

Featured Stories



Spitzer Rides Out on a Wave of On-Lab Events, Photos and Memories

By Jane Platt

"I declare the Spitzer Space Telescope decommissioned...Thank you for a job well done."

Those words from Spitzer Project Manager Joseph Hunt followed confirmation from the Deep Space Network in Goldstone that the historic mission had ended at 22:20:31 Universal Time (2:30:31 PST).

That confirmation came to team members in Building 230 Mission Control after they had beamed up final commands to Spitzer and waited for about half an hour for signals to travel to and back from the spacecraft. That's when they were able to confirm that, as planned, the spacecraft had entered safe mode and its signal had been lost.

It was an emotional and touching event, with everyone springing to their feet after loss of signal to show respect for the mission and their colleagues. There were tears, hugs, smiles, and an overriding sense of

pride in what had been accomplished, and the legacy Spitzer leaves for future missions and future generations.

Hunt told the team, and, via closed-circuit broadcast to their friends and family gathered in Pickering Auditorium, "It's a can do, will do attitude that makes these things possible."



Spitzer team members speak during a closed-circuit broadcast at Pickering Auditorium.

During the closed-circuit program, Tom Soifer, director of the Spitzer Science Center at Caltech, said they had scheduled 115,000 hours of science observations during the 16+ years of the mission—observations that pulled back the dusty curtain on distant objects in our galaxy and beyond.

The treasures behind that curtain included stellar nurseries that helped reveal how stars are born and evolve, and an unexpected bonanza of exoplanet discoveries—unexpected because studying exoplanets was not a goal of the mission. Spitzer rocked the astronomy world and made headlines across the globe by confirming the presence of seven Earth-size exoplanets in the TRAPPIST-1 system. That was the most terrestrial planets ever found around a single star. Within our solar system, Spitzer found a previously unidentified ring around Saturn.

During the show, former Spitzer Project Manager Dave Gallagher expressed the pride of seeing his kids reading about Spitzer discoveries in their science books.

Project Scientist Mike Werner, who has been with Spitzer since 1977, when it was just an idea, said, "It's going to leave a big hole in my heart," but he is proud of his role and the team that built "a monument to the human spirit."

Spitzer astrophysicist Farisa Morales described the complex brew of feelings. "We are very sad, but we are also very proud, content and happy," she said.

And multiple team members had shout-outs to their families for their support throughout the mission.

In the days leading up to the final farewell, team members and JPL colleagues paid tribute to the space telescope that opened new vistas on the universe with stunning images and intriguing data. The team hosted multiple presentations on Lab and at Caltech, where the Spitzer Science Center has been a hotbed of activity during the mission. They gathered for an informal group photo reunion of current and former

Spitzer team members, taken Jan. 29 in the Building 230 darkroom, where final commands were sent the next day.

In his 32 years at JPL, Jim McClure has hosted many, many mission events and team photos in the historic darkroom—40 or 50, he estimates. McClure recalls three previous mission finales—for Magellan, Galileo and Cassini.

"Not all the missions have a landing or an orbit insertion, which is a clear milestone, but they are all important and we want them all to feel special when they're in here," he said. "For Spitzer, this is a big hurrah, and they should remember it that way."

While mingling during the photo shoot, team members shared their remembrances about a mission that, for many, occupied a significant chunk of their career.

Since 2003, Jon Giorgini had developed a pipeline for feeding tracking data and assessments for Spitzer targets within our solar system, including asteroids, comets, planets and their moons.

At first, he said, it was very hands-on. Then, after a few years, mostly automated. He described how "the unusual energy and enthusiasm of the Spitzer science planning team was great fun to be around. We kept systems on both sides in synch over 17 years as technology and computers changed."

For Nick Gautier, working on the Spitzer science team was "a wonderful opportunity to get experience with building and operating space telescopes. It let me participate in doing cutting-edge science exploring new parts of the universe. All this is a pretty good substitute for fulfilling my boyhood ambition of actually going into space and exploring for myself."

Robert Hurt, senior visualization specialist at the Spitzer Science Center, considers his work "the greatest job of my life."



A reunion of past and present Spitzer team members in Mission Control.

