

Featured Stories



Flight Systems Engineer and B.E.S.T. event coordinator Joey Jefferson addresses the JPL audience on the Mall during the inaugural Juneteenth event held June 21, 2022. Image Credit: PhotoLab

Juneteenth Rings Loud and Clear on the Mall

By Taylor Hill

At noon on June 21, Alvin Smith, planetary protection engineer and B.E.S.T. (Black Excellence Strategic Team) vice president spoke from the steps of Building 180, kicking off the inaugural celebration of Juneteenth at JPL.

“Today, we celebrate the emancipation of the last slaves in slavery and the day when they gained their freedom,” Smith said. “The journey since that day has really been one of hope for us, and hope in the future as well.”

What followed included a rousing rendition of the hymn “Lift Every Voice and Sing” performed by Flight Systems Engineer Joey Jefferson; remarks from Chief Inclusion Officer Neela Rajendra and JPL’s Deputy Director Larry James; a live tape-art exhibition from local artist Rob Hill; a recitation by Smith of Martin Luther King’s speech, “How Long, Not Long;” a spoken word recording from Software Systems Architect

Richard Mcknight; Juneteenth reflections from Altadena Town Council Chair Veronica Jones; personal thoughts and thanks from B.E.S.T. committee members Jonathan Moges and Madalyn Young; and of course, free kettle corn.

For Smith – who was standing in as a last-minute emcee for B.E.S.T. president and 353N Group Supervisor Moogega Cooper – seeing the Juneteenth event come together with Lab-wide support is a comment on the inclusive progress he’s seen at JPL.

“From the time I came on Lab five years ago, it’s been a diverse population, but you didn’t see events like this,” Smith said. “I’ve always felt comfortable with the space community and proudly raise my ‘nerd’ flag here, but it’s actually amazing that I now feel empowered to raise another flag—my culture flag. And that was a flag I wasn’t always certain that would be celebrated. Acceptance is one thing, celebrated is another.”

The federal holiday, recognized by Congress in 2021, commemorates the freeing of the last enslaved black Americans in Galveston, Texas on June 19, 1865 – more than two years after the Emancipation Proclamation.



Members of the Office of Inclusion and the Black Excellence Strategic Team pose with Deputy Director Larry James (right) in front of tape art exhibited by Los Angeles artist Rob Hill (third from right).

Rajendra, who in 2021 established JPL’s first Office of Diversity, Equity, and Inclusion (now Office of Inclusion), took the opportunity to reflect on the work being done, and the work yet to be done on creating an inclusive workforce.

“Often when we try and create change, that work is really hard, and so often we hear the refrain, ‘that’s just how it’s always been done,’” Rajendra said. “I realize that the work of DEI is making the case from an evidence-based perspective that there is a reason why we need to create change, despite the fact that things have always been done in a certain way, or despite the fact that change can be difficult.

“Today, we especially remember members of our Black community that have suffered marginalization and oppression long after slavery was over, from our laws and policies like Jim Crow and the systematic exclusion of land ownership, and the violence we still see today—the ripple effects of all of that can still be felt in the fabric of our society,” Rajendra said. “It’s our work, all of us together, to make sure JPL can

withstand those ripple effects and hire, retain, and promote everyone who has the best ability and the best talent possible for our organization regardless of background. That's our work today, and that's our work forever."

Deputy Director Larry James followed with a message on how JPL's diversity, equity, and inclusion goals are ones that individuals will have to work at for true progress to be made.

"We may put programs in place, we may put processes in place, but the reality is that the work still has to be done by the individuals, and by those of us who know we have to make change." James said. "For Juneteenth, it took over two years for the word to get to all of the slaveholders and all of the slave states in the union. We celebrate today the fact that the word finally got to everyone, and that just highlights our need to continue to do the work."

"When I talk about JPL, I talk about the incredible diversity of this organization," James said. "If you look around, we have 20 nations represented from our intern program. I think we're doing good work here at JPL, but there is work that we must continue to do, and Juneteenth gives us the opportunity to reflect on that, to recommit ourselves to doing that good work, and to accept that change may be required, and change is often not easy, but at the end of the day we become better for it and we're better able to execute the missions that we are called to do."

