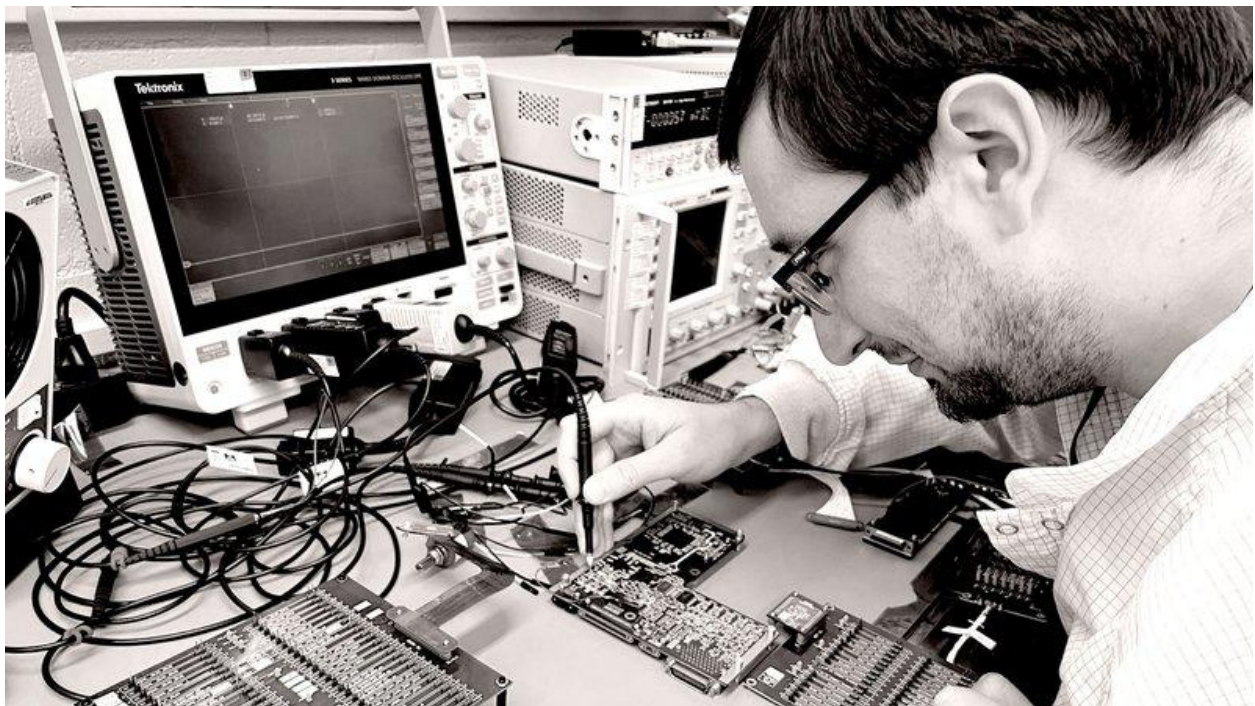


Featured Stories



Ara Kourchians in the CADRE Avionics Lab. Photo Credit Justin Schachter.

From Middle School to the Moon, Mars, and Beyond

By Vince Robbins

In the far northwest corner of JPL, behind gates that take you off Lab and back on again, the 251 Gyro Laboratory sits remote and secluded — so much so, it makes the climb of Cardiac Hill feel like a stroll down the Mall.

“Oh, yeah. We have golf carts,” Ara Kourchians says with a friendly laugh to a highly exercised visitor.

As a 13-year-old, Kourchians once eyed the laboratory from a great distance, with no thought of making the ascent on foot or on wheels. More than 20 years later, he eyes celestial bodies and envisions his instruments on their strange ground.

Kourchians is the lead avionics design engineer for the CADRE project, which stands for Cooperative Autonomous Distributed Robotic Explorers. As he enters his laboratory, he casually surveys the CADRE Avionics Testbed – what he calls a “factory floor” of development hardware. These are the guts of a soon-to-be lunar rover prototype: avionics flatsat (think: a spacecraft laid flat for testing), computers, power supplies, circuit boards, an oscilloscope. CADRE will send three shoe-boxed-size autonomous rovers to the Moon for a relatively short but pioneering mission that will study unexplored regions and hard-to-reach places such as lunar craters and caves.



Kourchians in the CADRE Avionics Lab.

Although the CADRE prototype rovers are mere parts splayed across tables and stowed away in cabinets in the lab, Kourchians's enthusiasm and vision for the mission is crystal clear to him. Sometimes, on his drive home from Lab, Kourchians says he looks up at the night sky and visualizes where on the moon the CADRE rovers will land and explore.

