feb. 23.

## Outlook bright

By Mark Whalen

### Elachi outlines JPL's future in his final State of the Lab

In his final all-hands address before his June retirement, JPL Director Charles Elachi assured employees that the Lab is in “excellent” shape.

“That’s as a result of all of your efforts,” Elachi told a standing-room-only audience in Pickering Auditorium Feb. 23. He said he was particularly pleased that the outlook is so strong as he prepares to wrap up his tenure as Lab director.

Elachi expressed confidence both for JPL’s near- and long-term mission portfolio. In the newly released NASA budget request, the Lab received full support for

its suite of missions this year, as well as missions in development well into the 2020 decade. (See article on the budget’s impact on JPL, page 3.)

Strategically, JPL is focusing closely on the immediate decade ahead. The director introduced the Strategic Plan 2025, an initiative in development to enunciate JPL’s vision for the future, by showing a video called “JPL Quests” that featured several JPL staffers sharing their hopes and dreams for JPL’s ambitions over the next decade. The video, along with an online website, will be made available to

employees in a few weeks.

The video and website will lay out how JPL will work to meet its technical and scientific challenges through a number of thrust areas, including creating the workplace of the future, innovation in work and how it’s done, and inspiring the public.

“Our goals have stayed the same,” said Elachi. “Basically our goal is to search for life in the universe and understand how the universe works, including our planet and our solar system. What has changed is our capability of being able to do

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that. The technology and innovation that we've come up with have tremendously [enhanced] our capabilities to be able to achieve that goal."

Elachi outlined JPL's commitments and possibilities for the near future in each of the Lab's major thematic areas.

themes that will benefit people—understanding the water cycle, natural hazards, ocean rise, the carbon cycle. "Our missions are the elements that will allow us to achieve those objectives," Elachi noted.

The Gravity Recovery and Climate Experiment (GRACE) Follow-on mission, a

how water bodies on Earth change over time.

In astronomy, JPL's astrophysics missions from this year through 2024 include the currently active Spitzer, NEOWISE, NuStar and Space Technology 7-LISA Pathfinder. NEOCam is under consideration as a Discovery mission, as is SPHEREx for the Explorer program, an all-sky near-infrared spectral survey. Deep Space Atomic Clock and Cold Atom Laboratory are due for launch in 2017.

Also under discussion for 2024 is the Wide-Field Infrared Survey Telescope, or W-FIRST, a mission led by the Goddard Space Flight Center for which JPL is providing a coronagraph and telescope.

"All of this is great," stated Elachi in conclusion, "but what really counts is the people. You make it happen. Our programs are great, having a vision is great, but if we don't have the right people, none of that will happen.

"As I leave the Lab, I think we [are] doing superbly," said Elachi in a poignant moment, reflecting on his tenure leading the Lab. "I'm absolutely honored and delighted that I've been your director for the last 15 years." ■

**"Our goal is to search for life in the universe and understand how the universe works, including our planet and our solar system. What has changed is our capability of being able to do that."**

JPL Director Charles Elachi

In Mars exploration, the Curiosity and Opportunity rovers, along with the Reconnaissance and Odyssey orbiters, continue to carry out their missions. The InSight mission to explore Mars' interior is being prepared for a possible 2018 departure.

Also moving ahead is the Mars 2020 science caching rover. JPL is currently conducting environmental tests on a proposed helicopter for Mars 2020, a new technology. A full test is scheduled for May of this year.

In planetary exploration, when Cassini's exploration of Saturn ends in 2017, other missions to the ocean worlds of the outer solar system will take shape. On the books for 2016 to 2024 are the Europa Clipper and a Europa lander concept mission. From 2024 to 2028 are an Enceladus probe that could fly through plumes as well as a Titan orbiter and ocean probe.

Under NASA's Exploration Research and Development theme is the proposed Asteroid Redirect Retrieval Mission, scheduled for launch in December 2021. The mission will enter phase B in a few months.

