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## Featured Stories



### The New State of the Lab

By: Taylor Hill, Celeste Hoang, Jane Platt and Elena Mejia

Who's left on Lab? After escalating measures last week in the local and global battle against the new coronavirus, only who absolutely needs to be.

"We are going to take care of our people. That's our first priority," said NASA Administrator Jim Bridenstine in a March 20 press release. "Technology allows us to do a lot of what we need to do remotely, but, where hands-on work is required, it is difficult or impossible to comply with CDC guidelines while processing spaceflight hardware, and where we can't safely do that we're going to have to suspend work and focus on the mission critical activities."

In a message to JPLers the same day, Deputy Director Larry James said: "Further restricting mission essential work on Lab will help slow the transmission of COVID-19 and protect JPL and the local community."

The Lab is operating in unprecedented times, and ways. While some project work goes on with the sparsest of staff, support units also need to keep a few people on Lab. We asked sections such as the

Protective Services Division, Human Resources, Information Technology, and others how they are keeping our workplace safe, secure and functioning under our new reality.

## **Protective Services**

For JPL's Protective Services Division (PSD), safety officers will now be on an "RDO Friday" schedule, meaning staffing levels will remain consistent with those typically associated with the Lab's RDO Friday—every day.

The Lab's East Gate will remain closed starting Monday, March 23 until further notice. For parking, PSD will close the West Lot, and direct all essential personnel who have authorized access to park on Lab.

"Typically on RDO Fridays, where we have around 1,000 people on Lab, we adjust our staffing levels accordingly," Security Operations Section Manager Jim Chaffee said. "The new staffing restrictions mean the Lab's on-site population will be below those figures, but we need to maintain a level of safety and security of the Lab and its facilities."

## **Human Resources**

Like everyone else at JPL, HR is having to adapt quickly to the mandatory teleworking landscape. AskHR, which typically operates on desktops from within the HR trailer, quickly transitioned everyone on the team to laptops for remote work. The AskHR team is fully operational and working hard to answer questions and provide support.

AskHR is also integral in providing support for the recent Workday implementation. The Workday rollout went ahead as planned on March 16, with a quick shift from on-site to 100% remote.

"The Workday Project team did an awesome job shifting that whole model online the very next day [for mandatory telework]," said Patricia Lapadula, group supervisor for HR Communications. The Workday teams are staying connected through Slack, and created a Workday training site with quick-start job aids and cheat sheets.

"We're following guidance to a tee—and as long as we have an internet connection, we can continue to do a lot of the work remotely," said Lapadula. "The HR Communications team is leveraging technology, continuing our meetings on Webex and Slack, and adapting our social media strategy and content."

During this challenging and confusing time, Lapadula wants to remind JPLers of the Lab's many resources available to them, from LifeMatters (enter "JPL" in sign-in box) to LinkedIn Learning. "We're trying our best to communicate what resources are available to employees, including people you can talk to if you're feeling anxious or concerned," she said of MyLifeMatters, the Employee Assistance Program (EAP) which offers wellness, self-care assistance, and free and confidential phone lines. TIAA is also continuing their webinar content, she notes, with educational series posted regularly. (Check JPL Space for upcoming events.)

"If in need, employees should not hesitate to reach out to AskHR, or to their Human Resources Business Partner (HRBP)," she said. "We may not be in the trailer, but we are still signed-in, ready to do our best."

## **Safety**

As Mars 2020 tiptoes ahead, so does the Occupational Safety Program Office (OSPO), which has been working with the project team to enhance safety protocols for work still occurring on Lab, and to provide guidance for personnel deployed to Kennedy Space Center (KSC).

The project has teamed with OSPO Section Manager Michael Christensen to create a group that will immediately survey remaining work on Lab and at KSC, and provide rapid guidance and feedback on health preventative measures. Initial guidelines are being sent out now on immediate actions that add robustness to the existing set of hygiene, cleaning and distancing.

In addition, said Christensen: "We continue to push through hazard reviews, and to develop software applications we use to manage laboratory hazards. We're still developing safety plans for work that will be eventually conducted both on and off Lab."

As for the many JPLers working from home offices, Christensen said, "We're assisting with vetting the safety of equipment and materials that people will need to have at their homes to do their work."

Ongoing remote activities during this period include updating safety rules, revising safety training and encouraging JPLers to get their safety training done while teleworking. Online safety courses are still accessible via the LMS, and instructor-led courses will now be delivered via Webex.

Many of the support staff are working seven days a week to keep JPL going on all the critical projects.

Some critical construction also continues. The Building 230 upgrades support Mars 2020, and require in-person oversight from OSPO safety engineers and Facilities project managers. OSPO and Facilities also will continue to keep some staff on Lab to support the safety and facility needs of everyone still working on site.

## **Facilities**

Carlos Villarreal, section manager for Facility Services, says they will continue to have people on-site during normal business hours. After hours on-site monitoring will also continue 24 hours a day. All buildings will continue to have HVAC (heating, ventilation, air conditioning) services, and Facilities will continue to monitor and maintain those services. The 24-hour service desk for Facilities is 818-354-7827.

In addition, Villarreal says Janitorial Services will continue to be on site. All occupied buildings will continue to have janitorial services, and all buildings will be cleaned and sanitized.

## **Dining Services**

In normal times, the places where JPLers gather would be the last to shutter. In the era of Webex and Keurig, the coffee carts and cafeterias stand as empty symbols of enforced social distance. None of the contractors employed by Eurest remain on Lab, the date of their return uncertain.

"Although our cafeterias and cafes are closed, we are working with our food services contractor to try to provide a level of ongoing support to our cafeteria staff, many of whom have worked on Lab for years," said Bonnie Brodsky, dining and JPL Store services liaison.

## **Information Technology**

OCIO team members on Lab are supporting construction in B230 and B144, as well as a special project in B126. A very limited number of staff will remain on Lab specifically for support of mission critical services that cannot be managed remotely.

"There are people on-call ready as needs arise," Customer Care and Performance Management Office Manager Chris Cornwell said. "Additionally, our ManTech partners will be providing support by appointment for people from their off-site facility at 505 W. Woodbury, Altadena."

OCIO staff have been working around the clock for the past two weeks to secure the equipment and resources to help JPLers telecommute effectively. The group provides most of the infrastructure necessary for telecommuting, including computers, mobile devices, JPL's network, VPN, cybersecurity, email/calendaring, Webex, Jabber and more.

The capacity for many of our services and applications reached levels never seen before. OCIO broke all records for people accessing the JPL network remotely," Cornwell said. "Jabber and Webex also experienced consistently high levels of use and all responded well. Tweaks were made after-hours to assure capacities could be met," said Chris Cornwell, Customer Care and Performance Management Office Manager.

Vendors for applications similar to Webex are experiencing unprecedented loads on their infrastructure worldwide. The Service Desk experienced heavy loads and the staff, also working from home, realigned several times to prioritize needs. Wait times were long but JPLers waiting for help were overall supportive and patient, according to Cornwell.

OCIO was also involved in much of the behind-the-scenes preparations, such as building the database for the equipment registry to monitor all computer equipment leaving Lab, creating surveys to gather lessons learned from the telecommute exercise and contacting people without RSA tokens to assure they can access JPL from home. The team also provided focused support for first-time telecommuters, particularly office professionals and administrators.