“I had a very similar experience of looking up at the night sky and seeing Mars,” Kourchians says. “The thing we were working on in the lab, that we were so careful with, is on another planet. This is the coolest job in the world, man.”

All in the Neighborhood

In 1997, Kourchians was another Lego-obsessed kid growing up in La Crescenta. He loved putting things together and taking things apart. With the help of his father – a fellow tinkerer then and now – he built model gliders and elaborate Lego structures. He recalls his favorite Christmas gift: a Lego Mindstorms Kit that became “a bunch of robots.”

One day that summer, a neighbor dropped by to give Kourchians something. Like many others in the surrounding homes, the neighbor worked at JPL, and handed Kourchians a press leaflet about the Mars Pathfinder mission.

He vividly remembers the day – July 4, 1997 – when Pathfinder landed on Mars, and Sojourner, the first wheeled vehicle to rove on another planet, began its drive around Ares Vallis.

From that day forward, Kourchians took every opportunity he could to learn more about JPL and the Lab's missions. He begged his parents to take him to JPL's open houses and von Karman lecture series. Kourchians' interest in space gadgetry was insatiable, but it wasn't until eighth grade that he would graduate from using his tinkering skills on Legos to using them on Lab.

Challenge Accepted

Five years later, when that same JPLer neighbor told Kourchians about a new competition on Lab, he knew he had to enter. [The Invention Challenge](#) – then in its very early years, but now a two-plus-decade tradition – is a STEAM-based contest that provides a fun and challenging opportunity for teams of middle and high school students to put their engineering skills to the test on Lab alongside other students and JPL engineers. There was one snag for Kourchians: The challenge is typically for teams of students who compete with their school, and his school, Rosemont Middle School, didn't have a team.

Enter Paul MacNeal, the Invention Challenge founder, who allowed Kourchians to sign up under the JPL-sponsored category, with his neighbor and his father rounding out his unlikely team.

"[Ara] is a huge example of the benefits of hands-on engineering [for students]," MacNeal says, adding, "He was probably going to be an engineer anyway, to be honest."

But for the precocious middle schooler, the future wasn't so certain.

"I didn't know what I was signing up for. Let's be real," Kourchians says. "My dad definitely helped build the hardware, we took parts of broken photocopier machines and went to Home Depot, learned the fundamentals of building something."

After building and testing a jelly bean pellet firing device at home with his father, Kourchians stepped onto Lab ready to compete. Unfortunately, Kourchians brought a mostly-empty air canister that he'd used during the building process prior to the competition – "you're a kid, you have no clue how to do testing" – and his device failed to perform as expected.

He didn't score a single point in the competition.



13-year-old Kourchians sets up his pellet-firing device in the 2002 JPL Invention Challenge.

Although disappointed in his performance, he nonetheless relished the opportunity to take a private tour of the Lab with the neighbor who had invited him to the Invention Challenge.

The next year, Kourchians enrolled at Crescenta Valley High School, which already had an established robotics program that participated in the well-known First Robotics competition. Kourchians joined the robotics program and formed a team to compete in the JPL Invention Challenge as well. He went on to lead the Invention Challenge team, competing all four years of his high school tenure.

After graduating from Crescenta Valley, Kourchians attended Glendale Community College where he studied Electrical Engineering. During his time at GCC, he landed an internship at JPL in Section 312, working on cost estimation tools of mission concepts. Shortly after that summer, Kourchians transferred to Cal Poly Pomona and simultaneously parlayed his JPL internship into a job working for a JPL contractor, giving him his first unfettered access to Lab.

"I got to go to college and work and pay for college," says Kourchians, "and having that badge to be able to access this place and talk to people who were always willing to talk about what they were doing was extremely valuable. I made good connections here and got to meet a lot of really interesting folks."

The JPLers weren't the only ones doing interesting work. Around this time, Kourchians landed a second job through a friend. Universal Studios assembled a team of filmmakers, celebrities, studio executives, movie fans, craftspeople, and engineers to restore the most famous movie car in the world: the DeLorean Time Machine.



Kourchians restoring the circuitry on the "Back to the Future" DeLorean Time Machine.

"The car was sitting, rotting in the Universal lot," Kourchians remembers. "Parts had been stolen, the floors were covered in dirt and mud, and they let the car sit out and rot away."

Kourchians spent nights and weekends, outside of his JPL contractor job and studies, working on the time circuit electronics and flux capacitor of the DeLorean. During the year-long restoration process, Kourchians worked with a team of "Back to the Future" super fans to bring the car back to life with perfect accuracy – a feat that was chronicled and celebrated in the documentary film, "OUTATIME: Saving the DeLorean Time Machine."