In Earth sciences, the focus is on

successor to the original mission began in 2002, is scheduled for launch in 2017. Looking to the next decade, JPL will be preparing NASA-ISRO Synthetic Aperture Radar, designed to observe ecosystem disturbances, ice-sheet collapse and natural hazards; and the Surface Water and Ocean Topography mission, measuring



At the State of the Lab, Charles Elachi recognizes JPL employees who won major awards for their work last year.



# A healthy start

By Mark Whalen

## Budget request for FY 2017 covers current, future goals

The FY 2017 budget request released by the White House recently contains a significant increase in funding for NASA, with \$19.03 billion assigned for the agency overall.

It is “an excellent starting point,” says JPL Richard O’Toole, who heads JPL’s Office of Legislative Affairs. “With \$19 billion as the base, FY 2017 looks very positive.”

O’Toole, however, cautioned that as with all federal budgets, the White House request is indeed a starting point. The final outcome will depend on actions in Congress. But O’Toole indicated that support for NASA and JPL appear good there as well.

One other factor for this budget cycle is that it is an election year, and there is a good possibility that the government would be operating under a continuing resolution in the fall before a final FY17 budget is adopted.

About \$2.03 billion was requested for Earth science, a significant increase that covers all of the Lab’s commitments in flight and under development.

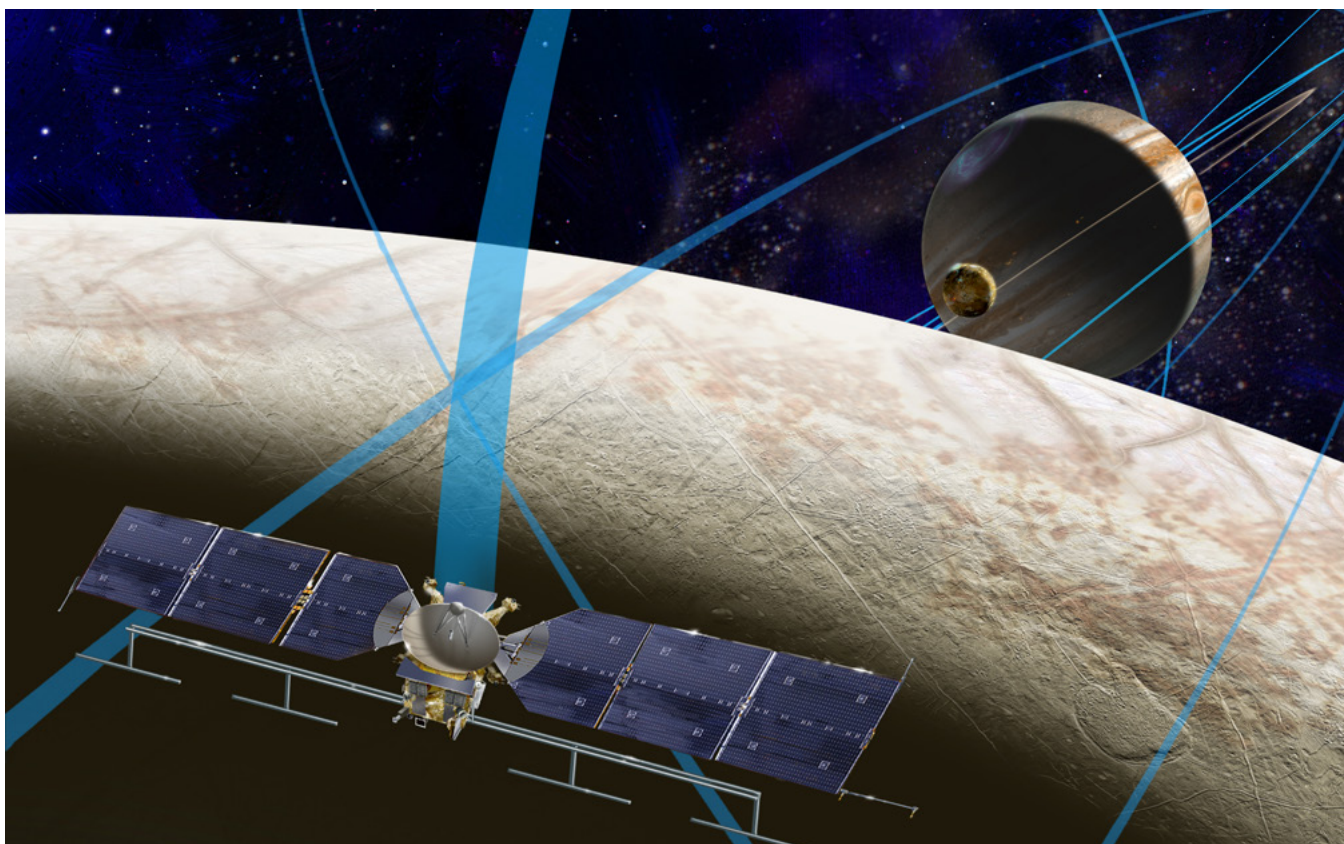
All of JPL’s planetary missions are included in the president’s request, although the mission to Jupiter’s moon Europa is not funded at a level consistent with Congressional objectives, says O’Toole. The Europa mission received \$175 million in the current fiscal