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*Amila Cooray (left) and Michael Lashore (right) remain on Lab as mission-essential personnel preparing the Perseverance rover for launch.*

## **The Ones on Lab: Making Masked Progress to Mars**

By: Celeste Hoang and Taylor Hill

*In part one of our two-part series following JPLers still on Lab, we spoke to two engineers working around the clock in a final push toward Mars—in the midst of unprecedented circumstances.*

The novel coronavirus has encroached upon and altered nearly all of life's normalcies, and the few JPLers left on Lab traverse empty roads on the way to their labs and offices.

Despite the unprecedented circumstances, JPLers are pushing onward with the work NASA has deemed essential to the exploration of our universe. Mars 2020 teams spent the past month wrapping up tests and simulations in preparation for the launch of the Perseverance rover this summer, while support teams in security, facilities and maintenance remain on duty to keep the Lab safe and running.

### **Mars 2020 Marches On**

Three days a week, for two weeks at a time, Michael Lashore has been—and will be—suing up to work on Lab.

The mechatronics engineer is a testbed and operations engineer for Mars 2020, working in the vacuum chamber on environmental testing of the rover's sampling and caching subsystem. No weekly or daily schedule is the same now. Lashore rotates working on Lab between 7 a.m. to 3 p.m., or from 3 p.m. to 11 p.m., depending on the day; during his "off-testing" week, he works from home.

Each time Lashore has a scheduled shift, he parks up the hill in front of Building 248, where the rover's QMDT, or Qualification Model Dirty Testbed, is located. Before starting, he dons newly-required personal protective equipment: a smock, gloves, face mask and goggles. It's a new normal Lashore is more than happy to take on to continue Mars 2020 work.

"I don't think I was surprised," he says of being informed by his group supervisor that he would be part of mission-essential staff on Lab. "From my point of view, I'm very invested in this whole program. The reason why we're still going is because there are still things we can do that can inform us of how confident we are before launching—things we need to change or test before we put it on the rocket and call it done."

When JPL's mandatory telework status took effect in mid-March, Lashore landed on a shortlist of JPLers deemed mission-essential who are still coming on Lab either every day or for scheduled shifts. Even so, he has no qualms about his personal safety.

"We have lots of hand sanitizer and disinfectant around the workstation, and we're diligent about being really clean," he says. "I'm a lot less worried about going on Lab than I am about going out among the general masses. The Lab feels like a controlled space."

While the building was previously teeming with JPLers, Lashore now only works on testing with one other engineer at a time. When the duo's shift is over, they share handoff notes for the next two-member team that will continue testing—work that Lashore knows is vital and worth being on Lab for.

"We've waited so long to do this full-up test of sampling caching," he says. "We have learned so much on every piece of hardware in the system, from the drill to the arm, and the various caching station interactions. What we're doing is very valuable and giving us better insight into how we will operate whenever we land and begin collecting samples."

So far, the everyday process of working between on-Lab and off-Lab teams has been smooth, save for "the normal hurdles and problems that we have to contend with," Lashore says. "There aren't any big issues but just to have [this situation] added on top of things makes it more challenging. There are people we need to call who can't come up to the testbed super quickly, but that's fine. Most people are available by phone or are on-call to come on Lab."

The team also uses Webex for meetings, where off-Lab team members can call in for the latest updates.

Outside the test chamber, however, JPL is a markedly different place.

"It's like a ghost town," Lashore says. "You don't see that many people. Lots of places are closed. You have a skeleton crew everywhere, but you still have the people who are in the building with you, which is good."

Lashore's also finding that he's developing new routines—for better or for worse. Parking is "so easy," but figuring out what to eat? That's been a bit more of an uphill battle.

"It's challenging in so many different ways, particularly for me," he says. "I'm not used to making my breakfast, lunch, and dinner for weeks at a time. Luckily, the Avanti Market is open 24/7, so that's been a little lifeline outside of having to get in my car and drive around and look for food."

When Lashore does go off-Lab for lunch, though, he's been relying on the food plazas on Foothill Blvd. for takeout.

"I've been eating in my building or eating in my car, but I also eat outside," he says. "We're inside all day so I definitely try to take advantage of the fresh air where I can."

But those are small blemishes on a large canvas.

"We're in the home stretch in terms of launching Perseverance," he says. "To have this super out-of-left-field hurdle thrown at us is even more reason for us to—no pun intended—persevere and power

through.”

### Testing the Final Hardware at the Wire

Across Pioneer Road from Lashore’s team, Amila Cooray and his test team were busy running 24/7 shifts in Building 144 when the March 17 mandatory telework order came down.

“You’re getting these text messages, emails, and all of these things saying, ‘you are on a mission essential list,’” Cooray recalls. “It definitely makes it feel like there is something big happening, and almost super hero-y, in a way. It’s like, ‘We are the ones who are going to save the world!’ but in reality, we’re just working on the same stuff that we were already doing.”

In early March, Cooray’s team began running the sterile flight model adaptive caching assembly test for Mars 2020’s Sampling and Caching Subsystem. The test was conducted in Building 144’s 10-foot horizontal vacuum chamber, to make sure the sterile tubes planned to hold Mars samples could function properly in the planet’s hostile environment.



*Amila Cooray and the team open the door to the 10-foot horizontal vacuum chamber upon completion of the sterile flight model adaptive caching assembly test. Image Credit: Kenneth Glazebrook*

Cooray was primarily on call, but supported others on second shift, coming in a few times a week from 3 p.m. to 11:30 p.m., as the team worked around the clock to get the flight hardware tested and qualified, and ready to ship to Cape Canaveral.

“It’s a very complicated robotic system with a lot of tight interactions so we’ve always had a lot of eyes on what we’re doing,” Cooray said.

When the rover shipped in February to Florida, key components of the sampling subsystem remained on Lab, including the flight sample tubes.

“These components we were working on during the beginnings of coronavirus were the last pieces of flight hardware for us that we needed to get to the Cape,” Cooray said.

And as restrictions moved from voluntary telework to mandatory, the team was given options to stay at home if they did not feel safe conducting the tests, and work would be slowed down if personnel was unavailable.

“As things got more and more serious with coronavirus, we did have to rearrange schedules a bit and make sure everyone was staying safe and taking care of their families,” Cooray said. “But we managed to keep going, everyone was on board, everyone was really helpful, and we got the testing done.”

Now the hardware is in the cleaning process, soon to be shipped to Florida where the Assembly, Test, and Launch Operations team will integrate the parts aboard Perseverance.

For Cooray, the hardware qualification testing is over, but work on Mars 2020 remains ongoing. He is able to work from home more often, but still needs to come on Lab a few days a week to set up tests that will run even after the rover has launched.

His group is now wearing face masks, goggles and gloves—typically worn only when handling hardware in a cleanroom—all of the time.

“We’re also wiping down shared keyboards and computer equipment with alcohol wipes, and we’re probably cleaner than we’ve ever been in some of our more dirty test environments,” Cooray said.

On getting used to mission essential JPL, Cooray says one thing that surprised him was how much he missed the “micro-interactions” with coffee baristas and café staff.

“I feel like a lot of people have good relationships and running jokes with the various cafeteria workers, and I miss having those smiles every day that you don’t really think about. They’re just nice to have, and you don’t really notice that you miss them until they’re gone.”

