

## Featured Stories



*NASA Chief Technologist Douglas Terrier talks during the Mars celebration in Mars, Pennsylvania.*

## JPL Successfully Lands in Mars...Pennsylvania

By Taylor Hill

On May 31, JPLers and NASA scientists descended on the small, rural town of Mars, Pennsylvania to mark another new year on the Red Planet.

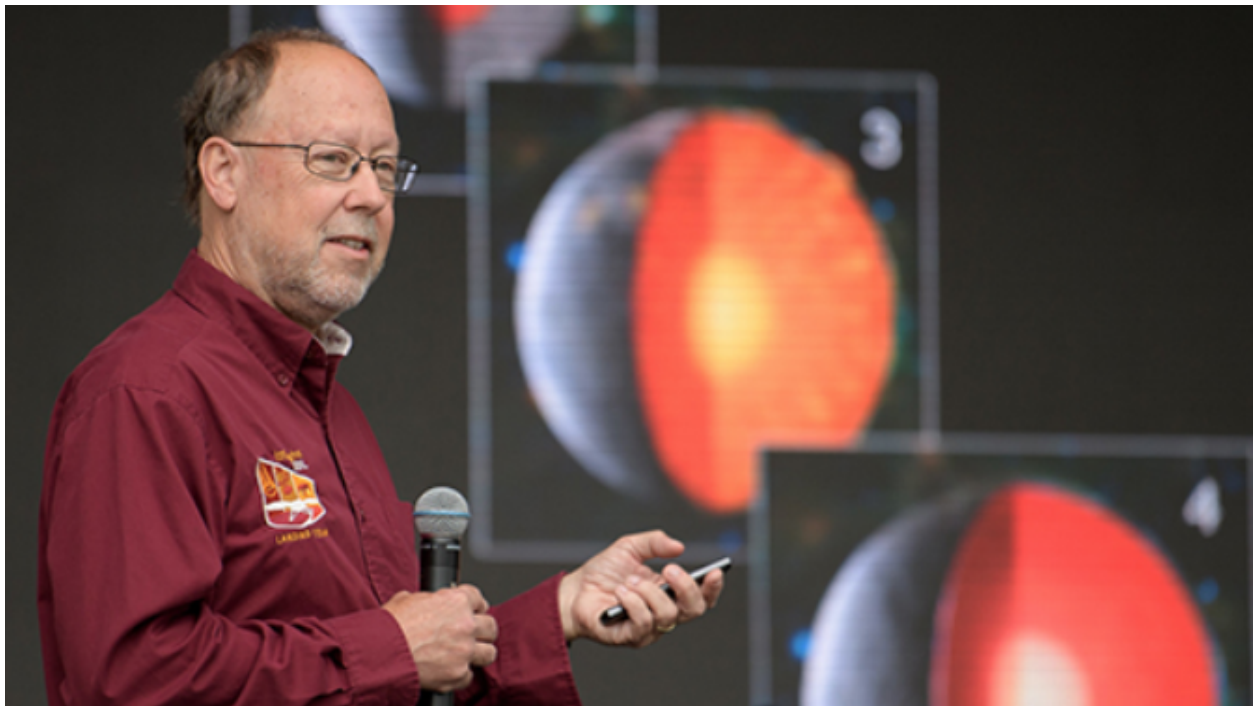
The weekend-long annual (in Mars years) event drew approximately 10,000 visitors to the town of 1,600 residents. And while the town has its own famous flying saucer on exhibit in the town square, NASA brought along its own exhibits, activities and speakers, including JPL-centric interactive displays such as a half-scale model of the InSight lander; the mini robotic rover named ROV-E; an AR experience of Mars' Gale Crater, created with data from the Curiosity rover, and a model of the Mars Helicopter.



*Attendees enjoy the flying saucer sculpture located in Mars' town square.*

JPL speakers included Mars Insight PI Bruce Banerdt, and Mars 2020 mobility systems engineer Richard Reiber, who spoke via videoconference from the Lab's Mars Yard.

Douglas Terrier, NASA's chief technologist, spoke during the kickoff event, calling the celebration "an opportunity to bring a lot of attention to a great community north of Pittsburgh, and at the same time a chance to get the public more aware of what NASA's doing on the planet Mars, and what we're doing in exploration and technology to support everybody here on Earth."