The lead-up to the big goodbye included a Jan. 29 celebration on the Mall. In the midst of displays, conversations with team members, plus cookies and Kettle Corn, Dave Gallagher offered up a light-hearted analogy, noting a parallel between the mission and the popular snack: "Kettle Corn just makes people happy," he said. "Spitzer is the Kettle Corn of space telescopes."



(Left to right): Na’Kaila Sandidge, Janelle Wellons, and Kirstie Mitchell. (Credit: Ryan Lannom/JPL Photolab)

Reawakening the Lab’s Black Representation

By Celeste Hoang

A year ago, Instrument Operations Engineer Janelle Wellons and Recruiting Coordinator Kirstie Mitchell met for the first time and bonded over their desire to see a stronger on-Lab black community.

“We were speaking to each other about how we wished there was a black group here,” Wellons recalls. “We knew about AART [African American Resource Team] but it was kind of dormant; you’d hear about it during MLK Day, but we wanted more.”

Alongside other interested JPLers, including Computer Security Engineer Na’Kaila Sandidge, they connected with Electronic Security Group Supervisor Lionel Humphrey, an AART committee member.

“He basically told us, ‘We would love it if you guys came in and revitalized the group. We need young, fresh people to bring it back to life,’” Wellons says.

Since then, the new members have gone full steam ahead, with Mitchell and Wellons taking on the roles of president and vice president, respectively, and Sandidge stepping in as events and social coordinator. They onboarded a new committee of fresh faces, including the group’s secretary, Vivonne Williams, and webmaster, Brandon Murphy. Together, with input from members, they renamed the group Black Excellence Strategic Team (B.E.S.T.), and are now poised to reinvigorate the black community at JPL.

In honor of February’s Black History Month, we sat down with Mitchell, Wellons and Sandidge to discuss what B.E.S.T. means to them, why its presence is crucial for the Lab, and what’s in store for the group’s second act.

One of the first ideas your group discussed when revitalizing AART was renaming it to B.E.S.T. Tell us about the new name:

Kirstie: We decided to change our name because we wanted to be more inclusive of black employees who don't classify as African or American; we hire a lot of foreign nationals and we didn't want to deter anyone who wanted to find representation by having "American" in the name. The Lab is inclusive with our hiring, so we wanted our group to be inclusive as well. We took a poll with our members on the name, and B.E.S.T. won—it stands for Black Excellence Strategic Team.

On the importance of B.E.S.T.'s presence on Lab:

Na'Kaila: We are a place where individuals can be unapologetically black. We empower one another to be the best version of ourselves. JPL is a huge place, and if you're not in a building with someone all the time, you don't know what they're doing, but B.E.S.T. members are very open about sharing experiences. We're really like-minded and it's a networking haven.

Kirstie: It's super important. It makes all the difference. You want to come to a workplace and feel like you're valued, seen, and heard. Sometimes it's hard to feel that way if you're always seeing what doesn't look like you. Diversity and inclusion will always be a journey, and I don't know if there's a measurement of, 'We've reached it.' But one of the best things an organization can do is create an environment where employees can go and just feel like themselves. You want people to be open, creative and innovative, and you can't do that if you don't feel included.

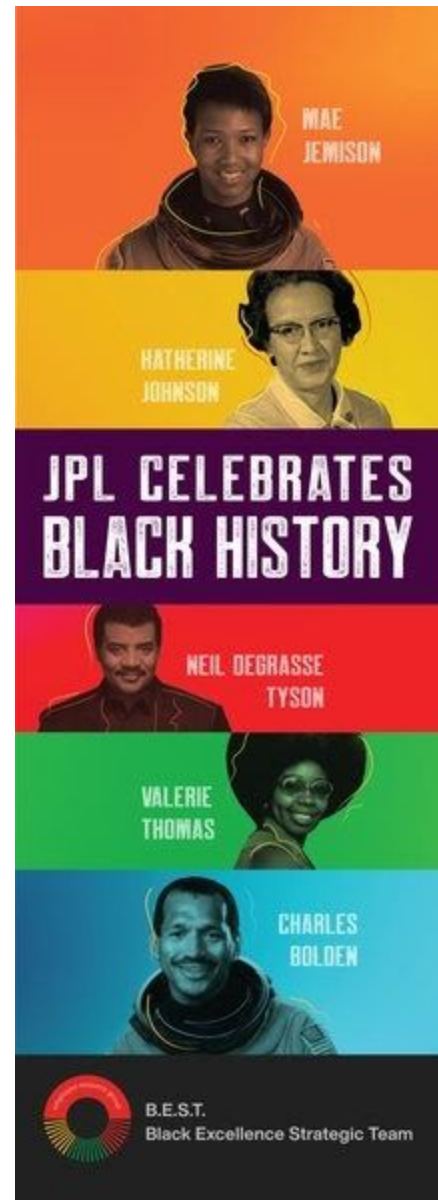
Janelle: In the workplace, sometimes you feel the need to tiptoe around your blackness. Race has become a political topic but being black is who I am; I can't turn it on or turn it off. It's extremely important that the Lab has an employee resource group (ERG) dedicated to black people, because it shows that they're recognizing inclusivity isn't just politics, it's people.