year and is expected to garner at least that much for FY17, after Congressional action, added O’Toole. Launch is targeted for the early 2020s.

The Lab’s next rover, Mars 2020, is on track. Also in the Mars program is an additional line item for a robotic mission that will be a precursor for human missions in 2030s.

Also funded for next year under NASA’s Exploration Research and Development unit is the Asteroid Retrieval and Redirect Mission, targeted to launch in December 2021. Its budget estimate for FY17 is \$104 million.

“Our core missions are at the leading edge of our work,” says O’Toole. “I’m quite bullish on our prospects.” ■



A JPL-led mission to Jupiter’s moon Europa is among flight projects funded in the proposed fiscal year 2017 budget.

# Shores of inspiration

## JPLer's experience turns tragedy to triumph

By Mark Whalen



Left photo: Charlene Ung (far right), known then as Nam Moi, with parents and siblings in the Philippines in 1979. Right photo: Ung today at JPL.

The story of South Vietnamese escaping as their government fell in the late 1970s has been told many times. But it can hit home in new ways when it is one of your colleagues who has endured the experience.

For Charlene Ung, the path to JPL was strewn with hardships, obstacles and despair. Today, after overcoming the most challenging of circumstances, she uses her memories as inspiration—for others and for herself.

Ung, the manager of JPL's Electronic Manufacturing, Packaging and Technical Services Section, was only 11 when her family endured a harrowing journey aboard a crowded freighter as refugees fleeing Vietnam in 1978. They were part of an exodus of more than 800,000 people seeking safety away from the war-torn region.

Ung, known as Nam Moi as a girl, uses her past challenges not only to keep herself motivated but also to encourage her two teenage daughters—as well as others—to face their struggles.

Ung recently related her story to students at Alhambra High

School, her alma mater. The school recorded her talk and will share it with all its students. And Ung plans to discuss her experiences with many other students in local schools as part of giving back to the community.

“When I hear other kids say they’re not good enough, they can’t do it, the college requirements are so tight, getting a job is so hard, my story can be an example for them to say, ‘If she could do it, I can do it too,’” she said.

Ung said her father, Ly Sang, played a major influence in her life, always showing confidence and support despite his family's dire circumstances. Retiring after a dozen years in the French military, he operated a slipper factory in Vietnam, exporting his products to Cambodia. The family was “pretty well off,” Ung said, but the factory, wealth and security were left behind with the fall of Saigon.

The journey to the United States took close to a year and a half. The ship left Vietnam after seeking a country of asylum for six weeks without success, when the rusty cargo freighter

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Ung told her story to students at Alhambra High School, her alma mater.