For B.E.S.T. event coordinator Joey Jefferson, seeing the event go from an informational Webex last year to a Lab-wide, in-person and live-streamed event on the Mall was somewhat surreal.

"It escalated quickly, really after the federal holiday declaration, we had interest from the DEI office, and the Executive Council, and the other Employee Resource Groups, and we really all just banded together to make this happen," Jefferson said. "Having Larry James and Neela Rajendra be receptive to hearing from the Black point of view what Juneteenth is about, really brought this event into an open and inclusive celebration."

As the event wrapped up, Alvin Smith wiped the sweat from his brow (a result of leading about 100 JPLers in an impromptu Electric Slide dance) and caught a glimpse of the future of JPL in the form of a curious intern.

"Right after the dance, an intern came up and introduced herself—she was from Tuskegee University, an historically black college, and it was her very first day at JPL," Smith said. "I just imagined what it must have been like, having this be her first day, probably wondering if she belongs or would be accepted here, and to come and see this celebration, what an amazing experience."

The intern encounter made Smith proud of the joy the Juneteenth event brought to Lab, and also reflective of how the Lab can bring that sense of belonging to underrepresented communities.

"I'm a product of two HBCUs, and I didn't know how awesome JPL could be for me until a Google search," Smith said, who now does outreach events for JPL with historically Black colleges and universities. "I want to see JPL explode in those schools. If we can open the aperture, and make these students aware that JPL is a place for them—really for them—not just to reach a quota, but we really want them here, and we celebrate them, that's what's left to be done, and we're doing it, and I'm happy to be a part of it."

JPLers interested in joining, supporting, or learning more about B.E.S.T., please contact us at best_committee@jpl.nasa.gov.



On the Green Track With JPL's New Sustainability Administrator

By Taylor Hill

With the Lab now functioning in its new hybrid telework capacity, the environmental challenges and new opportunities for keeping JPL's emissions below pre-pandemic levels begin.

Enter Diana Chen, JPL's environmental sustainability administrator, who started in June of last year with a substantial task in front of her: make sure JPL stays on course to meet NASA, federal, state, and city-mandated sustainability requirements, while working toward finding new and innovative ways to minimize JPL's impact on the environment.

Chen's background includes studying architecture, where she quickly realized her interests skewed toward helping buildings achieve more environmentally-friendly designs and components. Over the past decade, she's worked with national clients as a sustainability consultant to achieve green building certifications, energy efficiency, water use reduction, and waste reduction for commercial buildings, schools, multi-family buildings, and health centers.

We asked Chen about her role at JPL, the Lab's future sustainability efforts, and how JPLers can get involved.

Can you explain what your role is as JPL's environmental sustainability administrator?

I lead, manage, and coordinate the development and implementation of JPL's Sustainability Program. This includes performing analysis on utilities, mechanical equipment, cafeterias, research & development facilities, EV charging stations, our rooftop photovoltaic systems, ride share programs, and waste diversion efforts related to improving environmental opportunities. I analyze all of that data to determine strategies and report sustainability measures to peers, management, and NASA Headquarters. My job is

really to ensure we uphold and work towards finding new, innovative, and economically reductive ways to minimize JPL's impact on the environment.



JPL Environmental Sustainability Administrator Diana Chen

What does that look like in the day-to-day, and how do you balance it with some of the Lab's long-term goals?

In the day-to-day, I collect and validate information and data from multiple sources in relation to sustainability initiatives. I'm also communicating plans, formulating budgets, and marketing our sustainable strategies to internal and external stakeholders.

In conjunction with JPL's energy manager, we work on energy conservation opportunities and support numerous audits when the need arises. I perform design reviews and plan checks for new construction and reconstruction projects related to sustainability opportunity improvements. I also participate with other NASA Centers and engineers to review, update, and develop facilities procedures, guidelines, standards, and practices.

Can you talk about JPL's efforts in sustainability up to this point?

We have a number of sustainability efforts at the Lab, such as the phase-out of T8 fluorescent lamps (tube lights) and replacing them with LEDs, and participating in NASA's ISO 50001 Ready Program (a voluntary standard) for establishing an energy management system. The Lab has also implemented a Smart Scheduling System to refine hours of operation of building mechanical systems. All these efforts have greatly reduced our energy use consumption since 2003.

