

Featured Stories



Orbit Pavilion at the Huntington, overlooking the hills.

Last Call to See JPL's Orbit Pavilion at the Huntington

By Jane Platt

The Orbit Pavilion is about to bid adieu to the Huntington Gardens in San Marino. The installation is a massive sculpture that allows people to walk through and hear sounds corresponding to the locations of NASA's Earth-observing satellites as each orbits overhead. The sounds track in real time the exact location of each satellite. As you turn toward each sound, you're pointing to the location of a satellite passing overhead...a high-tech version of hearing a bird fly across the sky.

The pavilion will be leaving on Dec. 31, after five years on display at the Huntington. So if you've been meaning to see it, or you're looking for an activity to share with family and friends over the holidays, now's the time.

The installation began its life as an idea in the minds of Dan Goods and David Delgado of DesignLab's The Studio at JPL, after a 2005 visit to the Deep Space Network in Goldstone, California. Awed by seeing the dishes that talk to satellites, Goods and Delgado wished they could also see the orbiting spacecraft.

The next best thing? Hearing the satellites.

Delgado envisioned the pavilion as an "object of wonder" that would allow visitors to experience the awe of that visit to Goldstone. The installation made its debut as part of a popular NASA Earth science exhibit at the World Science Festival in New York in May 2015. In July of that year, Orbit appeared at New York's Intrepid Museum. The pavilion then made its way back to the West Coast and landed at the Huntington Gardens in October 2016, for what was supposed to be a stay of just a few months.

That turned into five years and many thousands of visitors.

"I've seen people meditate inside the pavilion, I've seen people cry," Goods says. "It's neat to see people say, 'Oh, my goodness,' and stop to ask questions."



David Delgado and a crowd of visitors look up while inside the Orbit Pavilion.

Visitors experience sound, from desert winds to a crashing wave or rustling leaves, as each Earth satellite passes overhead. The sounds represent land, sky, and sea—elements of our planet that NASA and JPL study continuously. A digital screen originally showed satellite locations, but for the exhibit's final weeks, visitors can use a QR code to see the information on their smartphone.

To create the Orbit Pavilion, Goods, Delgado, and their team used an architect they had worked with for a previous traveling model of a vapor-spewing comet. The pavilion, a seashell-ish looking structure about 40 feet across, is a beast by comparison. Now that the space is going back to the Huntington, "It's quite a chore, as one might imagine, to carefully take the structure apart, pack it up, transport it, and set it up again," Goods says.

For Goods and Delgado, the search is on for a new venue. But because of wear and tear through the years, the sculpture's skin, or outer layer, may not survive and may need replacement or adaptation. Goods says they're exploring options to take the experience to movie theaters, museums, or mobile phones, using NASA's Eyes on the Earth with spatial audio headphones that simulate surround sound.

As he anticipates the pavilion's departure, Goods admits to feeling "a little sad, but mostly grateful that it was there as long as it was."

Delgado adds, "This was an experiment for us--no one had done it before, so it required trying something completely new. We feel lucky to be surrounded by people who dare mighty things. It was that energy and vision that made Orbit happen."

NASA provided funding and created the Orbit Pavilion in conjunction with architectural firm STUDIOKCA and composer/audio engineer Shane Myrbeck.

Watch a Caltech video about the Orbit Pavilion and the experience. More information at <https://www.huntington.org/orbit>.



JUCI Founder, James Smith (front left), with JPLer Thomas DiSarro (front right) alongside Northeastern students who designed and tested a CubeSat actuator in 2018.

Where Ideas Go to Grow

By Celeste Hoang

It was 2016 and Alex Austin couldn't believe his luck. The then-college senior studying aerospace and mechanical engineering at New York's Rensselaer Polytechnic Institute had been working hard with his classmates on a JPL challenge to design an orbital debris capture CubeSat when his professor shared some news: Austin's group had been selected to fly out to JPL and present their design to Lab experts.

"We just thought it was the coolest thing ever," says Austin, now the lead engineer for JPL's Team Xc, the Lab's CubeSat and SmallSat concurrent engineering team for mission formulation. "I mean, we were a bunch of undergrad engineering students and now these real engineers were going to review our work."



Alex Austin (back row, second from left) and his Rensselaer Polytechnic Institute classmates presenting their CubeSat design at JPL in 2016.

The opportunity was a unique and relatively new one at the time, thanks to 355 Group Supervisor James Smith, who created the [JPL University Crowdsourcing Initiative \(JUCI\)](#) in 2013 with one goal in mind: Pair JPLers and their ideas with a volunteer student community looking to connect and engage with JPL projects.

JUCI works in three steps: JPLers [propose a challenge](#) in 100 words or less that is emailed to partnered universities; universities express interest and the JPLer selects one or more partner universities to pair with; and the university provides the work, with JPLers providing approximately two hours of mentorship and coaching per month.

After Austin made his way to JPL and presented his concept with his fellow students—“We were so formal about it all, wearing our ties and coming in with a 50-slide presentation,” he recalls with a laugh—he was so enthralled by the experience that he knew JPL was the place for him.

The CubeSat has yet to fly, but Rensselaer Polytechnic Institute [continues to develop it](#) with its next class of students. As for Austin, he found an even more rewarding outcome.