When things get back to normal, Cooray said he will be excited to see familiar faces around Lab again, and to be able to take his test team out for celebratory drinks—in real life.

“We did do a virtual happy hour when we finished the test, but I was pretty sad that I couldn’t take everyone out for a drink, just to celebrate what we had done,” Cooray said. “We got a lot of good feedback from project management and a lot of people reached out to acknowledge the hurdles we were able to overcome to get this done during this time. So, when things do get back to normal, I’m looking forward to putting the first round on me, for the team that was able to get this across the finish line.”

Next month, in part two of our series, we’ll feature interviews from Public Safety and Facilities personnel.

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*Eve Pereira with her husband, Ashley, and their twins, Georgina and Jason. Image Credit: Eve Pereira*

## **The Strange, Tough and Blissful Balancing Act of JPL’s Parents**

By: Taylor Hill and Celeste Hoang

JPLers with kids can picture it all too clearly: You’re up 30 minutes earlier than usual—the alarm made sure of it. The light is streaming through the window, and the caffeinated or decaffeinated beverage is warming your hands just right. You start up your computer, enter JPL credentials, VPN into the system, and get prepped for the Webex meeting about to start. You’re wearing a real shirt!

Five minutes to the meeting, then, a tap on the shoulder. A Sharpie-holding toddler stares you in the eye. The fridge is open, the milk is missing, and there are now permanent happy faces on the floor. Swift and strategic decisions must be made, and it’s not yet 7:30 a.m.

It’s just one example of the uniquely challenging position JPL parents find themselves in these days: not only are they working full-time from home, they’re also juggling their kids’ daycare and schooling—all under one roof. The layers of responsibility can be especially demanding, so we spoke to five families about their situations, how they’re making it work, and what advice they have for other JPL parents.



*Anil Natha's daughters, Aliana and Anaya. Image Credit: Anil Natha*

**Anil Natha, Science Apps & Data Interaction Engineer (398H)**

**Teleworking full-time; wife teleworking full-time**

**Two children, ages 9 and 6**

#### **Making the transition:**

The kids are so young, they don't understand. I think the toughest thing is trying to manage the expectations they have—we're home full-time, so they automatically assume that we're not working, but that's certainly not the case. We'll be on telecons and the kids will be screaming and playing in the background. It's difficult trying to balance who's going to take care of the kids during this time or that time, or if something pops up. We're flying by the seat of our pants and just figuring it out. It's mostly just about being supportive and stepping in to do something and not expecting the other person to do it.

#### **Becoming homeschool parents:**

Their expectations of us are completely different from their teachers'. When they walk into a classroom, they know their sense of responsibility is slightly different. We'd hope they have the same respect at home, but the whole family/teacher dynamic is completely different.

The girls have been building Lego sets and I downloaded a coloring book last Friday and we had a family coloring night. We're just trying to balance the education, creative, and family parts. Most of it is just keeping the kids engaged and happy because when they get frustrated, it's a slippery slope.

#### **On more family time:**

The silver lining is the kids definitely get to spend way more time with us. I used to commute a minimum of 3 ½ hours from Fontana to work every day. Now, the minute I sign off of work, I have my little commute to the living room and I'm home with them. They're definitely excited for that and it's helped work/life balance significantly. We've been able to go for more family walks..

#### **Biggest takeaway:**

Just enjoy the time. We're in a unique opportunity right now to enjoy the company of our families in a situation that we're not used to. Just make the most of it and the extra time you get with the kids.



*Lanie James and her wife, Dale Ann, and their daughter, Sloan, visiting JPL last year. Image Credit: Lanie James*

**Lanie James, Human Resources Communications Specialist (1101)**

**Teleworking full-time; wife teleworking full-time**

**One child, age 9**

**Who needs a bath?**

It's all about picking our battles right now. We put a three-day limit on the Pokémon onesie for our 9-year-old daughter, Sloan. Bath night is now strategically enforced every few days.

**Finding moments of harmony in the chaos:**

Once a day, we make sure we all spend some time together on some activity, or just talking—currently it's a puzzle. We're not focusing on finding a balance, it's just trying to find harmony anywhere we can.

**On schooling while working:**

Luckily, our daughter's school district has been proactive with the distance learning materials, and we've felt very supported by her school through this. Now, it's up to us to figure out how to structure her routine. We try to give windows [of time] to complete coursework instead of strict time blocks, and it seems to be going better than last week. That doesn't mean we don't have the occasional meltdown, or act of defiance.

**Feeling supported:**

Even with the struggles, my team at JPL has been wonderful and supportive. When I jump on team calls, Sloan will jump in and everyone says hi to her, which she thinks is so cool that she gets to talk with my colleagues at JPL.

### And being supportive:

The weekend after we moved to mandatory telework, we decided to drive back to Oklahoma City to be close to our elderly parents. My father and my wife's parents live by themselves. My dad is definitely the stubborn "cowboy" type and I knew he wouldn't ask for help, so I knew it would be better to be here to support him. They are asking elderly and vulnerable communities to stay home. How do they get groceries, or get to doctor appointments? JPL's swift and decisive action to encourage telework early on allowed us the opportunity to support our family and allowed me to stay productive as possible under the circumstances. We are self-isolating here and sharing best practices with our family and friends here.

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*Chester Hawkins with wife Courtni, and their sons, Owen and Ethan. Image Credit: Chester Hawkins*

**Chester Hawkins, Software Systems Engineer (394)**

**Teleworking full-time; Wife teleworking full-time**

**Two children, ages 4 and 1**

**On the change from Lab life to WFH life:**

The kids always know where to find me and don't really comprehend that I should be left alone while working. The oldest kind of gets it, but he's still excited by the fact that he can come find me whenever he wants.

### **Keeping a morning routine:**

My oldest was usually in preschool three full days a week. One thing we've adopted is having a more structured schedule now. We aren't attempting a full day, but just trying in the morning. This usually consists of breakfast, cleanup, active play, story time, snack time, academic time, lunch and nap. After that, he just wants to play ninja or dance to Kids Bop.

### **Getting creative:**

Our four-year-old and his little brother seem to graze and eat up all the food throughout the day, so now the oldest gets money every morning and can only shop when the store (a.k.a. Our pantry) is open, which is once in the morning and once in the afternoon. He loves the pretend shopping experience so it's been pretty fun. We also use that as another educational time to teach him about money and counting.

### **What if I had to do this for a living?**

All teachers deserve a pay raise!

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### **Eve Pereira, Group Supervisor (397L)**

**Teleworking full-time; husband teleworking full-time**

**Twins, age 5**

### **On shifting the routine:**

My husband started his own online business, and he usually works from home, so the biggest impact to his workday is that the rest of us are around all day. I have changed my schedule to have dedicated, focused work time from 4 a.m. to 9 a.m. every day (except Sunday), attend meetings as necessary throughout the day, and keep an eye on email/Slack/phone to deal with urgent matters. We are lucky that he has much flexibility with his work.

### **When routine hits the fan:**

Let's play a game: Your spouse is on a business call, you have to have a status report ready for a meeting in five minutes, an employee texts you with an urgent matter, breakfast is beginning to burn on the stove, and two 5-year olds are chasing each other with pencils in their hands. Which option do you choose? Run, run faster, or run as fast as you can.