*Bruce Banerdt, InSight Principal Investigator, talks during the Mars celebration.*



*Sandy Krasner discusses the Mars InSight lander with attendees of a Mars celebration.*

NASA's involvement in the event started in 2015 when Mars' mayor, Greg Hartung, called JPL.

He said he was the mayor of a town called Mars, and wanted to see if we could do something to get NASA to celebrate Mars exploration in Mars, Pennsylvania," said Sarah Marcotte, public outreach specialist for JPL's Mars public engagement team.

The team decided to host an event on the Martian New Year in June 2015, and did so again in June of 2017. This year, since one Martian year equals 687 Earth Days, the planet's new year ended up falling in March—a bit chilly here on Earth's Mars to hold an outdoor celebration.

"We decided to call it a Mars exploration celebration instead of a new year celebration this time," Marcotte explained.

Marcotte said she saw local families with children interested in space come out for all three days of the event and attend every talk they could.

"For these communities, having these up-close encounters with scientists and engineers that are passionate about their work is a special opportunity," Marcotte said.



*Mars, Pennsylvania's welcome sign.*

## Local Potential

For Joby Harris, seeing NASA descend on the small town he spent his adolescent years bowling skateboarding around was an unexpected treat. Harris—a visual strategist with JPL's Studio group—grew up in Saxonburg, PA and spent his college years in nearby Cranberry. Mars is sandwiched between the two.

"Mars is this place we would go if you wanted to experience a time warp," Harris said. "It's a small town with that special small-town feel, and they own it."

When he first heard about the celebration, he thought of the event as a cute idea—NASA goes to "Mars"—but then he started thinking of its potential and benefits to the area.

Harris wasn't able to attend this year's celebration, but said he has been invited by high schools in the area, including his alma mater, to come talk about the work he does at JPL.

"I went to a rival of Mars Area High School, and we knew of Mars High School as the one across the street from an orphanage," Harris said. "A disproportionate number of orphans actually end up going there. Imagine if NASA was able to get more involved in this community, and inspire some of these kids through our outreach."

He compared it to a city nearby called Dubois, where multiple high school baseball players successfully made the jump to the professional level.

"It was this hotbed for pro baseball players, and it's because of this set of coaches that came up at the same time, and they were producing incredible talent," Harris said. "What if NASA was producing some of the top engineers and scientists and they were coming from Mars, Pennsylvania?"

Harris hopes to get the ball rolling next year by reaching out to the local high schools, and Marcotte noted this year's event had increased participation from Carnegie Mellon University, and from STEM organizations including a local FIRST robotics team.



*Christian Benitez shows a young space enthusiast cardboard cutouts of critters who live near JPL.*

## Explore JPL: Eager Hosts, Excited Visitors

By Jane Platt with Celeste Hoang

They were out in force—more than 600 JPLers wearing red T-shirts with "2019 Explore JPL" badges draped around their necks. Rain and/or shine (some rain on Sunday, shine on Saturday), they shared their expertise and enthusiasm with the 22,867 guests who visited for the annual event. To be more precise, 11,803 visitors were on-Lab Saturday, and 11,064 on Sunday.

Some JPL mission booths focused on the search for life beyond Earth. Environmental Affairs took things one step further, offering guests a chance to meet some real critters that live in our JPL neighborhood—well, at least cardboard cutouts of the animals. Christian Benitez encouraged kids—and grownups—to pose with cardboard coyotes, bobcats and bears set up for the occasion in a booth on the Mall. Benitez has worked the event for about 15 years. His favorite part? "We come to JPL every day and we just kind of work, but then you do Explore JPL, and you're kind of like a rock star. It kinda gets you back to 'Wow, I really do work at probably the coolest place in the world.'"



*Ryan Stern explains Mars Helicopter to guests, while wearing an appropriately themed cap.*

While Benitez focused on land creatures, inside the 167 cafeteria, CORAL scientist Michelle Gierach fielded questions about coral reefs. The most common question: "What's going to happen to the world's coral, and do I need to go see it because it's going away soon?" She feels that after the conversations, people walked away with a positive feeling and message: that NASA cares about our planet and its ecosystems.