“JUCI gave me the connections at JPL to get an internship and later a full-time job,” he says. “I was always a giant space nerd. To me, there was nowhere cooler to work. I always knew about JPL but I had no involvement with it really until [JUCI]. After the program, I still didn’t think I’d end up working here—it always seemed like a dream—but it was the first step that got me in the door to make the connections to get me to where I am today.”

For Smith, seeing a career dream come true for Austin alongside the maturation of JPLers’ ideas is exactly why he started JUCI.

“It’s been a labor of love,” says Smith, who created JUCI of his own initiative working with stakeholders across the Lab over the years to approve JUCI’s platform, including the Office of the General Counsel, Export Compliance, and Labor & Cost Accounting. “The idea that I can help connect university students longing to solve real-world problems to JPLers looking to mature their ideas so they’re not languishing on their desks or in their minds—there’s great joy and meaning there for me.”



Alex Austin.

"I created JUCI to make it a platform accessible to anyone and everyone to get help with a task or explore an idea," Smith says. "JUCI connects JPLers with volunteer student teams to mature their idea with no proposal writing, no proposals to review, no contracts, and there's no funding exchanged."

While JUCI can lead to students gaining internships at JPL, the reverse is also true: Current interns paid through the HR or Education Directorate, whose internships are ending, can extend their connection to the Lab by working on a voluntary basis through the JUCI program, Smith adds.

Perhaps the most important aspect of the program is its spirit of collaboration and inclusion.

"Better solutions come from a more broad community of ideas," Smith says. "Over half of our points of contact are at minority-serving institutions. I'm part of the Lab's Inclusion Advisory Committee, and DE&I is very important to me. I want to expand our network and bring in a diverse workforce, and I want to identify and grow the next generation of industry leaders while serving the Lab."

If some of the success stories so far are any indication, JUCI will have great potential for years to come.

Dozens of studies have been performed to date allowing JPLers to explore advanced mission concepts, mature technology, and perform trade studies and science research and analysis. Some mission concepts and projects that thrived thanks to the program include the Venus Wind Turbine with Cal State University, Los Angeles; a Coilable Boom with University of Colorado, Boulder; and Shapeshifter, an award-winning multifunctional unmanned aerial-terrestrial vehicle for extra-planetary exploration with the University of Buffalo.

Smith also points out that a long-standing JUCI relationship with Cal Poly Pomona facilitated the capture of funding for development of a CubeSat program at the school, which is currently being leveraged through JUCI to flight-demonstrate additively manufactured heat rejection systems that will benefit future missions.



JUCI Founder and 355 Group Supervisor, James Smith.

While many of the challenges past and present are engineering-focused, Smith emphasizes that JUCI exists for any JPLer to submit any challenge—from robotics to external communications or business administration—and connect with a network of students in a variety of disciplines eager to help them with their project.

The program has a network of more than 80 schools, but Smith hopes that as more JPLers take advantage of JUCI, that potential talent pool can grow even larger as a wider variety of challenges attracts a wider variety of schools, disciplines, and students.

“I really want folks to look at this and think, ‘Wow, I’ve had this idea burning in my head for so long and finally there’s a mechanism that will help me explore it.’ I just want people to use it, so their creativity is leveraged and not lost. It’s been a labor of love, and now I offer this gift to my JPL family to benefit from.”

For JPLers interested in presenting a challenge to university students, please visit:

<https://juci.jpl.nasa.gov/>

For universities interested in partnering with JUCI, please visit:

<https://scienceandtechnology.jpl.nasa.gov/opportunities/academic-partnerships/juci>



Attendees at one of the SANG Coffee Break Networking events during pre-pandemic times. Image Credit: Courtesy of Beth Walker

Staff Assistants Lead the Way Through Changing Times

By Taylor Hill and Celeste Hoang

Over the past year and a half, how and where many JPLers work has transformed dramatically.

And while much of the Lab's population had to reimagine how to do their job from home, JPL's staff assistants have juggled a bit of double-duty: adjusting much of their own processes and workflows while also making sure their managers, teams, divisions and whoever else relies on them adapted to the new normal, too.

Through the changes, JPL's staff assistants have been able to count on SANG, JPL's Staff Assistant Networking Group. The group, established over a decade ago, has been instrumental in the time of Covid, keeping staff assistants connected to one another through their monthly SANG educational talks and networking events while also introducing new efforts including an informal mentoring program for staff assistants.

"One of our goals with SANG is to help staff assistants succeed in an evolving work environment through training and networking," said Beth Walker, current co-chair of SANG and Division 38 staff assistant. "And to make sure that issues impacting our fellow colleagues are brought to the attention of the right people so folks are getting the support they need."

And while Covid has altered many of the responsibilities and tasks staff assistants and executive staff coordinators handled pre-pandemic, changes in the profession have been progressing for years prior.

"The reality we have today is staff assistants who are very proactive," Walker continued, "people who are trusted with a lot of autonomy on coordinating complicated tasks like speaker programs for entire directorates, running internal websites for teams, spearheading new hire programs, and more. And this shift has been happening for decades. Not just because of Covid."