Who can join B.E.S.T.?

Kirstie: Anyone at JPL can join B.E.S.T. We definitely encourage those who identify as black to join because we think of B.E.S.T. as a safe space for our members. People can come and let their guard down and see people who look like them that they might not see in their everyday sections. Any and all who identify as black are welcome. For example, we had a new member who was a person of color but wasn't African-American; but in her country, she identified as black. This is exactly what we want to encourage with the name change.

Why did you personally want to be part of B.E.S.T.?

Na'Kaila: I heard about it from a committee member who's been involved for at least a decade. I wanted to be a part of something bigger than myself. I'm very in tune with inclusion; that's a topic I'm very passionate about. Although I am part of a very diverse division, I don't always see diverse representation across the Lab. When you look around and don't see people who look like you, you don't feel like you belong. When you have a group like B.E.S.T., you feel welcome and safe. If you don't know about these



ERGs, you can feel alone and it can sometimes be very intimidating. For myself, I wanted to be in a group with like-minded individuals who want to make a difference.

Kirstie: We all know we're sharing the JPL experience together and when we see people who look like us, it's a breath of fresh air. Whether you're black, Latino, LGBT—you just want to feel a sense of belonging. You can't do your best work when you're not feeling your B.E.S.T. self. When you're around people who are like-minded and you can joke with, you can go back to your desk and do a better job. That's why I joined.

Janelle: For me, B.E.S.T. is a community. Especially from my own experience—moving from the East Coast, I came here with zero resources—I didn't know many people. To have a group to turn to that can point you in the right direction makes the transition to a new place so much easier. It's very valuable to new hires who come on Lab without knowing anyone else.

What has been your favorite B.E.S.T. event so far?

Janelle: Last summer, we had an event with the Education Office and Reliability Office centered around some of the only black engineers to work on the Apollo missions. We helped to support and sponsor the engineers coming on Lab and telling their stories—one of the engineers developed the camera that was used to take pictures of Earth from Apollo 6. It was not only an incredible experience because we were in the same room hearing the engineers' stories live, but as the B.E.S.T. committee, we were able to spend time with them outside of just the talk. In that process, walking them around Lab and showing them around, they had a great appreciation of the progress here in terms of technology and society. I never imagined being able to meet a black person who worked on the Apollo missions. Pickering was packed. It wasn't just members of B.E.S.T., but all sorts of people around Lab.

On future plans for the group:

Na'Kaila: We want to make sure we're meeting our diversity and inclusion goals, which is to help attract and retain minorities and protect the underrepresented. If we can come together and help with community outreach and retaining JPL interns, I think that's very important. We definitely want to expand our membership—I hope it's never-ending. We have volunteer opportunities coming up, social events, and working on our B.E.S.T. calendar to keep the momentum going. There will also be on-and off-Lab events. We want to be consistent; people know about you one day and forget about you the next day, so we want to keep the involvement there. Now that we're revitalized, we're making strides to do better as we're growing as a group.

How can employees join B.E.S.T.?

Janelle: Don't be shy. We love face-to-face interactions, so feel free to approach us and ask us about B.E.S.T. You can also email us at best_committee@jpl.nasa.gov to join our mailing list and learn about all of our social events and happy hours.