What are some of the future goals/plans/efforts in sustainability that JPLers should be aware of?

As JPLers continue to come back on Lab, there will be continuous expansion of our composting efforts to ensure that we are meeting mandated requirements but also to increase our efforts of diverting waste from landfill.

And with summer temperatures increasing, we are looking to expand the Durashield Solar Gray coating that was applied to Mariner Road in August 2021. The coating is expected to lower asphalt temperatures by 15 degrees, reducing the heat island effect associated with asphalt, and decreasing overall electricity

demands on the Lab. (See sidebar article on “Durashield Solar Gray: Reducing heat island effect at JPL Facilities”).

For JPL’s long-term goals, I am working on a sustainable disaster resilience plan related to droughts. I am also collaborating with multiple stakeholders to reduce the Lab’s water usage. Additionally, I am working on a sustainability plan for standardizing energy efficient equipment and appliances, and sustainable lab supplies.

Can you talk about the origin of JPL’s Annual Sustainability reports, what they entail, and what they are used for?

The JPL’s annual sustainability report started in 2019, which is our commitment to sustainability across the enterprise and facilitating transparency in the process. The report has sustainability Key Performance indicators (KPIs) across seven formal categories that are driven by the Executive Orders and NASA headquarters. JPL strives to achieve the annual targets and embraces efforts for continual improvement.

What are some of the highlights of the soon-to-be-published 2021 sustainability report?

Some highlights of the 2021 sustainability report include: A decrease of 91% petroleum consumption for our fleets compared to baseline 2005, we have a continuous improvement of sustainable (e.g. recycled material) acquisition purchases, and JPL has exceeded waste diversion effort goals.

With our return to on-site work underway and new telework policies enacted, how do you see the new hybrid Lab impacting JPL’s energy usage and sustainability efforts?

With the return to Lab and new teleworking schedules, we are looking at an overall reduction of greenhouse gas emissions since pre-pandemic days. In collaboration with JPL’s energy manager, we will be working on pilot programs for occupancy sensors to reduce the HVAC usage in unoccupied spaces, which will help reduce energy usage.

How can JPLers get more involved in efforts of sustainability or conservation around the Lab?

JPL’s Sustainability website has the latest FY21 data and information. This includes sustainability key performance indicators (KPI) mandated by Executive Order and meeting NASA’s annual goals. Check out the website here: <https://facilities.jpl.nasa.gov/sustainability/>.





Director Laurie Leshin greets JPL's summer interns in von Karman Auditorium on June 16. Image Credit: PhotoLab

Leshin Welcomes Summer Interns Back to Lab

By Carl Marziali

JPL Director Laurie Leshin and Science Division Manager Shouleh Nikzad welcomed dozens of interns at the first in-person event for the group in three years.

Herself a former intern (Lunar Planetary Institute) and former college president (Worcester Polytechnic), Leshin took a moment to acknowledge the significance of the moment.

"I know how challenging it has been the last couple of years. My heart goes out to you," she told the group of about 90 college students and recent graduates in the historic auditorium. About the same number onremote internships joined the event virtually.

Leshin told the story of her "lightning bolt" experience as a first-time intern: realizing she could build a career in space exploration.

"It actually never occurred to me you could have a job working in the space business," she said, adding she wished for the same moment of revelation for her audience.

"Part of why we're here is to inspire all of you."

She listed some of JPL's biggest upcoming missions and highlights, from Europa Clipper to Psyche to SWOT to the eagerly anticipated first light from the Mid-Infrared Instrument on the James Webb Telescope. Farther in the future is Mars Sample Return, the accomplishment of which Leshin has made a personal cause for the past 25 years.

She told the story of a conversation in Pasadena with another woman leader, the incoming president of the American Astronomical Society, who is studying the connection between awe and human thriving.

“What we do is not just about great science. In the middle of a global pandemic, when we landed a giant rover and a tiny helicopter on Mars, people went outside and looked up to the night sky and went, wow... this is what makes us great human beings, this is what binds us together.

“What we do here directly contributes to human beings on this planet thriving.”