Everybody at JPL has been extremely understanding of some things slowing down at times – it's nice to have that in the back of your head.

### **On the shock to the kids:**

They do miss their friends. They will miss their birthday party, and it seems like they will tentatively miss a minimum of a quarter of their first year of school. Their STEAM school which had a low-to-no homework policy now has multiple assignments to be completed from home.

### **Finding a happy place:**

This is going to sound weird, but what provides me with short laughter breaks throughout the day is the JPL dad-jokes Slack group: "Past, Present, and Future walk into a bar. It was tense." – can't beat that. LOL

### **On the positives:**

Even though the current situation is rough at times, we consider ourselves incredibly lucky – both my husband and I are able to work from home, we both have some degree of flexibility with our work, and all of us are healthy for the moment. My heart goes out to workers who still have to go out and be in close contact with a large number of customers every day, people who have lost their jobs, single parents who have to juggle it all, and all those whose health is affected by this crisis. I hope we all find the strength and wisdom in seeing our way through this and other situations like these.



*Rita Nassif's son, Anthony. Image Credit: Rita Nassif*

**Rita Nassif, Enterprise Systems Analyst (2210)**

**Teleworking full-time; Husband teleworks part-time and goes into the office part-time**

**Two children, ages 10 and 6**

### **On keeping the kids happy and busy:**

The biggest challenge is keeping the kids entertained. We're increasing screen time but keeping it more educational. We're also having remote social gatherings using Zoom so the kids don't feel isolated. Since I'm home, once I finish work at 4 p.m., we all ride our bikes around the block together.

Every day, we talk to the kids about expectations for the day and what they need to accomplish. This is easier with our older kid since she can work on her own, like practice guitar or use her free time to write. For our younger kid, we don't allow any screen time until he gets his stuff done. We also use lunch hour to discuss and go through any tantrums.

### **Favorite family resources:**

We're currently using Amazon Storytime, Khan Academy, Cosmic Kids Yoga, and Kindle Unlimited offers a great deal of free books.

### **Advice for other parents:**

Explain the virus and how it's impacting the world, not just us.

*Answers have been edited for length and clarity.*



## Working Together, Apart: JPLers Talk Telecommuting

By: Celeste Hoang and Taylor Hill

Many of us are finding ourselves in a new type of workplace: our homes. We spoke to JPLers on what telecommuting has been like so far, from the positives and the challenges, to must-have items and—of course—how they're getting their daily caffeine fix without the coffee carts.

### How is your workspace currently set up?

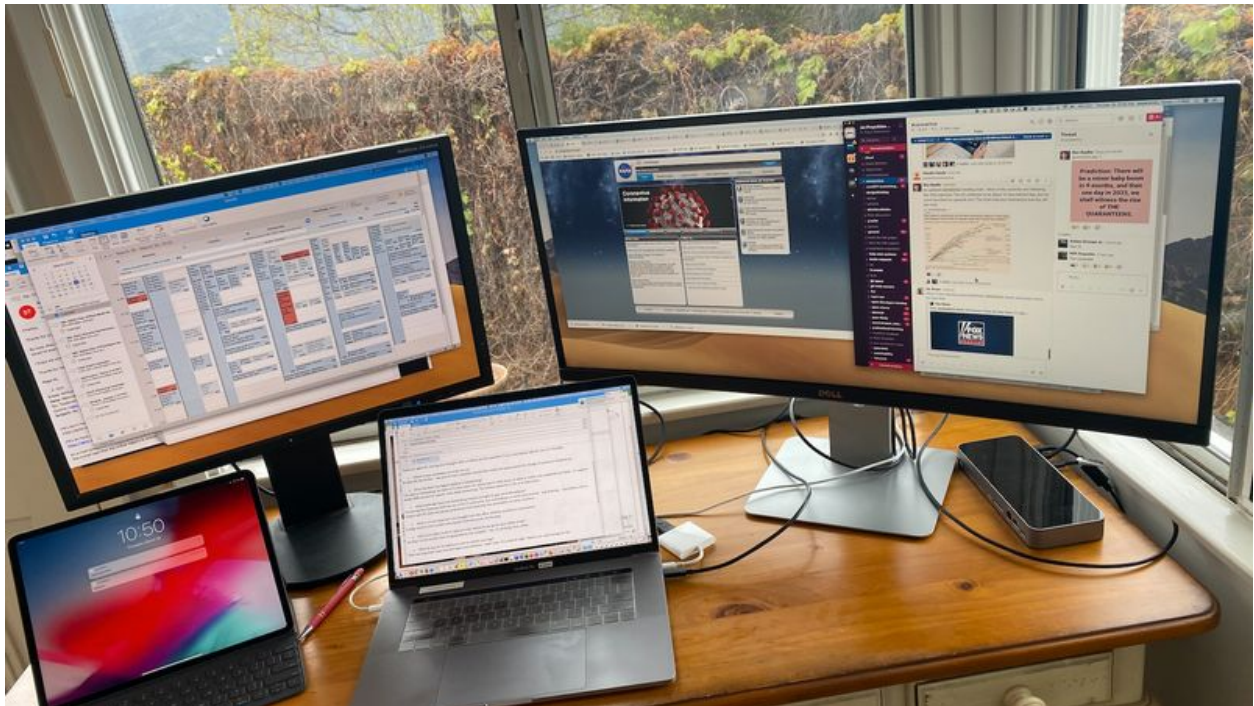
I have a desk in a tiny home office that I use for both work and grad school. -Emily Schneider (1101)

In my elementary schooler daughter's room. Right now, the workspace is a kid's desk with a lot of toys. On the upside, if I want to be creative, there's a lot of crayons at my disposal. -Hannes Krause (389R)

I always had a home office set-up, but I brought home two monitors from work and it feels great! I've been sharing the workspace with my husband, so the workspace keeps getting switched between lap desks and workstation. -Hamsa Shwetha Venkataram (176)

My workspace is currently set up in my small home studio, where I record music and work on art with my partner, Jason. It is the perfect place to work and be surrounded by inspiration. -Sasha Samochina (397)

At a desk off the kitchen, in front of the window. Sometimes I move the laptop around for a change of scenery or temperature. -Tom Soderstrom (1760)



Tom Soderstrom's (1760) home office. Image Credit: Tom Soderstrom

### **What has been the biggest positive to teleworking?**

I wake up and I'm at work! Usually I'm on a train at 7:30 to Union, off by 8:10 and on to the Metro Gold Line, where by 8:40 I'm off and waiting for the 8:50 shuttle to Lab. -Matthew Harris (348B)

The flexibility is fun. I can finally act out a habit that I picked up while living in Japan: taking a short power nap when the creative juices stop flowing. -Hannes Krause (389R)

I've been able to telework very smoothly! We're a team interested in using new tools that make our life easy in terms of collaborating. Also, funny but true, I got to finally live (at least temporarily) with my husband and work together from home. We've been long-distance and constantly traveling for five years now! -Hamsa Shwetha Venkataram (176)

The view and the affordable food options (my kitchen). -Charles Dandino (3510)

First of all, no commute. I don't have to deal with LA traffic. Secondly, I love getting to be by my pets all day—my cats hang out and nap near me which is very relaxing and comforting! -Emily Schneider (1101)