Families Flock to JPL for Weekend Peek at Mars 2020 Rover

By Taylor Hill and Celeste Hoang

Before the Mars 2020 rover hits the road for Kennedy Space Center in the next month or so, then launches to Jezero Crater this summer, JPL family members were able to view the nearly fully assembled rover in the Spacecraft Assembly Facility over the weekend.

The rover's departure schedule pushed the Lab's typical Family Days event up several months, but it was an opportunity the Public Services Office didn't want to miss.

"A lot of people worked really hard on this project, and we wanted to make sure that their families got to celebrate that hard work and see it before it's off to Jezero Crater on Mars," said Public Services Office manager Kim Lievense.

The attendance stats are impressive: 7,261 visitors, not counting children 2 and under. That compares with 7,009 last year. Total number of people of all ages who visited the Spacecraft Assembly Facility this past weekend: 7,433.

Even with those numbers, this Mars 2020-focused Family Days event provided a slower paced, more relaxing atmosphere compared to the hustle and bustle that typically accompanies Explore JPL.

It's something that JPL accountant Mary Sepulveda appreciated, as she enjoyed Saturday morning with her daughter, Sophia, and other family members, viewing the rover in High Bay 1.

"It's really cool that they open it up to our families," Sepulveda said. "And because it's a smaller event, it's not as crowded, and you actually get to look at things, and there was staff around who could answer questions about the rover, which was really helpful."

For systems engineer Ernesto Diaz, this particular Family Days was special for two reasons—his 11-month old son, Mateo, got to tag along for the first time, and his family saw some of the actual equipment he had been working on for the PIXL instrument aboard the Mars 2020 rover.

“We’ve come to other family days in the past, but this one has more of a personal family connection, because it was something that he had been working on,” Ernesto’s wife, Ivy said. “He had told us about it, but it was really special being able to see [his work] on the rover, knowing that it was going to be up on Mars soon.”

Postdoctoral fellow Ekkehart Schmidt also relished the event. “This was an opportunity for me to bring my girlfriend here, and it’s been nice to show her what I do and share that with her,” Schmidt said.

After seeing the Mars 2020 rover, microdevices engineer Henry Leduc’s daughter, Quinn, had a nice reminder for her father—and possibly for everyone on Lab.

“I bug him every time to take me to the open houses and these events, and sometimes he forgets,” Quinn said. “This is a pretty place; it’s unique. It’s not like going to a sales office or something. I still remember coming here as a kid and the rover drove over my brother. This place is special, and sometimes I have to remind my dad that.”



From left to right: Research scientist Henry Leduc with daughter, Quinn; Ann Kathren and JPL Postdoc Ekkehart Schmidt.

While the Spacecraft Assembly Facility was clearly a fan-favorite destination, Mission Control was still a popular stop on the day’s tour. The darkroom floor and upstairs viewing gallery, which normally command long waits on a typical Explore JPL day, enjoyed light but consistent traffic. Visitors were treated to a video reel of JPL mission highlights, from Curiosity’s 2012 Mars landing—with kids watching the footage in the gallery erupting in cheers—to Cassini’s 2017 end-of-mission finale into Saturn’s atmosphere—with some adults visibly tearing up.

But it wasn’t just a special day for visitors; JPLers on-the-clock had a particularly enjoyable workday. Behind her desk, Deep Space Network Tracking Support Specialist Cynthia Compton was thrilled to enjoy a Sunday shift surrounded by JPLers and their curious and excited family members. Many frequented her desk with questions.

“This event is a lot better [than Explore JPL] because you get to talk to people and not feel rushed,” she said. “It’s really fun to be here because we love what we do and we love to share it with people.”

Over in the In-Situ Instrument Laboratory, guests were in awe of the simulated Mars-like testing environment they were looking at from high above in the viewing gallery. As Science Data Systems Operations Engineer Lan Dang made her way inside, she was happy to have her family in tow.

“It’s special to me because my family ordinarily doesn’t care about what I do for a living,” she said with a laugh. “Telling them that there was this limited-time opportunity to [see Mars 2020], they decided to come. My cousin is a space enthusiast, so he’s been following the live webcam feed for Mars 2020. I think they learned a little bit more about what to expect for Mars 2020, and they can see what a cool campus I work at. And in the future when I talk to them, they’ll have more of a background to understand what I’m saying.”