We reached out to a few staff assistants at JPL to talk about their careers at JPL, their experiences through Covid, and what SANG has meant to them:

Brandon Bodkin (5110)



Brandon Bodkin.

Even with his mother working at Caltech for over 25 years, Brandon Bodkin didn't see JPL as a landing spot in his career.

His schooling at BYU-Hawaii in political science and psychology didn't provide him the engineering or science background he thought he'd need to apply. But in 2017, he found a role in the Component Engineering and Assurance Office's Business Administration group, and quickly got acquainted with the "tech talk" as he calls it.

“You immerse yourself in it, and eventually you start to get an understanding of what they’re talking about,” Bodkin said.

In his first year, he picked up the typical tasks of calendaring, setting up travel arrangements, P-card ordering, and more. With his feet under him, Bodkin said he felt supported by management to pursue new opportunities beyond the traditional staff assistant position. And by year two, Bodkin had become the point person for 5x on adopting eSign Live, JPL’s electronic document signature program originally brought to the Lab by Acquisitions.

“There was a call for ways we could improve our business processes, and I was tired of spending so much time walking around Lab trying to get hand signatures for things, so I proposed e-signatures,” Bodkin said.

After reviewing options available within JPL and commercial enterprises, Bodkin set out making training videos, a wiki page article, and helped 5x implement eSign Live just before the pandemic.

“It was serendipitous, because shortly after we made eSign the official e-signature tool for 5x, we went to mandatory telework, and I became one of the point persons at JPL for using eSign Live,” Bodkins said.

Through Covid, Bodkin has seen the importance of a networking group like SANG grow, despite the lack of in-person meetings and events.

“Before Covid, SANG was a great way to meet other staff assistants, because we are by design spread out across Lab, and we don’t necessarily interact with other staff assistants very often,” Bodkin said. “Now that we’ve been remote, SANG’s Webex events and talks have really been an important way to share knowledge between staff assistants, learn new methods, and grow professionally.”

Over his time at JPL, Bodkin sees a common misconception among JPLers in their utilization of staff assistants—mainly that many might not have the ability to help out on the technical side of things.

“My organization has been very supportive in utilizing me to set up wiki pages to help track spacecraft parts issues, review and proofread documents, and take notes in technical meetings,” Bodkins said. “I think that many of our staff assistants across Lab could assist in similar ways if they were given the opportunity.”

While the technical side sparks his scientific interests, Bodkin points out that the human element of the job has its own rewards, as well. He recalls one intern he had helped out through his early days on Lab ended up taking a full-time job.

“They said one of the reasons they decided to work for JPL fulltime was because I had been so helpful and useful, and somebody they could go to and get answers from,” Bodkin said. “And that feels good. A lot of staff assistants have a passion for helping new hires and interns get comfortable at JPL.”

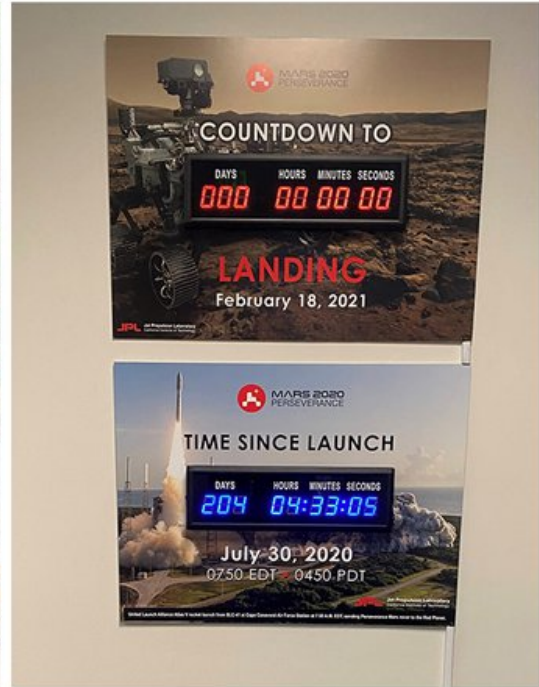
Monica Hopper (4020)

Monica Hopper’s time at JPL has been set to a different clock than most of us.

“I stepped right into the middle of the Mars 2020 mission in 2015, starting as a staff assistant for the Project and Deputy Project managers,” Hopper said. “When I got the job, I didn’t realize how coveted that spot was, and how fortunate I was to get it.”

Hopper had gone straight from high school into the working world, racking up nearly two decades of executive support experience before coming to JPL.

“Growing up in an old-school traditional Mexican family, good, strong work ethics was ingrained in us,” Hopper said. “I don’t remember college being pressed upon us (girls), however, I do recall that working hard was always expected, it was a given.” From her first job working for the Sun Telegram (San Bernardino) as an admin in the circulation department, she knew she was on the right track. From there, her career naturally migrated towards executive assistant positions, where she worked at companies including Capitol Records, Panavision, and the Harley-Davidson Corp office.



Left: Monica Hopper wearing the Mars Perseverance t-shirt she helped design. Right: The Mars countdown clocks Hopper created for the Mars 2020 offices.

“My best job yet, however, was landing here at JPL,” Hopper said. “I feel like I won the Lotto. I love how much the individuals I support, appreciate and value the work I do for them. My Mars 2020 team put another rover on Mars, and figured out every single micro detail it took to get it there, and yet, when I complete an expense report for them - on time and with no errors - they act like I’m the one who did something amazing.”