Teleworking has helped the Ops Lab come together. I really love seeing people through video chat, especially when they have pets. A coworker, Sam Berndt, just video chatted with me on Slack and showed me his amazing bunny, Mr. BunBun. It truly made my day! -Sasha Samochina (397)

I save so much money by eating at home and getting my noon time walks around my neighborhood. It's great walking weather right now! -Christine Louie (394E)

I'm used to teleworking, but before it's been when the need arose to really focus, or while on travel, over weekends and RDOs. I'm used to being 100% focused on specific tasks while teleworking. -Tom Soderstrom (1760)

### **What challenges have the teleworking situation brought to your work/life balance?**

I live with roommates who are suddenly unemployed. It can be difficult to focus when everyone around you is doing other things. -Charles Dandino (3510)



I'm sharing this challenge with the rest of the IT community, but multitasking is much more intense—and draining—than before. We're trying to get JPL tools and people productive from home and also accomplish our other functions. -Tom Soderstrom (1760)

All of my routines are kind of broken right now, from not being able to go to the gym or stop for coffee on my drive in, so I'm still mentally adjusting and trying to figure out a new routine. Also, my roommates are all working from home, too, so we're trying to figure out the background noise and find spaces to be on calls so we don't disrupt each other. That has been a challenge, especially since we have limited space in the apartment and work different hours. Oh, and I miss my JPL lunchtime break friends! We're trying to figure out how we can still meet up for lunch remotely. -Emily Schneider (1101)

In this current situation, it's the amount of people in my house teleworking, with an 11-year-old who's also out of school. If I were teleworking alone, the challenge would be the disassociation from work to home—for me, the drive to and from work gives me a bit of separation between the two. The challenge of separating without that time frame has been a little harder to distinguish. -Debra Cuda (346)

Not being able to meet people in person and still keep things going with Webex and Slack. Transitioning to home-mode from work-mode takes a while! I also miss the hikes to the trailer up the hill and, of course, daily exercise routines. -Hamsa Shwetha Venkataram (176)

The hours got weird. Today, I woke up and because I'm confined to the room with nothing else to do, the first thing I did was fire up my work computer without even having changed out of the pajamas. I guess this is not healthy and I'll try to adopt a more regular schedule. -Hannes Krause (389R)

I have had some trouble stepping away from the computer and diving into other life activities. This is a great exercise in setting boundaries and I feel it will also translate to my work/life balancing skills when we're all back on Lab. -Sasha Samochina (397)

Being able to adjust to life in my apartment without social contact with anyone. I learned to adapt by finding new ways to keep in touch, continue family dinners over Facetime, and keeping each other company and continuing our daily lives. -Christine Louie (394E)

### **What is a must-have item you brought from the office, whether practical or sentimental?**

I had to bring my notebooks, pending files, day planner and laptop, of course. I didn't think to bring anything sentimental, but it felt surreal to pack things up when I wasn't leaving or transferring from my current position. -Debra Cuda (346)

ProtoSpace has quarterly releases of new features and updates to the software that are named after the Periodic Table of Elements in alphabetical order. Every release, I present each member of the team with the element that we named our release after. I brought small jars of elements home with me to remind me of what an awesome team I get to work with and it helps me feel closer to them while we're far away from each other. -Sasha Samochina (397)

My plants! I didn't want to leave them behind to wilt! -Emily Schneider (1101)

A large monitor—the number one request from the survey, by the way. -Tom Soderstrom (1760)

I have a JPL Red Solo cup I keep with pens. I don't know why but it reminds me of being at the office, which is kind of nice. -Matthew Harris (348B)



*Emily Schneider's (1101) beloved office plants making the trip home with her. Image Credit: Emily Schneider*

### **How have Slack, Jabber or other messaging services helped you during this time with work?**

Amazingly well! These tools constantly remind me that I'm a part of the big JPL family that's standing strong through this. We also have funny chat threads within the team going on in parallel to serious work. -Hamsa Shwetha Venkataram (176)

Slack helps me not feel lonely in my "cell." I hope that more members of my group will actually join so we can interact even more outside of group meetings. If this leads to a more widespread adoption of such tools across Lab, this would be a small positive outcome of this huge kerfuffle. -Hannes Krause (389R)

I am the Project Lead on an Ops Lab software called ProtoSpace, which allows engineers and non-engineers to visualize their CAD designs collaboratively on the web and in augmented reality. Yes, it's sort of like 'Minority Report'. It's been very cool to test out communication software and understand how important remote collaboration is in this day and age. We have been huge fans of Slack! My favorite feature so far is the annotation tool, which marks up the presenter's screen with notes. It's great to edit live with your team. But the annotation tool is also an excellent place to make some quick drawings with your group while you're waiting for everyone to join the call. Let those creative juices flow! -Sasha Samochina (397)

People are really coming together on Slack to help each other during this time. It's great to see the JPL community working together! -Christine Louie (394E)

Slack and Jabber are great. Our team has been using Jabber as a way to stay connected and we've been in communication with at least one team member at least every hour. I open Slack every morning and the updates, whether by way of questions or comments, help keep the family aspect of JPL alive. -Debra Cuda (346)

### **What do you do for exercise or just to stretch your legs?**

Go for a run. -Omkar Pradhan (386H)

I jog every morning, which has been lovely when the weather is nice. My yoga studio is offering virtual classes that I've planned on taking with other friends to feel connected. Peloton also offered their online courses for free for 90 days, so I'm very excited to start testing that out as well. -Sasha Samochina (397)

I plan on starting up my freeletics app again, a type of at-home crossfit training app. -Hannes Krause (389R)

I get up every 20 minutes or so and walk the dog after work. -Debra Cuda (346)

It's been really hard! I'm still figuring out a new gym routine. -Emily Schneider (1101)

I have taken a couple of lunch breaks to run to the local park and play basketball with a roommate. Keeping others at a safe distance. -Charles Dandino (3510)

I take a walk around the house and patio and I prefer to talk to my plant friends—Choe, Pepper, Lavy, Pilea and Pothos—during such stretch sessions! It's a short dance practice at times, since gym amenities are closed. -Hamsa Shwetha Venkataram (176)

Right now, it's a walk at night. Need to do more during the day. -Tom Soderstrom (1760)

I go on noon-time walks, yoga, jumping jacks to keep my blood flowing. I've used YouTube a lot more for free material to help me move more at home! -Christine Louie (394E)

Well my apartment complex shut down the gym and I'll admit I've already started to feel the extent working from home can have on my body. I'm planning on doing walks outside that include staying six feet away from people as I do it. -Matthew Harris (348B)



**With most cafes closed or take-out only, where do you go for your coffee break?**

I make coffee or tea or have a snack midday and go outside to enjoy some sunshine and pet the outdoor cats that I take care of. Their names are Doodle, Bruce Randy Johnson and Kevin Abraham Lincoln. I'm using treats to try and get them to learn how to high-five. No, it is not going so well...but it's very cute. -Sasha Samochina (397)

I'm a great coffee buff, one who prefers to work from cafes on RDOs. This has been a tough time not to be working out of cafes. But I make mochas/lattes at home! -Hamsa Shwetha Venkataram (176)

The Starbucks drive-thru is still open for now but I've been enjoying my coffee break on my porch. Without having to walk from building to building, I'm making a pointed effort to go outside during the day! -Emily Schneider (1101)

My porch. -Charles Dandino (3510)