Families and friends lined up outside the Spacecraft Assembly Facility for a chance to see the Mars 2020 rover. Image Credit: PhotoLab

For postdoctoral scholar Piyushkumar Patel, Family Days was an opportunity to share his personal passion with those he loves.

“My family is not from a science background and I am,” he said. “I’m very excited to show them how JPL works and how the Mars and Moon missions work, and what the scientists and engineers do for particular missions.”

At Pickering Auditorium, visitors were treated to a full Mars 2020 breakdown by mission team members, and Mars Exploration Director Fuk Li. During a talk Saturday morning, Li discussed the ins and outs of the mission, the differences between Curiosity and Mars 2020, the rovers' main science goals, and the plan to one day bring the core samples taken by the rover, and return them to Earth.

He also noted that recent signs have led him to feel optimistic about their past-life-searching mission to Mars’ Jezero Crater.

"I went on vacation to Croatia this past September, and I learned that the word for 'lake' in that language is 'Jezero,'" Li said. "And so, where we were, it was a lake district, and we saw 'Jezero' on the signs everywhere. I took that as a good omen."

Events



Von Karman Lecture Series—Beyond the Pale Blue Dot: Seeing Distant Planets

Thursday, Feb. 6

7 p.m.

von Karman Auditorium at JPL

Friday, February 7

7 p.m.

Caltech's Beckman Auditorium

On the 30th anniversary of the "Pale Blue Dot" image taken by NASA's Voyager mission, we'll look at the impact of that image and other distant views of Earth. We'll then turn to the quest to photograph another Earth — an exoplanet orbiting another star — as its own pale blue dot. Join us for a discussion about perspective: the value of what a single pixel can tell us and what it can make us feel.

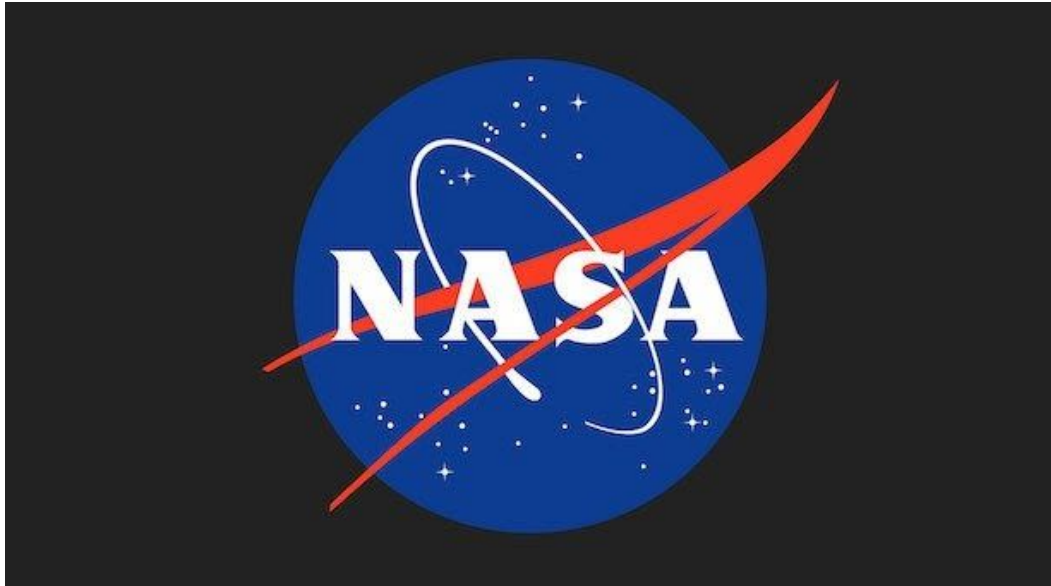
Host:

Preston Dyches

Speakers:

Rich Terrile, astronomer and Voyager imaging team member, NASA-JPL

Rob Zelle, exoplanetary astronomer, NASA-JP



NASA Budget Announcement and JPL Town Hall

Monday, Feb. 10

10 a.m.

Agencywide Webcast

Monday, Feb. 10

Noon

Pickering Auditorium

NASA Administrator Jim Bridenstine will hold a town hall meeting streamed agencywide on Monday, Feb. 10 to discuss the new budget and take questions from the agency's workforce.