*Many guests enjoyed a break on the Mall lawn on Saturday, thanks to mild spring weather.*

Ryan Stern shared his knowledge and enthusiasm about Mars Helicopter with guests. He's so excited about his work at JPL, he said, "It's hard to tell who's more excited--me or the people I'm talking to." Stern

also met kids who want to be aerospace engineers some day. "I love encouraging that." He noted that he talked so much to the visitors, "My throat is about to give out...but it's totally worth it."

The sentiments about encouraging kids were echoed by administrative liaison Ken Kim, who interacted with guests at the Crazy Engineering movie in 180-101. "The kids who come here could be the next generation of scientists and engineers. To be able to promote that, it gives me more reasons to feel a purpose here. It's not just a job here—it's more for the public and the greater good and to inspire the next generation."



*Leslie Ung (right)--first in line to enter JPL on Saturday; Debbie Britt (left)--second in line*

More ways for people to Explore JPL:

<https://www.jpl.nasa.gov/edu/news/2016/4/25/more-ways-to-explore-jpl/>



*Oscar Avalos with a replica of a Mars 2020 set-up piece for the rover's carousel that was on display at Explore JPL.*

## **Oscar Avalos Dreams in Titanium**

By Celeste Hoang, with photos by Ryan Lannom

You could say Oscar Avalos' JPL career was a Christmas miracle.

As a young Mexican-American immigrant, Avalos and his parents traveled back to Colima, Mexico, every December to spend the holidays in their hometown with family and friends. But a trip in 1980 proved life-altering.

Then a freshman at Manual Arts High School in South Los Angeles, Avalos had his heart set on becoming an auto mechanic and was immersed in auto shop class. Over Christmas, however, the annual family trip went a few days past his scheduled break, and, when Avalos returned to school, spring semester of auto shop was full.

Next to the newly closed door was an open one, to the machine shop. The teacher, Mr. Cervantes, asked Avalos if he would like to join his class instead.

He wasn't sure what machining involved but "I needed a class and I heard you'd get to make little cannons for practice and fire them in class, so I said yes," Avalos says with a laugh.

The class came with a perk: Mr. Cervantes was friends with the machine shop lead at JPL, who invited him to bring his class for a tour. Over the next four years, Avalos toured JPL every year and fell in love with the Lab and its machine shop.

"I was fascinated. Compared to the machines we had in shop class, it was night and day," Avalos says. "They were making real parts for space."





*Avalos, right, with a colleague in the machine shop as a new hire in the early 1980s.*

By the time he toured JPL as a senior, Avalos was the top student in the machine shop with a straight-A transcript. As graduation neared, Mr. Cervantes suggested he apply to JPL, but Avalos was incredulous.

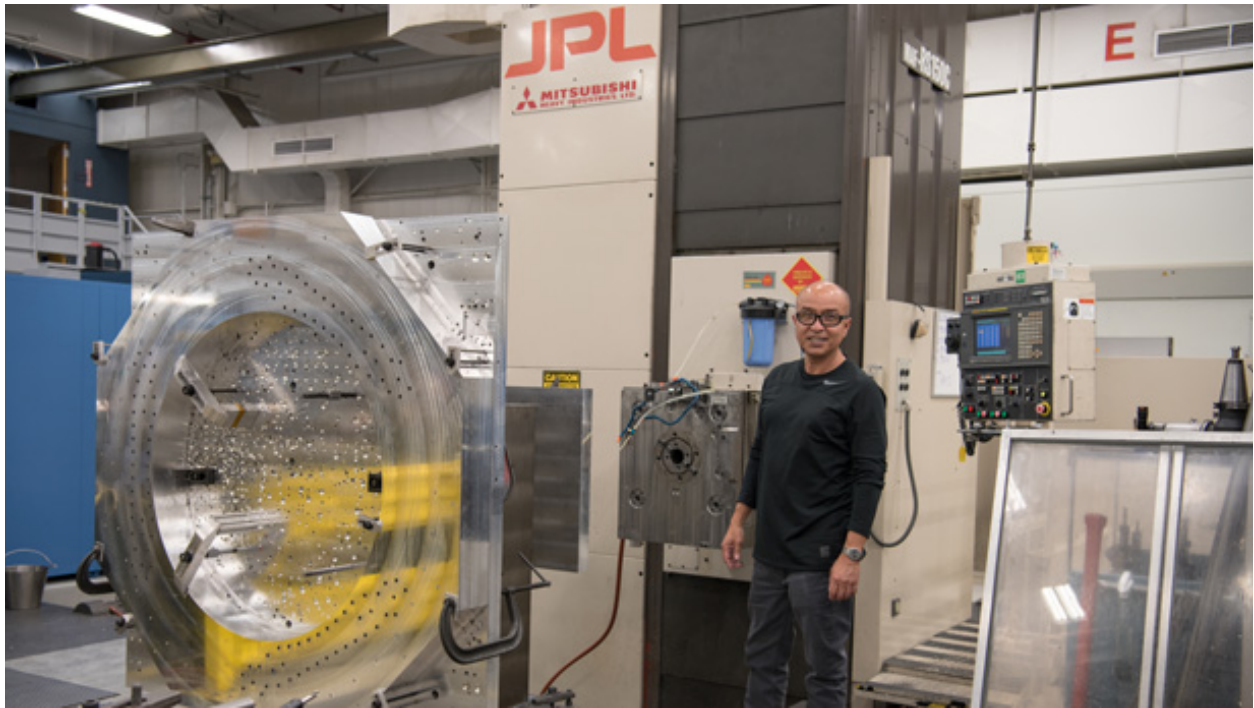
“Why don’t you just write a letter and ask for a job?” Avalos recalls his teacher asking him. “I thought, ‘No, I want to go to the Marines.’ My parents were poor and I knew how much they sacrificed for me. Going to the Marines meant they wouldn’t have to pay for anything anymore.”