And with that sendoff, the summer’s interns filtered back to the projects and buildings where the job of helping humans thrive begins.

Meet three of this year’s interns below.



Lori Attias

Attias is an intern in 334F, Suborbital Radar Science and Engineering, on the UAVSAR mission (Uninhabited Aerial Vehicle Synthetic Aperture Radar). A double major in computer science and neuroscience from the University of Arizona, she’s working on the embedded software for the power distribution unit. She joined Honeywell Aerospace out of college, where she worked on embedded avionics. That position led to her JPL internship, which she is pursuing concurrently with a master’s degree in computer science at Columbia University.

“Seeing the advances made in 2020, I think I really set my eyes on coming here to JPL and just getting to be a part of this place,” she said. “I kind of knew that if I came here I would get the opportunity to learn from and also be mentored by, basically the best engineers in the field.”



Zion Irving-Singh

Irving-Singh grew up in Hawaii and is a rising senior at the University of Portland, where he is majoring in chemistry.

“I saw a materials science internship opportunity here and just reached out for it because, honestly, I didn’t think that there would be many opportunities for chemistry and NASA and space exploration. Ever since I’ve gotten here everything has just opened up, it seems so obvious how the two intersect.”

He is working in Materials Test Lab, trying to optimize the processes for surface preparation and adhesive mixing. Every spacecraft surface that is painted or bonded with adhesive needs to be prepped, mainly by abrading oxidized layers. On the adhesive mixing side, he is helping develop a mechanical process to improve on what traditionally was done by hand.

For his future, Irving-Singh is looking next door.

“I applied for this internship initially because I wanted to pursue a Ph.D. in chemistry or materials science, and Caltech has an amazing program. The close connection between NASA and Caltech was a big driver for me, as well as the ability to use my degree in something space-related.”



Mila Arasu

Arasu grew up in North Carolina and attends Morehead State University in Kentucky (space systems astronautical engineering, with a minor in astrophysics). She was a virtual intern at JPL in 2021 and came back this year in person – all thanks to one bold move.

“I have been obsessed with space since I was like, five years old, when I first read a book about Kalpana Chawla. I just wanted to be exactly like her. She was the first woman astronaut of Indian descent – my perfect world.”

So Arasu took the direct route: straight to Rob Manning, then chief engineer of the Mars 2020 mission.

“I cold emailed him, told him how much I loved space, how obsessed I was with it, and I sent him my resume. And I never expected to get an email back, but I did, and he actually connected me to Tracy Van Houten (systems engineer lead on Europa Clipper).”

That turned into Arasu’s first internship. This year, in person, she’s studying gravitational lensing in 3268 (Origin of the Universe!) and working on SuperBIT, a balloon-borne imaging telescope jointly developed by JPL, Princeton and Durham universities, and the University of Toronto.



JPL's Spectrum members were joined by Director Laurie Leshin on the Mall on June 7.

Recapping a Proud June at JPL

By Taylor Hill

June is Pride Month, when LGBTQ+ communities come together and celebrate the freedom to be themselves, and honor the 1969 Stonewall Uprising in Manhattan that became the catalyst for the modern Gay Liberation Movement in the U.S.

This year at JPL, the employee resource group Spectrum—the Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual/Aromantic, and Friends (LGBTQIA+) network—organized events, held a luncheon, facilitated the first Pride flag raising at JPL, and coordinated with other NASA centers in an effort to continue paving a path of inclusion and equality on Lab.

Here is a look at past highlights from the month.

Leshin Joins Pride Lunch on Lab

On June 7, Spectrum organized a Pride lunch on the Mall, where around 30 members enjoyed a meal and conversation in celebration of Pride Month. JPL Director Laurie Leshin joined the lunch and tweeted about the special day.

“I couldn't be more thrilled to celebrate with my colleagues,” Leshin wrote. “JPL values all its people—we can only achieve the impossible with every member of our team being their full and best selves!”

Pride Flag Flies at JPL

For the first time, JPL raised a Pride flag on the poles at the visitors' traffic circle.

This particular flag is known as the Progress Pride flag, which includes an added five-colored chevron to the classic Rainbow Flag to place a greater emphasis on “inclusion and progression.”