Pre-Covid, Hopper honed the skills of balancing stuffed calendars, reserving in-demand conference rooms, coordinating Critical Design Reviews for Mars 2020, designing Mars T-shirts and even creating Mars countdown clocks that hung in the Mars 2020 offices signifying launch and landing dates.

Faith Tapia (8010)

Faith Tapia started as a staff assistant for 8x on March 23, 2020—right at the beginning of JPL’s second week of mandatory telework amidst the pandemic.

Tapia, who previously worked as an administrative assistant at In-n-Out Burger’s corporate headquarters, made her way to JPL after a friend referred her for the role on Lab. She was quickly hired and found herself moving from the restaurant industry to the aerospace industry, supporting the SWOT and Sentinel 6 teams—and doing it remotely for the better part of a year.

“It was challenging, but it was also kind of a blessing in disguise,” Tapia recalls. “Certain things that might overwhelm you at the beginning were actually happening at a slower pace. I had time to learn tasks and how things work, and understand the role. I also had a lot of support from my colleagues.”



Faith Tapia petting a giraffe at the Los Angeles Zoo.

Since November, however, as the Lab reopened for on-site work on a voluntary basis, Tapia has been coming to JPL to support her team in person.

“Building relationships is so important as an assistant because the more you get to know a person, the easier you can anticipate their needs and what they like and don’t like,” she says. “I’m working toward that and it’s getting better.”

Still, there are aspects of the job—projects reviews, event planning, foreign national approval processes, etc.—that she hasn't been able to grasp while much of the Lab, and the country, remains a virtual workplace.

"I haven't been able to experience the full scope of those tasks," she says. "I'll still be learning what the role will look like under normal circumstances."

In the meantime, she's been taking advantage of SANG resources to prepare as much as possible.

"Every single time SANG offers a training webinar, I watch it," she says. "There's so much value and I'm still learning so much from everything they offer. They did one on confidence about talking to your boss for pay increases, and they included someone from HR with very valuable information. There are also travel trainings, refresher courses, and other stuff outside what your actual role is."

One of the misconceptions Tapia notices about the role of staff assistants is the job description itself.

"There's so much outside of an assistant's job description that we do on a daily basis," she says. "I think people minimize the role sometimes because you are handling so much—you're doing all these things for other people, but they don't always understand because you're not [pointing it out and] looking for a pat on the back. We handle a lot more than people think. There might be 10 to 15 steps, or five people, I have to talk to before I complete one task. A lot of staff assistants make it look easy, but it can take a long time to complete one thing."

Of course, what Tapia loves the most about her job is the ability to help others whenever and however she can.

"I just really enjoy helping people. If I can take something off their plate to make their day easier, I'm all for it," she says. "It's my favorite thing. I always try to say yes even though I shouldn't always say yes, but it's a balance. I really do enjoy lightening their load and making their jobs easier."

Rexana Vizza (1810)

Rexana Vizza was always in search of something that felt right.

Early in her career, the English major was on track to become a teacher, but was dissuaded by seeing her friends stay in classrooms late into the night and frequently burn out. Instead, she began working for the school district as an administrative assistant for 16 years—until she looked around and realized she didn't want to be doing that forever.

"It didn't feel like the right fit, either," Vizza says. "At that point, I was really worried I was going to get stuck there because I knew a lot of people who were lifers and who were content doing the same thing. I was thinking to myself, 'I don't want to be here for the rest of my life.'"

So she started job hunting, zeroing in on companies and businesses she had an interest in.

"When I was a little girl, I wanted to be an astronaut," she says. "I've always had a fascination with space and science fiction."

Her next job seemed written in the stars: The JPL careers site listed six different openings for a staff assistant, each of them looking for the experiences and skills she was qualified for.

"I applied for all six positions and got one callback," she says, recalling a clever detail she added to her cover letter that got JPL's attention. "I wrote that I have little fingers for unjamming copy machines. When I came in for an interview, [the hiring manager] said he read that and laughed, and that's why he called me in."



Rexana Vizza with the Mars Perseverance rover model.

Vizza has been a staff assistant on Lab since 2017, starting in the science division (32x) and now working out of the communications and education directorate (18x), supporting the director, deputy director, and multiple section managers.

Her favorite part of her job is working on an array of projects at any given time: supporting the digital news and media team for Mars 2020 press conferences and events; vetting media outlets; setting up telecon invitations; working on an internal 18x newsletter; and choreographing the delicate dance of scheduling jam-packed calendars.

“Staff assistants do all of the scheduling, handle calendars, set up meetings, and there are many layers to that,” she says. “Sometimes that can entail tracking someone down, and also moving stuff around and knowing what someone likes and doesn’t like. It’s a tricky, high-level thing and you have to have a personality that’s both flexible and a little pushy so you can get things done.”

Oftentimes, it’s the soft skills that come into particular play for the role, explains Vizza: “There’s a wide range of personalities and attitudes, so you have to be open to how somebody works. Everyone has a

certain way they want things done, and you have to learn and adapt to that; it's not just one person, it's multiple people."