*Tung An* was stranded in Manila Bay, Philippines. From that point, the more than 2,300 refugees lived on the freighter for nine and a half months.

Everyone shared a single toilet. There was no shower, and due to the overcrowded space, people slept sitting down and even stacked on top of one another, Ung said. Food and water were scarce.

The tormenting journey on the freighter ended when the family and *Tung An* refugees settled on the primitive, three-square-mile Tara Island in the Philippines in summer 1979. In November of that year, they were transported to a refugee processing center in Manila in preparation for their settlement in the United States, speaking just a few words of English.

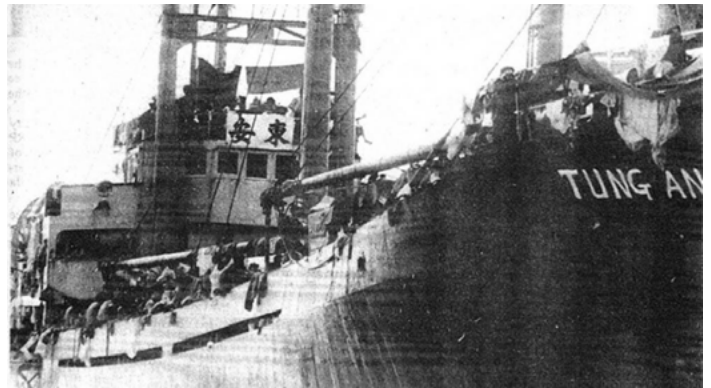
Although Ung obtained a cosmetology license while in high school and planned to open a salon, her dad insisted she and her siblings get a higher education. "He didn't care which major or field; he just asked us to get a four-year degree," she said. "He said that's our ticket out of poverty."

Ung went on to earn a bachelor's degree in electrical engi-

neering from Cal State Northridge and a master's from Loyola Marymount University.

Her memoir, *Nam Moi, A Young Girl's Story of Her Family's Escape from Vietnam*, was published March 19, 2015, the anniversary of her father's death.

"The same resilience and persistence that helped me to survive and overcome my refugee experience also helped me write this book," she said. "I was able to finish it because of my attitude of not giving up and to keep going, writing one story at a time. I was determined to get the book published in memory of my dad." ■



Top photo: The freighter *Tung An*, which housed the refugees. Bottom photo: The Ung family's living area on the boat, December 1978. Charlene Ung (*Nam Moi*) is in dark attire, upper right.

# Hop on board

## Onboarding initiative aids new hires

By Mary Ellen Derro, JPL Human Resources



Sink or swim is not the message JPL wants to send to its new employees. But thankfully, help is on the way.

A pilot program upgrading the onboarding process is underway to welcome summer students, interns and newly hired full-timers so they are ready to go on their first day here.

The Office of the CIO, Protective Services Division, Human Resources, the Education Office and JPL business administration managers have designed a new institutional onboarding checklist tool that will streamline new employees' workstation setup and systems access. The checklist also includes a customizable feature to support the needs of the employee's home organization, noted IT Operations and End User Support Group Supervisor Sonae Lee.

"We are encouraged by the pilot

feedback and continue to enhance our tools and processes," said Lee. "We're excited to grow our capabilities through our ongoing cross-team collaboration efforts."

The badging process has been streamlined with a goal to issue the One NASA ID badge on the first day of work. Personnel Security Group Supervisor Charles Wainwright noted that if the hiring team provides pertinent personnel data at least three work days before the start date and applicants submits their background investigation questionnaire, required identification and citizenship documentation on their first day of work, then the One NASA badge can be issued on day 1.

In the past, a new hire typically received a paper badge for five to 10 working days and no badge reader access, said Wainwright. "Since the pilot,

about 70% of new hires receive a picture badge on their first day," he said.