The flag includes black and brown stripes to represent marginalized LGBTQ+ communities of color, along with the colors pink, light blue, and white, which are used on the Transgender Pride Flag.

“Together We Rise”

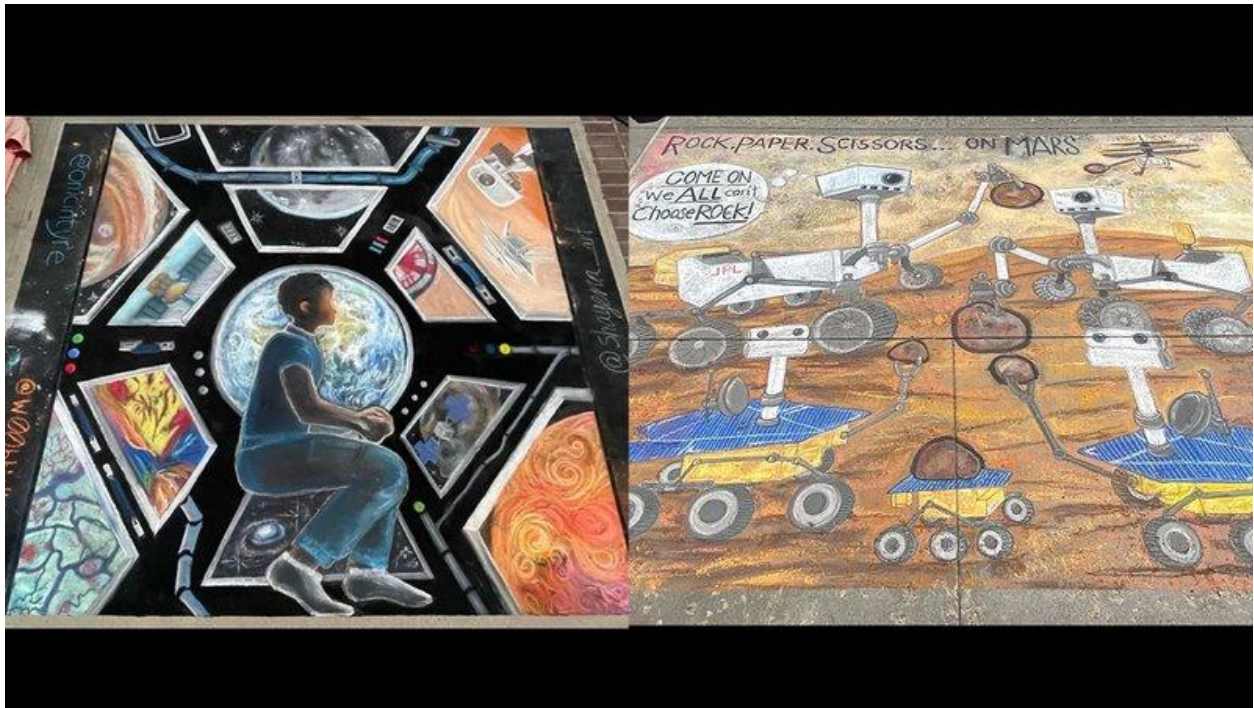


This year, Spectrum collaborated with NASA centers around the country to participate in a video highlighting the significant contributions of LGBTQ+ employees, and recognizing their contributions to advance NASA's priorities.

“This was really the first time we had connected with other centers across NASA and really worked together, and this video is a result of that,” said Dustin Buccino, signal analysis engineer in 332K and Spectrum board member.

JPL's Operations Systems Engineer Raymond Francis (397D) and Robotics Systems Engineer Harel Dor (347K) are featured in the video.





JPLers Show Artistic Side at Chalk Festival

By Taylor Hill

JPLers showcased some special space-themed chalk art during the annual Pasadena Chalk Festival over the Father's Day/Juneteenth weekend.

This year, a group of JPLers worked on a mural of former JPLer Dr. Jessica Watkins, and JPLer Jessica Parker from the Education Office worked on her own mural, which she dubbed, "Rock, Paper, Scissors... on Mars!"

The team working on the Watkins mural included Electronic Parts Engineer Shayena Khandker (5142), Europa Science Staff Assistant Ocean McIntyre (4020), Systems Engineer Irena Li (397R), and Instrument Operations Engineer Sarah Rees (398D).