Sometimes the work of staff assistants can be a catch-22 because it's almost entirely behind the scenes—the more smooth-running things are, the less their roles are noticed. But Vizza says she focuses on the experiences and recognition she gets in her own position.

"I think some staff assistants feel they aren't treated the same as engineers and scientists, and it feels like they're replaceable," Vizza says. "I've met staff assistants who did their college degree while they were working and moved up to an executive coordinator position, and I've met others who are content and happy with where they're at. For me, personally, I've gotten great experience in the science division and in 18x, and I really appreciate the opportunities I've been given."

One of the most challenging parts of being a staff assistant is juggling the multitude of support requests that come their way, Vizza says.

"There are a lot of times where we get tasks or called in for something right away and it's very important," she says. "For me, I know I'm not going to say no—I just jump on it and try to get it done. But it's challenging when you are handed something and everyone thinks that you'll be able to get it done right away, but they may not know the many behind-the-scenes things we take care of at the same time."

Of course, being able to jump in and support the work is also Vizza's favorite part of the job.

"The most rewarding part is being able to help someone and know that I was able to make their job easier," she says. "If I know they're super stressed out and I can take something off of their plate, it feels really good to be able to do that."



Researchers Kamal Oudrhiri and Nereida Rodriguez-Alvarez look at the South California ocean coast, where algae blooms have caused in the past toxic hot spots between Santa Barbara and San Diego.

Connecting the Dots: Sahara Dust and Phytoplankton

By Jane Platt

In May 2020, the biggest Sahara dust storm in 20 years blew through the desert region and drifted across the globe. This historic event sparked the interest of JPL scientists Kamal Oudrhiri and Nereida Rodriguez-Alvarez, who knew dust can cause phytoplankton blooms in faraway oceans and lakes. They seized the opportunity to learn more about this phenomenon that harms ocean creatures, commerce, and tourism.

If you've ever smelled a stinky "red tide" at the beach, you know how an excess of phytoplankton—a form of microscopic algae—can quickly blot out the appeal of a normally idyllic coastline. Besides emitting a putrid smell, these events produce toxins that can kill off fish and shellfish and harm undersea plants, marine mammals, and ultimately, humans. And they can slow shipping and repel tourists.

From the Desert to the Sea

Saharan dust storms, like the 2020 megastorm, transport tons of dust particles across the Atlantic, where they fall onto the Amazon, Caribbean, Gulf of Mexico, and other oceans and lakes. Once in these bodies of water, the particles carry embedded nitrogen and iron hundreds of miles. While nitrogen and iron are essential nutrients for phytoplankton, too much of a good thing can cause a harmful explosion of growth, called a bloom.

For years, scientists have struggled to detect and monitor these blooms. Oudrhiri and Rodriguez-Alvarez decided to try using signals from the Global Positioning Signal (GPS) constellation as they are reflected off the ocean surface and received by NASA's CYclone Global Navigation Satellite System (CYGNSS) mission. This is known as GNSS reflectometry or bistatic radar.

"We wanted to confirm the hypothesis that we could observe the effects over time, how ocean currents affect the bloom," Oudrhiri says.