Still, Avalos decided to give JPL a shot. He pecked out a letter on his typewriter, listed his high school machine shop’s phone number at the top of the page, and mailed it to JPL in April of 1983.

A few weeks later, Avalos and his friends ditched class to drive to Santa Monica and play beach volleyball for the morning. When he stopped by school later, Mr. Cervantes cornered him.

“He said, ‘Where have you been?’ and I told him, ‘I’ve been sick.’ And he said, ‘Sick? Look at your suntan!’” Avalos recalls with a laugh. “Turns out, he was looking for me because JPL called.”

Avalos wasted no time returning the call. Don Scheriff, the section manager at the time, answered. “He said, ‘Oscar, I read your letter and I want to hire you. When do you graduate?’” Avalos says. “I told him June 16. And he said, ‘OK, you’ll start June 20.’”



*Standing next to the Mitsubishi MAF in the machine shop.*

### **Made in America**

JPL's job offer was the American dream come true for Avalos, who immigrated to the States with his parents in 1972 when he was 8 years old. At the time, Avalos didn't speak any English and was terrified to find himself in a new country where nothing was familiar.

"Where I grew up in Mexico, we were on the outskirts of town. No car. The best luxury you had was a donkey," he says. "I was so scared to be here."

His first year in Los Angeles, Avalos was too frightened to go to school. He eventually enrolled in the third grade, where he "didn't know how to do anything or any of the homework" because of the language barrier.

But a kind, bilingual classmate took notice.

"There was a little girl who knew how much I was struggling," Avalos recalls. "I don't have any explanation as to why she wanted to help me but she did."

A few months into the school year, his school counselor informed him that he would be assigned one teacher who would help him speak English and another teacher who would help him write in English. "She must have said something to her mom or to the principal," Avalos says. "That little girl was my angel."

Over time, Avalos began to thrive at school, and he and his parents did their best to make ends meet at home. His father worked at an animal rendering company, driving around LA to pick up dead animals whose skins would be sold to Japan for leather goods; his mother worked as a seamstress; and Avalos took a job as dishwasher at a Louisiana seafood restaurant for \$3.50 per hour, with plans to enlist after graduation.

With that phone call from JPL, Avalos threw in the towel.

"When I got the JPL job, I quit that day," Avalos says. "The Marines went out the window and my dishwasher days were done."



*Machining a part for Mars 2020.*

### **New kid to seasoned pro**

Three days after crossing the stage to accept his high school diploma, Avalos walked across JPL's West Lot to report for duty on his first day at the machine shop. He was so nervous, he arrived an hour early for his shift.

Inside, he was greeted by a group of older men sitting in the middle of the shop with their coffee and cigarettes.

"Hey kid, is this your first day?" one of them asked.

Avalos nodded. He pulled up a chair and they proceeded to give him a speech for the next hour on how to succeed at JPL.

"Those guys took me under their wing," Avalos says. "They told me, 'Do your best, make good parts, and never lie. If you make a mistake, tell the truth and you'll have a good career here.'"