The live-streamed event will be available on NASA Television and the agency's website at <https://www.nasa.gov/nasalive>. All employees, contractors and civil servants are encouraged to participate.

NASA employees and JPLers may submit questions for the Administrator securely from any computer or mobile device, in advance or during the presentation. Visit <http://www.nasa.gov/townhall> to submit a question.

On February 10 at noon, Lab Director Michael Watkins and NASA Associate Administrator for the Science Mission Directorate Thomas Zurbuchen will host a town hall for JPLers in Pickering Auditorium.

Please arrive early to secure a seat. JPLers on Lab also can watch a live broadcast of the event from their desktop on JPL Channels 33 and 43.1, or in the cafeterias.



Death Valley Dark Sky Festival

Friday, Feb. 21 - Sunday, Feb. 23

Death Valley, Calif.

Mark your calendars for the Death Valley Dark Sky Festival happening Feb. 21-23.

During the day, the Dark Sky Festival will feature guided hikes, ranger talks, family programming, an exploration fair, and many other programs. At night, visitors can attend evening programs, night sky photography programs, and a star party. This event is a collaboration between the park, Death Valley Natural History Association, NASA, and many other organizations.

Visit the National Park Service website for more information:

<https://www.nps.gov/deva/planyourvisit/death-valley-dark-sky-festival.htm>

JPL Family News

Retirees

The following JPL employees recently announced their retirements:

Bolinda E Kahr, Section 7210, 42 years

Bradley I Compton, Section 393E, 30 years

Brian C Hammer, Section 394I, 39 years

Daniel Winterhalter, Section 3260, 41 years

David Halpern, Section 3290, 34 years

James A Ratliff, Section 172K, 28 years

Jose Salcedo, Section 397G, 24 years

Joseph R Kahr, Section 3930, 43 years

Kevin E Criddle, Section 392A, 19 years

Laif Swanson, Section 394F, 39 years

Mark White, Section 5140, 19 years

Mary Ellen Derro, Section 1170, 19 years

Michele Kelly, Section 319G, 31 years

Paul Ottenfeld, Section 1730, 50 years

Richard C Ewell, Section 3400, 39 years

Robert W Sible Jr, Section 9200, 40 years

Thomas Nolan, Section 398D, 22 years

William Stromberg, Section 398C, 45 years

Yvette Berumen, Section 2621, 20 years

Awards



Lab Director Michael Watkins Selected as AIAA Fellow

The American Institute of Aeronautics and Astronautics has elected JPL Director Michael Watkins as a Fellow. This prestigious honor is given to only one of every 125 Associate Fellows each year.

Watkins will be officially inducted at a banquet on May 19 in Crystal City, Virginia, and the next night, he will also be recognized at a black-tie Aerospace Spotlight Gala in Washington.

The AIAA specifies that Fellows are "persons of distinction in aeronautics or astronautics, who have made notable and valuable contributions to the arts, sciences, or technology thereof." Watkins is being recognized by his peers for his notable contributions to the aerospace community.

Watkins has been the Lab's director since July 2016. He is an engineer and scientist who was on the JPL staff for 22 years before spending a year at the University of Texas at Austin, where he held the Clare Cockrell Williams Chair in Engineering and was director of the university's Center for Space Research. His educational background includes a bachelor's, master's and PhD in aerospace engineering from the University of Texas.

During his JPL career, Watkins has served as chief scientist for the Engineering and Science Directorate, and manager of the Science Division and the Navigation and Mission Design Section. He has worked on multiple missions, including Mars Science Laboratory/Curiosity, GRACE, GRACE Follow-On, and GRAIL. He was the originator of the unique GRACE concept.

Four other JPLers – Dave Gallagher, Ryan Park, Mehran Mobrem and Keyur Patel – have been elected as AIAA Associate Fellows. They were officially inducted in January.