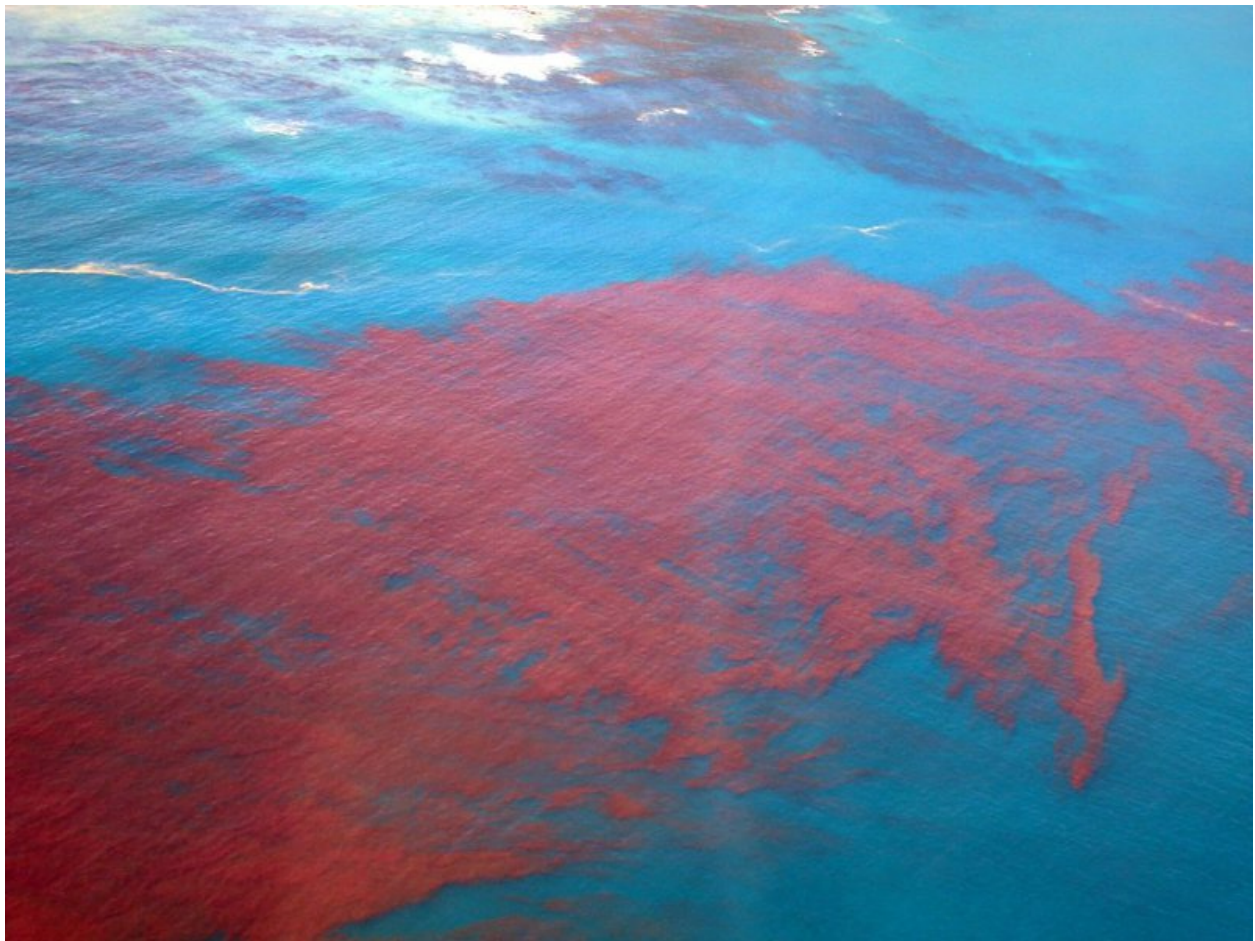
Childhood Memories Yield Ocean Science

This ocean-oriented quest had particular appeal for Oudrhiri and Rodriguez-Alvarez.

Oudrhiri's career in radio science the past two decades has focused mostly on studying planets, such as Mars, Saturn, and Jupiter, and also includes leading the Cold Atom Lab mission for seven years. But then there's the ocean.

"I grew up between France and Morocco and spent most of my summers in a small beach town outside Casablanca," says Oudrhiri, who enjoys ocean swimming, diving, and windsurfing. "I love the ocean, and I feel connected to it."

The ocean is also near and dear to Rodriguez-Alvarez's heart. She grew up in Barcelona, Spain, where swimming at the beach was banned because the river delta spewed contaminants into the sea. "At some point, they cleaned the coast, and I can say my beach became the most beautiful one, as it is surrounded by natural preserve spaces."



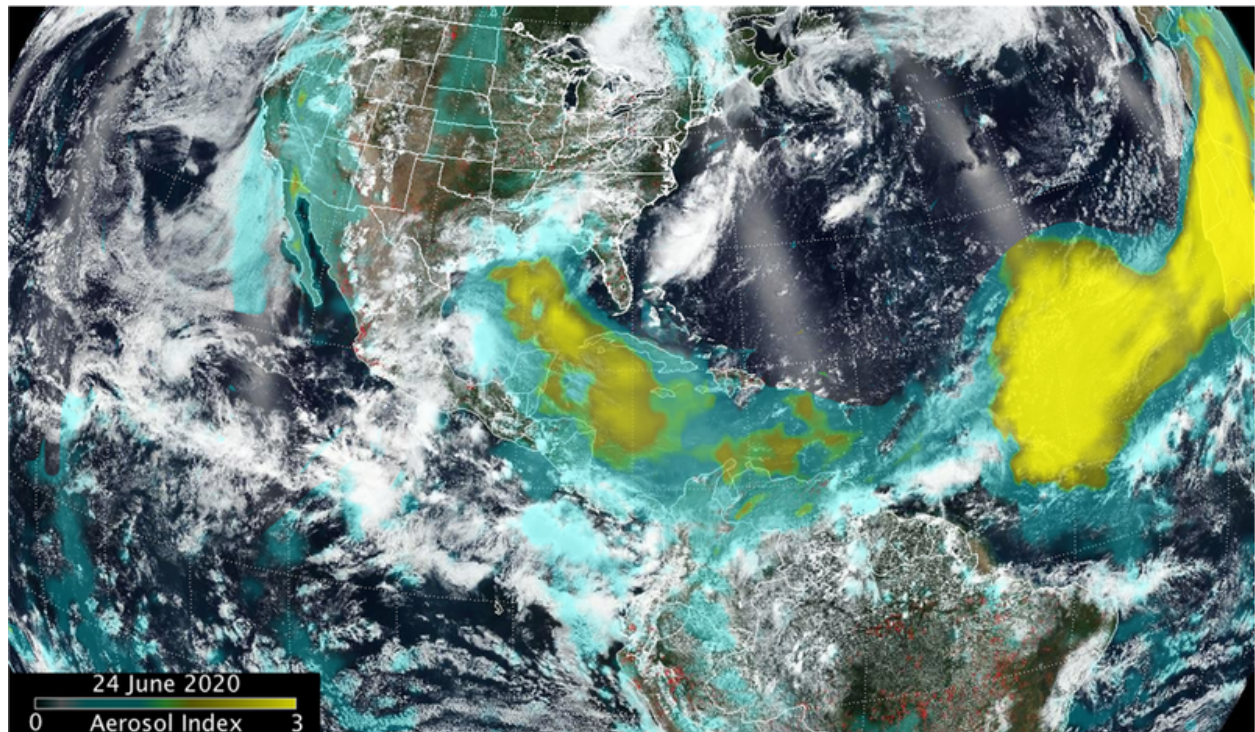
View of a red tide event. The image corresponds to the Georgia coast.