Avalos started out by cleaning machines and working in the tool crib. After three months, he enrolled in JPL's apprentice program, a machine training course for new hires that required participants to pursue at least an associate's degree part-time. For the next three years, Avalos worked from 7:30 a.m. to 4 p.m. at JPL, then went to night school at Los Angeles Trade Tech College four days a week from 6 to 10 p.m. The apprenticeship paired him with a seasoned JPL machinist who taught him everything about building machine parts, from welding to inspection. He completed the program in 1986 at age 21.

Those years of work and school were pivotal not only for his career but also for his home life: they helped him stay away from the backdrop of gang violence in his neighborhood.

"I grew up among gangs, killings and all of that in South Central L.A.," he says. "One kid was killed in my backyard right in front of me."

The violence eventually claimed the life of his younger brother in 1987 at the age of 19.

Avalos credits his opportunities at JPL with helping him avoid joining a gang or getting into drugs and alcohol.

“This job saved me from a lot of things,” he says. “It absolutely saved my life.”

### **No shortcuts**

Some projects were so demanding, Avalos and his colleagues worked 16 to 18 hour-days to meet their deadlines; he sometimes slept in his car in an alley on Lab. When asked to name the most complex part he’s ever built, Avalos points to the nine cameras on MISR, the Multi-angle Imaging SpectroRadiometer.

“The dimensions had to be dead-on perfect and precise, and I said, ‘We can’t do that,’” Avalos recalls. “But I thought about it and thought about it and said, ‘OK, I’ll try this.’ We built a machine just to do that part. I had an inspector with me every single day for six months measuring the dimensions for the part.”

In the end, all nine cameras were successfully completed and installed on MISR, and his hard work paid off with compliments and advancement. The project engineer was so impressed with the performance of the cameras, she shared with others that “Oscar did the most perfect part I’ve ever seen,” he says.

Ten years into the job, Avalos was promoted to group lead of all the machinists in the shop, a role he’s held for 26 years now. His career has come with a number of highlights, from building parts for the tiny Sojourner rover of Mars Pathfinder to now working on parts for Mars 2020.

“It’s amazing, it’s like a dream,” Avalos says of seeing what he has built fly into space. “You had these parts in your hand, and when you get to see pictures on the news and see your parts in space, that’s rewarding.”

### **Paying it forward**

Avalos recognizes he wouldn’t be where he is without the support and encouragement of those around him, so he has his own way of giving back to the community: in addition to giving weekly and monthly tours, Avalos has worked every Explore JPL—formerly known as Open House—and Family Days event since the early 1980s, welcoming the thousands who come to JPL for a close-up experience of space exploration.

“You see the excitement that people have to see JPL, and you get to share that moment and show them what we do here,” Avalos says. “One year, I met a group from Ensenada, Mexico. They came here on buses. That’s how far our work goes.”

This year, Avalos will be showing parts the shop is making for Mars 2020, including the set-up piece for the rover’s carousel, which holds the bits for the arm that will drill into the rock.

“It took us six months to build, it was so difficult,” Avalos says. “It’s exciting to show them that we start with a block of titanium that weighed close to 600 pounds and by the time you finish, it’s 18 pounds.”

To this day, though, the most rewarding experience for Avalos is still taking high school students on a tour through the machine shop once a month because he can see himself in the kids.

“It brings me back to when I was going on these tours,” he says. “I tell them to keep their grades up because it opens doors. And I tell my story because you never know—it could happen to them.”



*Astronauts removed WFPC2 from Hubble in 2009.*

## Spitzer Scientists Launch New Book

"More Things in the Heavens: How Infrared Astronomy Is Expanding Our View of the Universe."

That's the apt title of a new book from two JPL senior research scientists, Michael Werner and Peter Eisenhardt. They worked for decades to bring the historic infrared Spitzer Space Telescope mission to life. For the past 16 years, since the mission's launch in 2003, Werner and Eisenhardt have enjoyed the fruits of their labors as they've studied volumes of data about the cosmos and the diverse objects within it.