Ten steps to the kitchen, then bringing it back to the computer. Yes, I'm drinking more coffee. -Tom Soderstrom (1760)

I enjoy taking my breaks in my living room and my balcony so that it's a change of environment and enjoying the beautiful weather of spring! -Christine Louie (394E)

### **What has been surprising about teleworking so far?**

I've been more productive than I thought I would be. I've been able to work on one of those projects that I kept pushing further down the month (tedious), and I've been able to tackle it quite successfully! -Debra Cuda (346)

How much we walk during a normal work day at JPL. Also, how much more multitasking I've done. I'm on Jabber, Webex, Slack, Microsoft Teams, email, cell phone with JPL and NASA all day. I think it will settle down as we get used to this new normal state and get back to advancing the business of Space, not the business of teleworking. -Tom Soderstrom (1760)

I have been able to be more productive, maybe because I get to do some stuff in between—such as a short session of playing guitar, singing, watering my plants, and making tea from fresh mint in the garden. I always believe these activities—in moderation at work time—help build focus and free the mind. -Hamsa Shwetha Venkataram (176)

Despite the distractions of being home, I feel like I've been able to get "in the zone" a bit more. I am also getting to spend more time with my pets, boyfriend and roommates, which is an unexpected benefit. And saving gas money!

-Emily Schneider (1101)

That I miss the physical act of going to work and the people. Using the webcam has helped me tremendously to keep in contact with folks over meetings/Webex. -Christine Louie (394E)

The most surprising thing for me has been my Vitamin D levels. I work in a lab that has no windows. It's truly incredible what sunshine all day long does for my productivity! I'll have to work outside more once we're all back on Lab. -Sasha Samochina (397)

*Answers have been edited for length and clarity.*

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*Women in Tech committee members (left to right): Aram Hamidi, Daria Topousis, Lan Dang, Julia Wagner, Tara Shamblin, Caroline Coward. Not pictured: Camille Mathieu, Nimisha Mittal. Image Credit: Bob Paz/JPL PhotoLab*

## **Celebrating Women’s History Month: The Powerful Presence of JPL’s Women in Tech**

In the past two years, Women in Tech—a new committee for women at JPL started in 2018 by Software Systems Engineer Daria Topousis—has emerged as a vital space on Lab. The committee has seen membership grow fourfold since its inception and together, the group tackles topics around women's experiences in the workplace, from how to handle imposter syndrome to pay negotiation.

"It's a network of women who learn from each other and support each other in our careers," Topousis says, adding that the committee differs from the Advisory Council for Women (ACW), the Lab's official Employee Resource Group for women. "They sponsor excellent talks and networking events. Women in Tech is more about peer-to-peer support. Why not join both?"

Below, we chat with several committee members on how they formed, what career advice they have for other women at JPL, and some of their most popular events to date.

### **When did the Women in Tech community begin at JPL?**

Daria Topousis: I called the first meeting in October of 2018 to talk about the Grace Hopper Celebration of Women in Computing (GHC), and how we could bring the spirit of that conference back to JPL. At the first meeting, we had about 15 people show up, and by the time we had our second meeting the following March, word got around and our numbers doubled. Now we get about 60 to 70 people at our monthly meetings, which is great.

### **How did it all begin? Who were the founders?**

Daria: I had attended GHC in 2017. People at that conference are incredibly supportive and welcoming. In addition to technical tracks, they have sessions about women's experiences in the workplace. I realized that I wasn't alone with some of the struggles I had experienced, and I knew that I wanted to find a way to

bring that spirit of openness, encouragement and solidarity back to JPL. It turns out many other women wanted the same thing. After the first session, I knew I couldn't do it alone, so I asked for volunteers to help run the community. We now have a committee of about eight women who organize it all. I'm so grateful they've wanted to be part of making this all happen!

### **What have been some favorite or most popular events to date?**

Camille Mathieu: The Grace Hopper event organized by Lan Dang was one of my favorites because it introduced me and many others to this women-centric tech celebration in an accessible way. The discussion sections led by past attendees of the conference answered my questions and made me feel like I could get involved in future events.

Daria Topousis: Some of the very popular sessions, which are always interactive—we rarely have a speaker who talks at the crowd because we want to see people engaging with each other—have been Julia Wagner's session about negotiating for yourself, Michelle Drabik's recent one on elevator pitches, and Yas Mushtaq's session on Impostor Syndrome. The women in our community continue to amaze me with their facilitation skills and knowledge.

Lan Dang: I loved the mentoring workshop led by Aram Hamidi. We just formed a circle in the Hub and asked volunteers to introduce themselves and ask for mentorship in particular areas. It was wonderful having the mentors raise their hand, even though they hadn't come expecting to provide mentorship. It showed that we can all learn from each other. We just need to ask for help.

### **How do you determine discussion topics?**

Camille: Each of the committee members has projects or topics they are passionate about. That definitely drives our meeting planning.

Daria: We want this community to be run by the members for the members, so most of our topics have been ones that people have volunteered to lead. The committee then gets together to decide which topics to cover and when. Some of our more recent talks have sprung from Lan Dang's idea of reading the book *Brave, Not Perfect*, by Reshma Saujani. A group of people got together to talk about the book and from that, a few ideas came up for how to share its message with JPLers.

### **Why is this community important at JPL?**

Aram Hamidi: The success of JPL, just like any other organization, depends on leveraging both genders' perspective, potential and talent. In my opinion, having a supportive community to lift up under-represented groups like women in technology fields will eventually help us all thrive and dare even mightier things here at JPL.

Daria: JPL is a male-dominated organization and women sometimes have unique challenges. Women in our community have talked about seeing men getting credit for women's ideas and men only talking to other men in technical meetings. I want to see everyone, regardless of race or gender, thrive at JPL. Diversity can drive innovation, and I want to encourage women to stick it out at JPL because it might happen slowly, but things do change on Lab and we can be part of making that happen.

### **What has been the most rewarding aspect of this community?**

Camille: Women at JPL are doing incredible work. It is impossible to walk away from a meeting and not feel inspired to dare mighty things.

Daria: It's great to see people helping each other out. I've seen people find mentors, hear about new job opportunities on Lab and have their voices heard. I want people to know they are not alone. It's also been great to see how many managers appreciate the women who lead discussions and email me to ask what more they can do.

Aram: In addition to everything we learn from each other, being part of a community that you can share your challenges with, and asking for help from people who have been in your shoes before, is one of the most supportive aspects of this community for me.

Lan: I didn't realize how much I needed this community until I became a part of it. We are able to actively discuss diversity and inclusion topics and provide interactive, actionable steps to make JPL a better and more inclusive place to work.

### **What has been the most challenging aspect?**

Daria: Finding a place to meet! We've outgrown almost all of the meeting spaces on Lab, so now we're meeting in von Karman. Hopefully we won't outgrow that space, or the ability to connect on a personal level.

### **What are the group's goals for 2020?**

Camille: We are working to spin up support networks for activities outside of work, as well as at work. A contingent of the committee is working on organizing events that, individually, might be difficult to do, but that will allow us to practice being brave together.

Daria: First and foremost, we want to keep the community alive and strong. We're also starting a book drive for the JPL Library. Women are donating books they've read about women in leadership, biographies, etc. The library is going to stamp them with "donated by Women in Tech" and make them available to everyone on Lab.