New hires will be welcomed to JPL through a new orientation experience that's more interactive and engaging. They will learn about JPL through a facilitated discussion using a knowledge map designed by a cross-functional team. New employees will also be given access to an onboarding portal that includes an extensive video library about important aspects of working at JPL.

Also, new employees can participate in a variety of activities throughout their first year, including: an invitation to attend benefits information sessions, facilitated behind-the-scenes tours, a new-hire luncheon sponsored by the Laboratory director and deputy director, "lunch and learn events," as well as opportunities to attend networking and social events. These activities are typically less than two hours; participation is voluntary.

An orientation for newly hired managers from outside JPL and for those who are promoted into their first supervisory role will be facilitated by Human Resources business partners and staff from Human Resources' Learning and Development organization.

Providing a comprehensive onboarding experience is a solid recruiting and retention tool and is an integral part of JPL's talent management model, said Deputy Director of Human Resources Rick Roessler. "The new onboarding program will demonstrate that JPL has anticipated and planned for the new hires' arrival," he said. "Everyone's job matters and we value the unique skills and talents of all JPL employees."

For more information on the onboarding initiative, visit <https://gateway.jpl.nasa.gov/sites/JPL-ID/Pages/Default.aspx>. ■



## Passings

George Born, 76, a retired engineer and manager, died Jan. 21.

Born, who worked at JPL from 1970 to 1983, was instrumental in JPL's early ocean altimetry missions, serving as geophysical evaluation manager for Seasat. He also contributed to Topex/Poseidon, Mariner 9 and Viking, and supervised the Precision Orbit Determination Group.

Born is survived by his wife, Carol, and son Brett. A memorial was held Jan. 24 in Boulder, Colo.

## Letters

My family and I would like to thank my JPL colleagues and friends for their kind words and thoughts over the passing of my 96-year-old mother-in-law. Your condolences, good wishes and plant bought us great peace and comfort. We are deeply appreciative and will always remember you. Thank you.

**Gloria Yu**

## Classifieds

Ads submitted Feb. 20-26. To submit an ad, e-mail [universe@jpl.nasa.gov](mailto:universe@jpl.nasa.gov).

### For Sale

BOOKSHELF, beautiful solid wood, white; 6' tall, 38" wide (with crown molding on top), and features 4 adjustable solid wood shelves (plus bottom non-adjustable shelf); no particle board — solid, quality wood; "like-new" condition, asking \$225. Sheryl: [smacphee27@gmail.com](mailto:smacphee27@gmail.com) or text 626-512-4883.

DOG KENNEL, new, from Petco, 36"L x 25"W x 27"H, \$60. 626-795-3172.

MICROWAVE OVEN, new, Sears Kenmore countertop model 73169310, 1.6 cu. ft., 1100 watts, black, \$60. 626-795-3172.

MISC.: Pedometer, mini steam iron, Rollerblades (men's 8), head/neck/shoulder massager, soft-sided cooler, bloody Mary set, stemless decanter set, woman's M "Galileo Fit. Team Mbr" LS red turtle-neck and white roller rink skates (sz. 7); prices upon request. 818-272-3262.

WINTER SPORTS ITEMS, everything from boots to helmets, M/F sizes M-XL. 818-272-3262.

### Vehicles / Accessories

'10 VOLKSWAGEN GTI, 73K miles, dsg automatic, white with gray leather interior, sunroof, newer Pirelli all-season tires, 18-inch factory alloys, CD/DVD/AM/FM/Sirius nav, sd card slot, hard drive, Bluetooth, weathertech mats, clear bra, tire-pressure monitor, xenon hid adaptive headlights, \$11,900. [kjshzmz@gmail.com](mailto:kjshzmz@gmail.com), Ken.

### Wanted

SPACE INFO/memorabilia from U.S. & other countries, past & present, for personal use (see <http://www.youtube.com/watch?v=S7PvjGp7mCU>). [mrayman@alumni.princeton.edu](mailto:mrayman@alumni.princeton.edu), 818-790-8523, Marc Rayman.