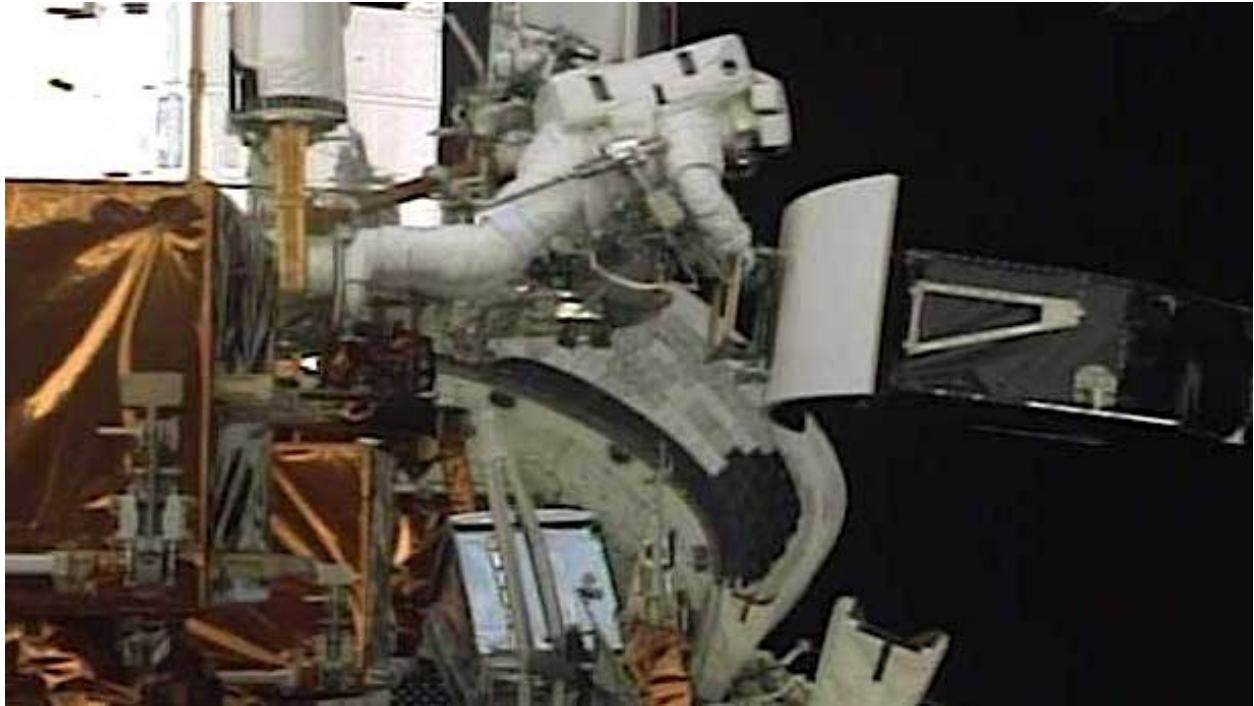
Werner has been Spitzer project scientist since 1984--nearly two decades before its launch.

In the book, which was funded by NASA, the authors escort readers on a guided tour of the cosmos in the infrared, starting in our solar system and heading outward through the universe. They explain how infrared observations can study celestial bodies too cold or far away for their light to be seen in visible light, and can peer through dense clouds that hide the life cycles of planets, stars and galaxies.

The book includes many Spitzer images.

Princeton University Press is the publisher. To order visit <https://press.princeton.edu/titles/13545.html> and enter coupon code C234 at checkout to receive 30% off your order. Neither Werner nor Eisenhardt is receiving royalties from the book.

In 2009, WFPC2 was removed from Hubble to make way for a new camera. Spacewalking shuttle astronauts on STS-125 carefully maneuvered it from its perch on May 14, and it was brought back to Earth on May 24.



*Astronauts removed WFPC2 from Hubble in 2009.*

## **Historic Homecoming of WFPC2: 10 Years Later**

By: Jane Platt

It helped open the heavens for scientific study and public wonder.

It was a fix for the blurry vision of the original camera on the Hubble Space Telescope.

The JPL-designed and -built Wide Field and Planetary Camera 2 spent 15 years in space on Hubble, capturing cosmic images that would soon become iconic. WFPC2, the tongue-twisting abbreviation for the camera's full name, beamed back 135,000 dramatic, colorful views of galaxies, star-speckled regions, towering nebulas, and other celestial treasures.

In 2009, WFPC2 was removed from Hubble to make way for a new camera. Spacewalking shuttle astronauts on STS-125 carefully maneuvered it from its perch on May 14, and it was brought back to Earth on May 24.