JPL Has a New IEEE Fellow: Shouleh Nikzad

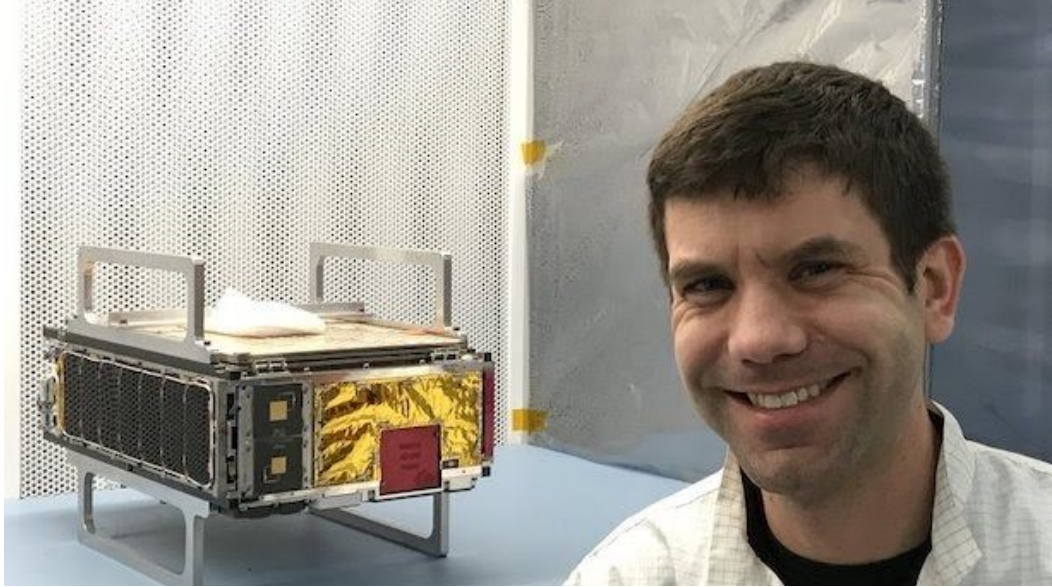
Shouleh Nikzad's work on single photon counting UV detectors has produced world record sensitivity, helping to enable future NASA missions that can map the intergalactic medium, study primitive bodies, and study planetary atmospheres.

The IEEE selects Fellows for their "outstanding record of accomplishments in any of the IEEE fields of interest." In any given year, only one-tenth of one-percent of the voting membership can be designated as Fellows. The technical community considers the designation to be a prestigious honor and an important career achievement.

Nikzad is a senior research scientist, a principal engineer, and Technical Group Supervisor for the Advanced Detectors, Systems, and Nanoscience Group. She currently holds visiting faculty and lecturer appointments at the Caltech Physics, Math, and Astronomy Division and Caltech Medical Engineering Department, and previously at Cedar Sinai Medical Center's neurosurgery department.

Her research interests include materials, detectors, image sensors, imaging and spectroscopy systems and their applications in planetary sciences, astrophysics, space weather, and medicine. Nikzad holds 20 U.S. patents, has over 100 publications and has presented numerous keynotes, invited talks, and seminars.

Nikzad's education includes a bachelor of science degree with honors in electrical engineering from USC, a master's in electrical engineering from Caltech, and a PhD in applied physics from Caltech. Nikzad is also a Fellow of the American Physical Society, SPIE, and the National Academy of Inventors.



AIAA Names Andrew Klesh Engineer of the Year

When the MarCO CubeSats followed the InSight lander on a journey to the Red Planet, the team held its collective breath that the cutting-edge tech demo would work. The two MarCOs were a success, becoming the first CubeSats to complete a mission in deep space. They delighted space aficionados on Earth by beaming back nearly real-time InSight descent telemetry, as well as images of Mars and Phobos.

The efforts of the MarCOs' chief engineer, Andrew Klesh, are being honored by the AIAA (American Institute of Aeronautics and Astronautics) with the 2020 Engineer of the Year Award.

The organization presents the award to someone who has made "a recent individual contribution in the application of scientific and mathematical principles leading to a significant accomplishment or event worthy of AIAA's national or international recognition."

Klesh will pick up the honor on May 20 in Washington at the AIAA Aerospace Spotlight Awards Gala.

His primary research interests involve extreme exploration with constrained systems. In addition to sending CubeSats to Mars, his work has taken him to such locales as Alaska's Matanuska Glacier, where he and other researchers studied moulins, sites where water punches through deep into a glacier's interior, and the Arctic and Antarctic, where he tested underwater rovers that crawl on the underside of ice surfaces.