A 'Watering Hole' in the Ocean

The two scientists tackled the phytoplankton research with an analogy. "If you want to study a wild animal, you don't go catch it...you hide behind a watering hole with your camera and wait until the animal eventually shows, then you observe and study its behavior," Oudrhiri says.

He explains that the nutrients dumped into the ocean from the 2020 dust storm created a great watering hole for phytoplankton. "We knew it was just a matter of time until the grains of dust would fall into the oceans across the world, and a phytoplankton bloom feeding frenzy would occur."

Although their research relied on analyzing CYGNSS mission data, they would have preferred to also validate their results and survey the phytoplankton areas onsite in the Gulf of Mexico after the dust storm. But two factors stood in the way: Covid-19 travel restrictions, and the fact that Rodriguez-Alvarez was seven months pregnant with her second child.



Sahara dust plume image uses OMPS aerosol index and VIIRS visible imagery from NASA/NOAA's Suomi NPP satellite for 6/24/2020. Higher aerosol concentration looks more yellow. Image Credit: NASA/NOAA, Colin Seftor

Teleworking, Bistatic Style

The two scientists were not about to pass up this golden research opportunity. They focused their attention on using bistatic radar, which measures how a transmitted signal scatters as it bounces off Earth's surface—in this case the ocean—towards a receiver. They used GPS, which is not affected by weather, clouds, or time of day, as transmitted signals, and a constellation of eight satellites as receivers. With this method, the CYGNSS mission provided data to generate global daily maps of the ocean with signatures linked to the surface roughness. By observing areas of reduced roughness, the technique detected portions that were blanketed by phytoplankton and monitored its life cycle—such as location and passage of time.

"We have managed to make a direct connection between signatures in the bistatic radar signals and phytoplankton blooms," says Rodriguez-Alvarez.

She and Oudrhiri used historic CYGNSS data going back to 2017 to learn about triggers and warning signs of phytoplankton, including dust storms. Rodriguez-Alvarez had previously worked with Global Navigation Satellite System (GNSS) signals to sense soil moisture, vegetation, wetlands, and ocean winds. And she served on the CYGNSS science team during her Purdue University postdoc days. She credits Oudrhiri with thinking out of the box by championing the use of bistatic radar techniques to study events that directly affect human populations—like floods, drought, fires, and phytoplankton blooms.

The Future: Prepping for Phytoplankton

Rodriguez-Alvarez notes that "some of those phytoplankton blooms are harmful and usually cause beaches to be closed, as it was with my beach in Spain, for different reasons. The more I learn about the

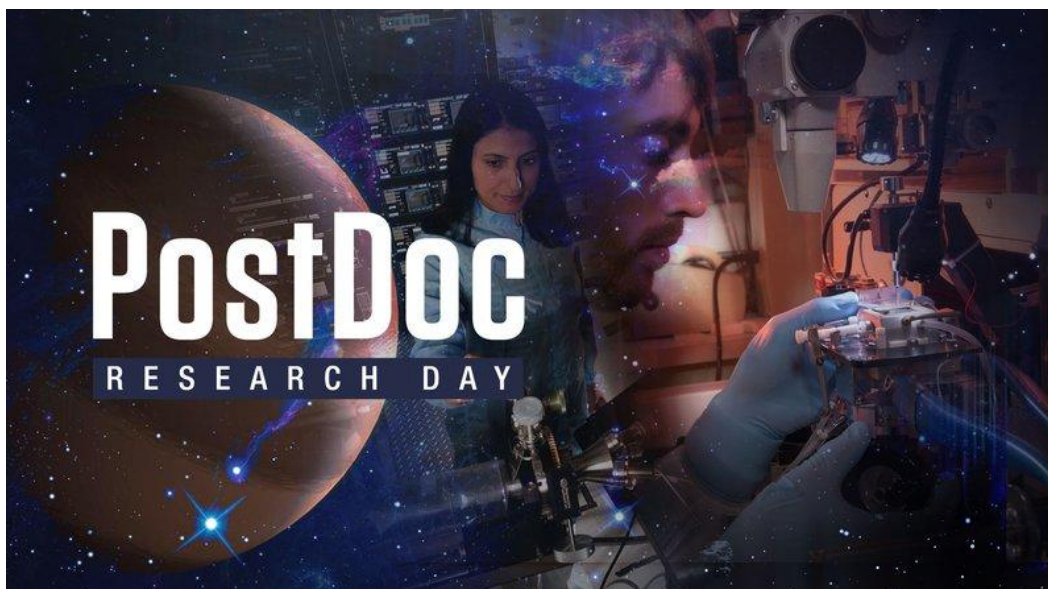
topic, the more intrigued I am because I see that detecting, monitoring, and predicting the behavior of these blooms is setting the path for our research to build a system to help many people in coastal areas and provide better planning for many activities."