The camera did a victory lap of sorts when it visited JPL in August 2010, where it was the centerpiece for a reunion of its builders. WFPC2 was carefully unloaded from its shipping crate on the dock next to Building 186, then was put on display in von Karman before being shipped to its permanent home at the Smithsonian National Air and Space Museum in Washington.



*Activity inside the clean room in the Spacecraft Assembly Facility, where Mars 2020 is being built and tested.*

## **Live Webcam: Watch Mars 2020 Being Built**

A live webcam in the Spacecraft Assembly Facility clean room shows the rover being built and tested. Tell your family and friends they can watch history in the making (and so can you)!

Click here for continuous live video of rover construction at <https://mars.nasa.gov/mars2020/mission/where-is-the-rover/>:

The feed is also available on YouTube with scheduled, moderated chats: <https://www.youtube.com/NASAJPL/live>.

# Events



## Two TIAA Webinars This Week

Get real world financial education in real time with TIAA's live webinar series. Below are upcoming dates JPLers should be aware of.

### **Paying Yourself: Income Options in Retirement**

Wednesday, June 12

9 – 10 a.m.

### **How Smart Investors Ride Out Volatility**

Thursday, June 13

9 – 10 a.m.

You can register for these and many other upcoming events at [TIAA.org/webinars](http://TIAA.org/webinars).

Presentations will be archived at <http://www.tiaa.org/webinars> for 30 days, including the most recent:

- **Understanding Medicare**

Tuesday, May 14

9 – 10 a.m.





## Two-Day Apple Sale at Caltech Store

### Caltech Store's Apple Computer Graduation Sale

June 13 & 14

9 a.m. to 5:30 p.m.

Caltech Store

Save \$100 off the academic price on Macbook Pro, Macbook Air and iMac. Save \$75 off the academic price on 11 & 12.9 iPad Pro. Prices good on in-stock merchandise only.

Questions? Please email [citbook@caltech.edu](mailto:citbook@caltech.edu) or call or 626-395-6161.



## Chesley Bonestell Screening: A Brush with the Future

Tuesday, June 18

3 to 5 p.m.

321 - Pickering Auditorium

What do the Chrysler Building, the Golden Gate Bridge, the film *Destination Moon*, and America's space program all have in common? They were each touched by the creative vision of a forgotten artist and architect named Chesley Bonestell (1888–1986). Chesley Bonestell: *A Brush with the Future* is the first documentary to focus on the amazing life and works of the “father of space art.” Bonestell's paintings of worlds beyond our own helped prepare the popular imagination for America's space program. On the eve of celebrating the 50th anniversary of the Apollo 11 Moon landing, it could be said that Bonestell helped America get to the Moon – not with technology, but with a paintbrush!

Following the screening of the documentary, there will be a discussion with the award-winning creator of the film, Douglass M. Stewart Jr., as well as Rob Manning (JPL and ESD Chief Engineer), Joby Harris (JPL Visual Strategist), and others. For more information, contact Randii Wessen at (818) 354-7580 or [Randii.R.Wessen@jpl.nasa.gov](mailto:Randii.R.Wessen@jpl.nasa.gov).

This event is free. All members of the Campus and JPL communities and retirees are welcome. Because of security requirements, individuals without JPL badges must have a Laboratory employee or resident affiliate submit a visitor request and be their escort. U.S.-person visitor requests must be submitted at least three working days before the event. Foreign-person visitor requests related to non-designated countries must be

submitted at least three working days before the event, and requests related to designated countries must be submitted at least 21 days before the event.

This event is presented by the Caltech Management Association (CMA). Membership in CMA helps bring great speakers and events to Caltech campus and JPL and is open to all active and retired employees of Caltech, and to contract employees as affiliate members. See <https://cma.caltech.edu> for more information about the organization.

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## JPL Family News

### Passings

**Herman E. Hielscher** died in May 2019 at the age of 99. He was hired at JPL on Feb. 15, 1967 and retired on August 1, 1988. He worked on Mercury, Gemini, Apollo, Viking, Mariner, Voyager, and other programs in roles related to space flight simulation, technical communications/telemetry, remote guidance, command center, and other projects for both manned and unmanned missions.