### **What career advice would you give to women in tech on Lab?**

Daria: Things might change slowly at JPL but they do change. Be patient and build your network of trusted mentors, friends and advocates so you have people to reach out to when you are making career decisions or struggling with an issue at work.

Aram: Be supportive and have an open mind to always learn.

Lan: Talk to each other. Ask for help. Build a support network, one trusted mentor or advocate at a time.

### **How can JPLers join?**

Daria: Sometimes people ask me if you have to work in a technical field to join. The answer is no! If you want to advance your career, show your support for other women at JPL, and be part of a fun and supportive group, you are welcome. And that includes male allies and people who are non-gender conforming. We've had a few men show up at every meeting, and it's great to see them and hear about their experiences as well. If you go to the Women in Tech page on Cosmos (open to US persons and Foreign Nationals), click the "Join" button to be added to our mailing list. You can also use the short cut <http://goto.jpl.nasa.gov/wit>.

### **How does Women in Tech differ from the Advisory Council for Women (ACW)?**

Daria Topousis: The ACW is a great organization and the official Employee Resource Group for women. They sponsor excellent talks and networking events. Women in Tech is more about peer-to-peer learning and support. Why not join both?

*Answers have been edited for length and clarity.*



## The Man Who Wanted to Fly on Mars

By: Jane Platt

Even before this interviewer can finish the question, “Did anyone ever tell you this was a crazy idea?”...Bob Balaram jumps in: “Everyone. All the time.”

This “crazy idea” is the Mars Helicopter, currently at Kennedy Space Center waiting to hitch a ride to the Red Planet on the Mars 2020 spacecraft this summer.

Although Balaram probably didn't know it at the time, the seed for an idea like this sprouted for him in the 1960s Apollo era, during his childhood in south India. His uncle wrote to the U.S. Consulate asking for information about NASA and space exploration. The bulging envelope they sent back, stuffed with glossy booklets, entranced young Bob. His interest in space was piqued further by listening to the Moon landing on the radio. “I gobbled it up,” he says. “Long before the Internet, the U.S. had good outreach. You had my eyeballs.” [Read the full story on JPL's public website.](#)

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## Virtual Event



### **Von Karman Lecture Series – How NASA Observes Earth from Air and Orbit**

Thursday, April 16 at 7 p.m.

[› Click here to watch the event live on YouTube](#)

[› Click here to watch the event live on Ustream](#)

In time for Earth Day, this month's show features campaigns that monitor our planet from orbit as well as from the air. JPLers Paul Rosen and Judy Lai Norling will focus on how NASA monitors global change from on high – for example monitoring global methane and carbon dioxide emissions – while also monitoring hyperlocal change from aircraft – such as earthquake damage, fires and aquifers.

Host: Preston Dyches

Speaker(s): Paul Rosen, Project Scientist, NISAR mission, NASA-JPL; Judy Lai-Norling, Systems Engineer, Delta-X mission, NASA-JPL

[› Click here for the YouTube playlist of past shows](#)

# JPL Family News

## Retirees

The following JPL employees recently announced their retirements:

### **50+ Years:**

Edward Greenberg, Section 312B, 58 years

Olivia M. Tyler, Section 9010, 56 years

### **40+ Years:**

Carol R. Glazer, Section 393A, 41 years

### **30+ Years:**

Kathryn Weld, Section 4500, 37 years

### **20+ Years:**

Padma Varanasi, Section 398D, 29 years

Timothy Reeve, Section 397H, 26 years

Pamela Brown, Section 5020, 23 years

### **10+ Years:**

Wayne S. Chadwick, Section 2508, 18 years



# Awards

## Two JPLers Named American Astronomical Society Fellows



The American Astronomical Society (AAS) established the Fellow designation to honor individuals for "achievement and extraordinary service to the field of astronomy and the American Astronomical Society. AAS Fellows are recognized for their contributions toward the AAS mission of enhancing and sharing humanity's scientific understanding of the universe."

Two JPLers—John Trauger and Christina Richey—have been named as Fellows.

Trauger is a senior research scientist at JPL and was principal investigator for the Wide Field and Planetary Camera 2 (WFPC2) on the Hubble Space Telescope. During its 15 years of operation, the camera captured many of the iconic Hubble images and expanded the horizons of space astronomy.

Richey is currently a proposal technologist in the Astrophysics Section. She is program manager for the Solar System Exploration Science Research and Analysis Office and is the Europa Clipper project staff scientist.

Richey is a member of the AAS Committee on the Status of Women in Astronomy, a member of the AAS Site Visit Team, and co-chair of the Equity, Diversity, and Inclusion Working Group in planetary science. She sits on the Internal Communication Subcommittee of the Inclusion Advisory Committee at JPL, and has published this year on understanding workplace climate issues within the field of planetary science and astrophysics: <https://baas.aas.org/pub/2019i0206>.

Additional fellows include Dawn Gelino, deputy director of NASA's Exoplanet Science Institute at Caltech. Read more about the Fellows in a Caltech article.

The AAS Fellows program was established in 2019.

## Mars Missions Fly High With Honors



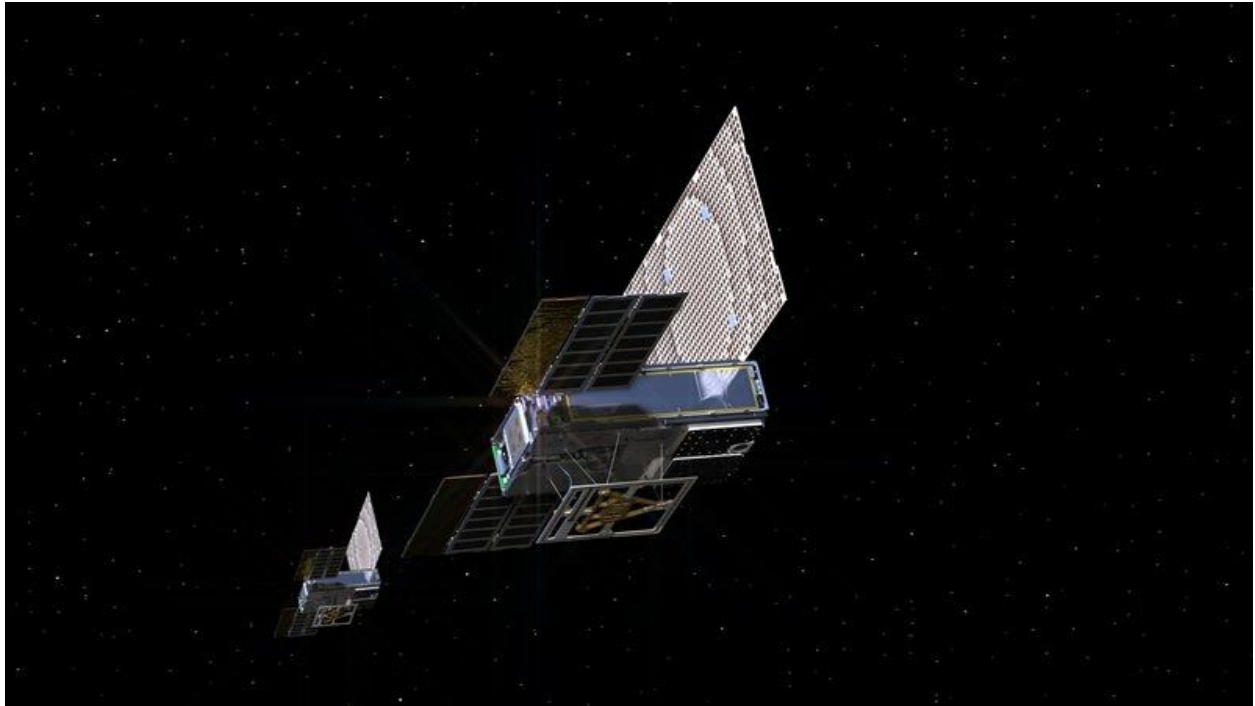
By: Jane Platt

Aviation Week, the Space Foundation and Popular Science are lavishing praise and awards on JPL missions to Mars.