She describes how potential applications could help in various ways. For example, "Fishermen could be provided with different fishing areas, instead of having to fish in the impacted areas. Or tourism hotels could use the information on approaching dust clouds to plan around it, come up with contingency plans, or inform their guests."

Between studying how Sahara dust storms affect phytoplankton and oceans thousands of miles away, and seeing how quickly Covid-19 spread across the globe, Oudrhiri has a new perspective: "Despite the distance that separates continents, we continue to discover that the world is more connected than we imagined. We are much closer than we think."

Their research was published in MDPI Remote Sensing journal in June 2021, they recently presented at the CYGNSS Science Team meeting, and they will show more advances at the AGU Fall Meeting in December.

Events



JPL Virtual Postdoc Research Poster Conference 2021

Join this year's virtual postdoc research poster conference featuring the cutting-edge science and technology work conducted by our postdocs and their advisors. This year's virtual postdoc poster conference showcases over 70 postdocs presenting posters in the following areas:

- Astrophysics and Space Science
- Earth Science: Water, Land, Biome, and Carbon Cycle
- Earth Science: Ocean, Ice, Atmosphere, and Climate
- Planetary Science and Life Detection
- Technology, Instrumentation, and Engineering

They welcome the entire JPL/Caltech community, university collaborators, and NPP Fellows at other NASA Centers to view the poster presentations by going to the [JPL Postdoc Research Day 2021 site](#) starting Dec. 6 through Dec. 20, 2021.

JPL Family News

Retirees

The following JPL employees recently announced their retirements:

30+ Years:

Bradford L. Swenson, Section 355S, 39 years

James L. Lamb, Section 3890, 38 years

David M. Soules, Section 353E, 33 years

20+ Years:

Ted Brunzie, 337C, 28 years

Mark C. Koehler, 3570, 28 years

Passings

Some of the material in obituaries is provided by family members.

Sue Hanson Linick, 71, died from pancreatic cancer on Nov. 13, 2021.

Sue was born and raised in Los Angeles and in La Crescenta and began working at JPL as a clerk typist in 1968, when she was 18 years old. She retired from the Lab as an engineer/engineering manager in 2015.

Sue worked in mission and science operations on many flight projects, including Viking, Voyager, and SIRTf, and was the instrument operations manager on Cassini. She loved her time at JPL, both for the excitement of mission operations, and for the many close friends she made over the years.

Sue had a wonderful retirement, travelling widely - Alaska, Scandinavia, Russia, Germany, Dubai, South Africa, Egypt, Jordan, New Zealand, and many national parks. She became an avid and talented quilter and loved giving her finished quilts to friends and family.

Sue is survived by her husband of 41 years, Dave; sons Justin and Christopher; all of whom followed her lead and worked at JPL.

In lieu of flowers, the family recommends a donation to the Pancreatic Cancer Action Network (PanCAN) or to the charity of your choice.

John T. Rice died on Oct. 29, 2021, at the age of 91. He worked at JPL for 33 years, most recently in 3x. Rice was a mechanical/electrical engineer who worked on Galileo, Magellan, and Mars rovers. He also worked on the design and build of the infrared astronomy, Wide Field and Planetary Camera 2, and the Shuttle Radar Topography Mission. Rice is survived by his wife, Patricia; three children: Debra, Linda, and Mark; seven grandchildren; and 14 great grandchildren. Funeral services will be held at Forest Lawn Glendale on Dec. 3 at 9 a.m.

Awards

New AGU and Meteorological Society Fellows Announced



Two new AGU Fellows Andrea Donnellan (left) and Stan Sander (center), and new AMS Fellow Hui Su (right).

JPL has two new AGU Fellows recently elected by the American Geophysical Union, all of them current or recent scientists in Division 32.

Andrea Donnellan (3820, formerly 3200) was elected as an AGU Fellow for developing and applying geodetic imaging and advanced computational methods to assess impacts of natural disasters and earthquake hazards.

Stan Sander (3200) was elected as an AGU Fellow for fundamental contributions in understanding atmospheric kinetics, photochemistry, and composition measurements and interpretations.

AGU characterizes the Fellow designation as "A distinction for those members who have made outstanding achievements and contributions by pushing the frontiers of science forward."

More information [here](#).

In addition, another Division 32 scientist, **Hui Su** (329D), has been elected Fellow of the American Meteorological Society (AMS) for contributions advancing the understanding of clouds and circulation interactions, water vapor and cloud feedbacks, and climate variability and climate change. More information [here](#).

Randi Levin Named a 2021 SoCal ORBIE Winner



Randi Levin.

JPL CIO and Director for Information Technology Randi Levin has been selected as a SoCal CIO of the Year/ORBIE winner. Levin is a winner in the Large Corporate category. For more than 20 years the ORBIE Award has been given to CIOs around the country who are transforming their organizations through exceptional technical leadership. This is the inaugural year for the SoCal ORBIE program, and the competition included CIOs from private and public businesses, non-profit, government, healthcare, education, and professional sports. The rigorous judging and selection process included several rounds of interviews conducted by prior ORBIE winners. Levin became CIO of JPL in late 2019.

View all the winners [here](#).