**C. Russell Byers**, age 96, died April 27. He was employed at JPL starting Sept. 3, 1947, and his career at JPL included serving as manager of Edwards Test Station, Control & Energy Conversion Division. He is survived by his second wife of 18 years, Phyllis Row, as well as three children, six grandchildren and four great grandchildren. The date for a graveside memorial service is June 6 at Joshua Tree Memorial Park & Mortuary., Lancaster, California. Family contacts are Steve Byers, Beverly Byers and Richard Byers.

**Ellie Rose Trevarthen**, 69, a retired systems analyst and technical writer, died April 22, 2019. She worked at JPL for 25 years, most recently in 1730—Operations, Networking & Cybersecurity, and had a hand in the development of the NASA.gov website. Ellie is survived by four brothers: Robert Raufman and wife Janis; David Raufman, Allen Raufman and wife, Suzanne; Harvey Raufman and numerous cousins, nieces and nephews. A memorial service will be held at 12:30 p.m., Sunday, May 19 at the Glendale Temple of Self-Realization Fellowship, 2146 E. Chevy Chase Dr., Glendale.

### Awards

#### Charles Elachi Selected for von Karman Award

Former Lab Director Charles Elachi will receive the highest honor offered by the International Academy of Astronautics—the von Karman Award.

Elachi, who served as JPL director from 2001 to 2016, will pick up the 2019 award on October in Washington, right before the 70th International Astronautical Congress.

Two other former JPL directors have received the von Karman Award: William Pickering in 1990, and Edward Stone in 2003. The Academy presents the award every year to recognize outstanding lifetime achievements in any branch of science (basic sciences, engineering sciences, life sciences, or social sciences) without limit of nationality. The award honors the memory of Theodore von Karman.

After retiring as director of JPL, Elachi became professor emeritus of Electrical Engineering and Planetary Science at Caltech.

More information about his career and background is at:

<https://www.jpl.nasa.gov/news/news.php?feature=4754>.

## Edward Stone Awarded the Shaw Prize in Astronomy

Former JPL Director Edward Stone, currently the David Morrisroe Professor of Physics at Caltech, and the project scientist for NASA's Voyager mission for the past 47 years, has been awarded the prestigious Shaw Prize in Astronomy "for his leadership in the Voyager project, which has, over the past four decades, transformed our understanding of the four giant planets and the outer solar system, and has now begun to explore interstellar space," according to the award citation. The prize comes with a monetary award of \$1.2 million.

"This is a tremendous honor," says Stone, "and a tribute to the teams who designed, developed, launched, and operated Voyager on an inspiring journey of more than four decades."

Since 1972, Stone has served as the project scientist for the Voyager mission, twin spacecraft designed to tour the solar system and its farthest reaches. JPL manages Voyager.

Voyager 2 launched in August 1977, and Voyager 1 soon followed, launching in September 1977. Some of the mission's many highlights include the first high-resolution images of the four giant planets of our solar system (Jupiter, Saturn, Uranus, and Neptune); the discovery of volcanoes on Jupiter's moon Io; the first images of rings of Jupiter, Uranus, and Neptune; and the discovery of gaps and other complex structures in Saturn's rings.

In 2012, Voyager 1 became the first human-made object to cross into interstellar space, beyond the protective bubble, or heliosphere, that surrounds our solar system. Voyager 2 achieved this milestone more recently, in 2018. Both missions carry Golden Records of Earth sounds, music, images, and messages.

Stone was born in Knoxville, Iowa, on January 23, 1936. He graduated from Iowa's Burlington Junior College in 1956 and earned his PhD in physics from the University of Chicago in 1964. Since the Voyager spacecraft launched in 1977, Stone has led and coordinated 11 instrument teams on the project. He also served as the director of JPL from 1991 to 2001, overseeing many space-based missions, including Cassini, and a program of Mars exploration that included Mars Pathfinder and its Sojourner rover.

The Shaw Prize is awarded annually in three categories: Astronomy, Life Science and Medicine, and Mathematical Sciences. It is an international award managed and administered by The Shaw Prize Foundation based in Hong Kong. Mr. Shaw has also founded The Sir Run Run Shaw Charitable Trust and The Shaw Foundation Hong Kong, both dedicated to the promotion of education, scientific and technological research, medical and welfare services, and culture and the arts.

The 2019 Shaw laureates will receive their awards in Hong Kong at the ceremonial prize-giving on Wednesday, September 25, 2019.