When the two tiny MarCO CubeSats traveled along with NASA's InSight lander, they became the first CubeSats to journey into deep space.

JPL designed and built the MarCOs (short for Mars Cube One) as a technology demonstration. They launched to the Red Planet with InSight. In addition to successfully testing the new technology, the pair added an extra wow factor for millions of people following the InSight landing, by beaming real-time data back to Earth of the spacecraft's entry, descent and landing on Mars in near real-time.

The low-cost MarCOs also sent back stunning images of Mars and performed some simple radio science, transmitting signals through the edge of the Martian atmosphere.



The team's accomplishments are being honored with a 2019 Aviation Week Laureate Award.

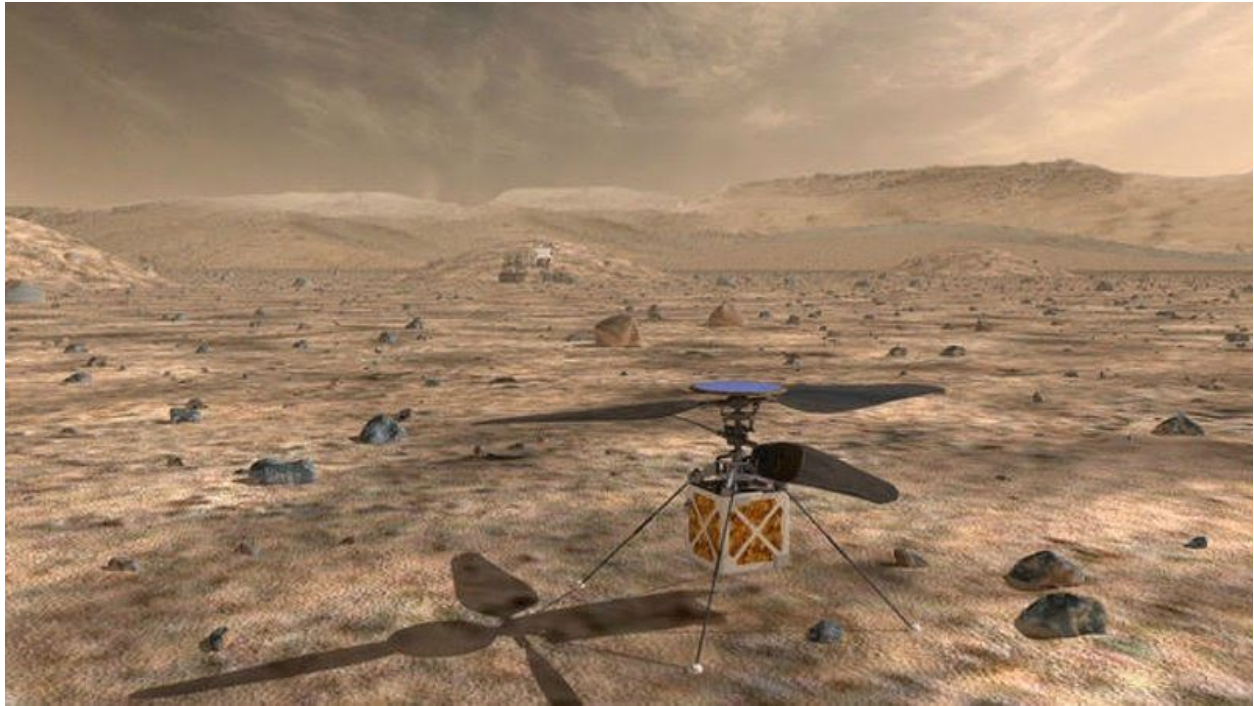
"The accomplishments of the pair highlight the tremendous potential of small spacecraft to enhance our exploration efforts," said JPL Director Michael Watkins when the award was announced.

The Laureates honor achievements in global aerospace. A Grand Laureate in each of four categories is selected from the 28 winners.

This isn't the only honor for MarCO...it was named Small Satellite Mission of the Year in August 2019 by the American Institute of Aeronautics and Astronautics.

In addition, the MarCo flight team, and the flight team for Insight—MarCO's traveling partner to Mars—is being honored by The Space Foundation with its 2020 John L. "Jack" Swigert, Jr., Award for Space Exploration.

The award was created in memory of NASA Apollo 13 astronaut Jack Swigert.



A near-future Red Planet "ride-along" technology demonstration—Mars Helicopter—is built and awaits its cruise to the planet on Mars 2020. Even before leaving Earth, the interplanetary copter has been honored by Popular Science as one of its "Best of What's New" for 2019.

The 4-pound helicopter is not essential for Mars 2020 mission success. But if it works as planned after arrival at Mars, its four-foot-diameter-rotor-system counter-rotating blades will slice their way through the thin Martian atmosphere and into the history books as the first heavier-than-air vehicle to fly on another planet. This could pave the way for future low-flying scouts and aerial vehicles to explore other worlds.

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## JPL Wins Volunteer Award at FIRST Robotics Competition



It was a weekend full of robot action for student/mentor teams at the FIRST Robotics Regional Competition held at the Da Vinci Schools in El Segundo. Representatives from the team of JPL volunteers who supported the event walked away with the 2020 Volunteer of the Year Award—an honor usually reserved for an individual, not a company or organization.

In presenting the award, the citation includes this praise for the JPL volunteers:

"Some people call JPL the Jet Propulsion Laboratory, but over the years we have learned that JPL really means Just Plain Loyal as they have provided thousands of volunteer hours supporting the L.A. Regional by field set-up, inspecting, refereeing, queueing, judging, volunteer coordinating, and having members on the FIRST Robotics Competition Los Angeles Regional Planning Committee."

The citation also noted some unusual accomplishments of the JPL volunteer(s): "This volunteer has stopped by a number of interesting places. To name a few - Jupiter, Saturn, Mercury and Pluto. This volunteer also has a penchant for road trips on Mars with Spirit, Sojourner, Opportunity and Curiosity."

JPL Public Services Manager Kim Lievens accepted the award on behalf of all the JPL volunteers.

JPLers support many school teams around Southern California. The three winning teams in the Los Angeles Regional in the Red Alliance were Team 987 ("Highrollers"), Team 4201 ("The Vitruvian Bots") and Team 6000 ("Firehawk Robotics"). The Blue Alliance winners were Team 1197 ("TorBots"), Team 2576 ("Chilean Heat") and Team 5124 ("West Torrance Robotics").

The event combines sports, science and technology. Facing strict rules, limited resources and times, high-school student teams must raise funds, design a brand, and build and program a robot.