### For Rent

ALTADENA, master bedrm. & bath in beautiful 4 bd. / 2 bath house, shared with 2 considerate prof. women; avail. for 3 months; beautifully furn. and decorated, lg. kitchen w/ample storage, French doors lead from bedrm. to patio; quiet/safe neighborhood; lg., fenced yd. w/mature fruit & shade trees; detached garage, easy bike to JPL (1 mile); includes all utilities, high-speed Internet; \$1,100/mo. Louise, 818-653-9600, [louise@louiseh.org](mailto:louise@louiseh.org).

ALTADENA, 1 bedrm. in beautiful 4-bd./2-bath house; beautifully furnished and decorated; lg. kitchen w/ample storage; quiet, safe neighborhood; large, fenced yd. w/mature fruit and shade trees; detached garage, easy bike to JPL (1 mile); includes all utilities, high-speed Internet; \$600/mo. Louise, 818-653-9600, [louise@louiseh.org](mailto:louise@louiseh.org).

ALTADENA, furnished room w/awesome view for lease; non-smoker to share a beautiful 4-bedrm., 3-bath house across from community garden; close to local colleges, route to Kaplan, Pasadena schools, walking dist. to JPL; utilities are included, central air/heat, Internet access; near 210/134/110 freeways/bus stop/shopping/banking, entertainment/restaurants; \$740/mo. 818-370-0601.

ALTADENA, furnished loft with awesome view for lease; non-smoker to share a beautiful 4-bedroom, 3-bath house across from community garden; close to local colleges, route to Kaplan, Pasadena schools, Caltech, walk to JPL; utilities included, central air/heat, Internet access; near 210/134/110 freeways/bus stop/shopping/banking, entertainment/restaurants; \$700/mo. 818-370-0601.

PASADENA, 2 furn. rooms in a lovely 4-bd./2-bath house, big backyard, hardwood floor, big closet, shared bathroom, kitchen + laundry privileges; 2 miles to JPL, close to public transport; short- or long-term lease; must like dogs and be very clean; \$800 and \$850 + \$800 deposit. 818-960-8654.

### Vacation Rentals

BIG BEAR lakefront, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bedrm. suite. 949-786-6548.

JACKSON HOLE, WY: Luxurious bed and breakfast on 3 acres of solitude on Snake River near Jackson Hole Mountain Resort and south entrance to Grand Teton Natl. Park; see <http://www.bentwoodinn.com/>; mention JPL for discount. [info@bentwoodinn.com](mailto:info@bentwoodinn.com), 307-739-1411.

MAMMOTH, Snowcreek, 2 bd., 2 ba. + loft, sleeps 6-8, fully equip'd kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/mtn. vw., Jacz., sauna, streams, fishponds, close to Mammoth Creek, JPL discount, no pets. 626-798-9222, 626-794-0455 or [valeriee@caltech.edu](mailto:valeriee@caltech.edu).

MAMMOTH, Snowcreek, beautiful updated condo, 2 bd., 2 ba. + loft (sleeps 6-8), great location by pond/meadow, new appliances, TVs, DVD players, free wireless Internet and washer/dryer, no pets. 818-952-2696 or [BigMtnPrettySky@gmail.com](mailto:BigMtnPrettySky@gmail.com).

MAMMOTH, remodeled 2 bed/2 bath + loft, short walk to Canyon Lodge; Courchevel 6 features full kitchen, cable and Internet TV, DVD & Blu-Ray, wireless high-speed Internet, 2-car garage, Jacuzzi, summertime grill and pool; no pets. <http://Courchevel6.com>.

OCEANSIDE condo, on the sand, watch the beautiful sunsets, charming, 1 bedroom, panoramic view, walk to pier or harbor, pool/spa, game room, sleeps 4 max, all amenities. 949-786-6548. ■



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Universe

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