The Watkins mural featured the former JPL intern-turned astronaut looking down on Earth from the cupola on the International Space Station. In the other windows of the cupola are JPL missions and their collected data.

"We wanted it to resemble Webex screens with different projects, because many of us have worked from home the past two years," said Khandker.

Included in the windows are: Venus, the Psyche asteroid and mission, Jupiter and the Europa Clipper mission, Sundarban as seen from ECOSTRESS, EMIT data (what it will look like), the moon, and the Perseverance rover, the Ingenuity helicopter and their parachute with JPL's message.



Left to right: Ocean McIntyre, Irena Li, Shayena Khandker, and Sarah Rees stand with their mural at the Pasadena Chalk Festival.

Parker, an education program specialist in the Education Office, decided to attempt a mural on her own, creating a comic-like panel that included Perseverance, Curiosity, Spirit and Opportunity, Sojourner, and the Ingenuity helicopter all gathered together and playing Rock, Paper, Scissors on Mars. They are each holding up a rock. Perseverance has a thought bubble that says, "Come on! We ALL can't choose ROCK!"

This was Parker's first time participating in the Pasadena Chalk Festival and first time creating a chalk mural.

"I am mainly a painter and have a Bachelor of Fine Arts degree in Drawing and Painting from Cal State Long Beach, so this was outside my comfort zone," Parker said. "I had so much fun during this experience, and I was able to meet so many JPLers who came by and said they had been a part of all or some of these amazing missions."

Parker said a highlight of the weekend was having a visit from JPL Director Laurie Leshin.

"She snapped a few pictures with me and the mural as my mom looked on with pride," Parker said. "It is something I will cherish forever. I did not win anything, but I made people smile and laugh and that's what I set out to do. To those JPLers who moonlight as artists, if you ever get the chance to participate, I highly recommend it!"

Events



Von Karman Lecture Series: Curiosity - A Decade on Mars

Thursday, July 21

7 to 8 p.m.

[YouTube link](#)

Ten years and 17 miles of driving has taught us there is more to Mars than we could ever imagine. Curiosity Project Scientist Ashwin Vasavada and MSL Rover Planner Deputy Team Lead Keri Bean will take a look at highlights from the past decade of this extraordinary mission and see where it's leading us next.

- **Speakers:**
 - Dr. Ashwin Vasavada, Curiosity Project Scientist, NASA/JPL
 - Keri Bean, MSL Rover Planner Deputy Team Lead, NASA/JPL
 - **Host:** Nikki Wyrick, Public Services Office, NASA/JPL
 - **Co-Host:** Sarah Marcotte, Public Outreach Specialist, NASA/JPL
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Aerospace Summer Games

Saturday, July 23

9 a.m. to 5 p.m.

Dockweiler Beach

The Aerospace Summer Games brings together aerospace companies from all over the Southern California area for a day of fun in the sun. With 40+ Companies, 6000+ attendees, and one overall champion, this event is sure to be unforgettable. Sign-up is required to attend the games, please use the link below — family and friends of JPL employees and affiliates are welcome. Observers and volunteers are also welcome.

This event is a full-day event but you are not required to stay the entire day if you are not participating in games. The ASG volunteering team will organize carpools closer to the event date.

For more information on carpools, practices, and event details click [here](#).



[Location Change] CMA Event: Remaking Meat—The Next Global Agricultural Revolution

Wednesday, Aug. 3
5 to 6 p.m.

This event location has changed to:

Caltech campus
1216 California Boulevard, Pasadena
Hameetman Auditorium
First floor of the Cahill Center for Astronomy & Astrophysics

JPL Family News

Retirees

The following JPL employees recently announced their retirements:

40+ Years:

Samuel Zingales, Section 7060, 42 years

30+ Years:

Fred Hadaegh, Section 1000, 38 years

Linda Bakhoun, Section 1432, 36 years

20+ Years:

Marlene Link, Section 1430, 29 years

Luther Beegle, Section 3200, 23 years

David Uhl, Section 3467, 22 years

Stephen Greenberg, Section 5160, 20 years

10+ Years:

Jay Braun, Section 393K, 14 years