The gig was more than just a fun side project for Kourchians. When a full-time robotics engineer position opened up at JPL in 2015, he knew he needed to stand out in a highly competitive talent pool. He walked into the JPL interview – a grueling, day-long process – ready for an hour-long presentation on his previous work experience.

“I was super nervous, but I decided to bring the Flux Capacitor and time circuits,” Kourchians remembers. “Folks went, ‘Whoa, that’s so cool,’ and it absolutely played into making my career what it is today.”

When pressed to decide which is cooler, a Mars rover or the Delorean, Kourchians had to admit: “definitely a Mars rover.” But in true engineer fashion, he quickly pointed out that they’re both nuclear-powered.

The Coolest Job in the World

In his seven-plus years at JPL, Kourchians has worked on several projects: [COBALT](#), [LLAMA](#), [EELS](#), [Cold Arm](#), [Mars 2020](#), and now [CADRE](#).

“I’ve worked with a lot of really amazing people, a lot of really smart people, so I’m constantly learning,” Kourchians says. “One of the main things I love about this place is everyone is so open to sharing about their experiences...We’re all the same – I believe that. Everybody here is curious.”

Kourchians still occasionally runs into Paul MacNeal, the founder of the JPL Invention Challenge. He also likes to stop by the competition each year to see how the teams of students are all tackling a new engineering problem with unique approaches.

He marvels at how the event has grown: “They’ve got team shirts now. We didn’t have that!”



Kourchians points out his past JPL Invention Day competition posters.

“Seeing it grow and become what it is today is just such a good thing. I’m so glad JPL does things like this,” Kourchians says. “These are the organizations, these are the programs, actually making a tangible difference in people’s lives – inspiring them to go into engineering or giving them skill sets to take into other fields.”

Recalling that very first day on Lab when he was just a curious middle schooler with a jelly bean gun, it dawned on Kourchians – with an audible gasp of surprised recollection – that on the tour with his JPLer

neighbor that afternoon, he had been fortunate enough to catch a glimpse of the Spirit and Opportunity rovers under construction in the Spacecraft Assembly Facility.

“As a kid, that’s, like, the most inspiring thing,” Kourchians says of that fateful day. “I’m seeing people in the clean room putting together the rovers and I’m like, ‘That’s the job I want!’ And 20 years later, here I am.”

If the last two decades — complete with a flying DeLorean and interplanetary rovers — are any indication, Kourchians’ child-like curiosity will continue to burn bright for years to come.



Left image: Janez Lawson (center) with JPL's computer group; Right image: James E. King, Jr. in 1987, after receiving an N.A.A.C.P award

Black Pioneers at JPL

By Erik Conway

One challenge of being a professional historian is the reality of record keeping—or the lack thereof. I often get requests from families looking for information on what their loved one did at JPL, only to find that we have little more than phone book entries left of someone's career here. At least we have those, thanks to our Archives staff!

More than a decade ago, I was asked to write a piece on JPL's 'computer group' of the 1950s for Women's History Month. This was possible because JPL's old employee newspaper, the Lab-Oratory, had profiled the group in 1953, giving us names to track down. A couple of those former computers still worked here—and one still does. That's how I learned of the first person profiled below, Janez Lawson. She was a face in the photograph from that old Lab-Oratory article, reproduced above.

I first learned of Jim King, the second person profiled, before I came to JPL. I was a contractor working on a history of atmospheric science at NASA, and he was the first director of NASA's Upper Atmosphere Research Program. I never had the opportunity to interview him, though, so I also didn't realize a fact that was central to his life beyond his science—that he was Black. But in a phone directory, or a trail of memoranda, or in published scientific articles, that's not obvious. I only discovered that fact after coming to JPL.

Janez Lawson

The first Black person hired into a technical position at JPL was probably Janez Lawson. Lawson was a native of Santa Monica, where her father was a city councilman. In March 1952, she was preparing to graduate from UCLA with a bachelor's degree in chemical engineering and interviewed with the supervisor of JPL's computer group, Macie Roberts.

With digital computing still in its infancy, “computer” was a job description, not a piece of hardware. The job didn’t require a degree by design; the kinds of calculations done were voluminous but routine, and the calculation process had been set up so that it could be run by people with good high school level skills. This was a long-used solution to the perennial problem of insufficient technically skilled labor.



JPL's computer group in 1953. Janez Lawson is sixth from the left.

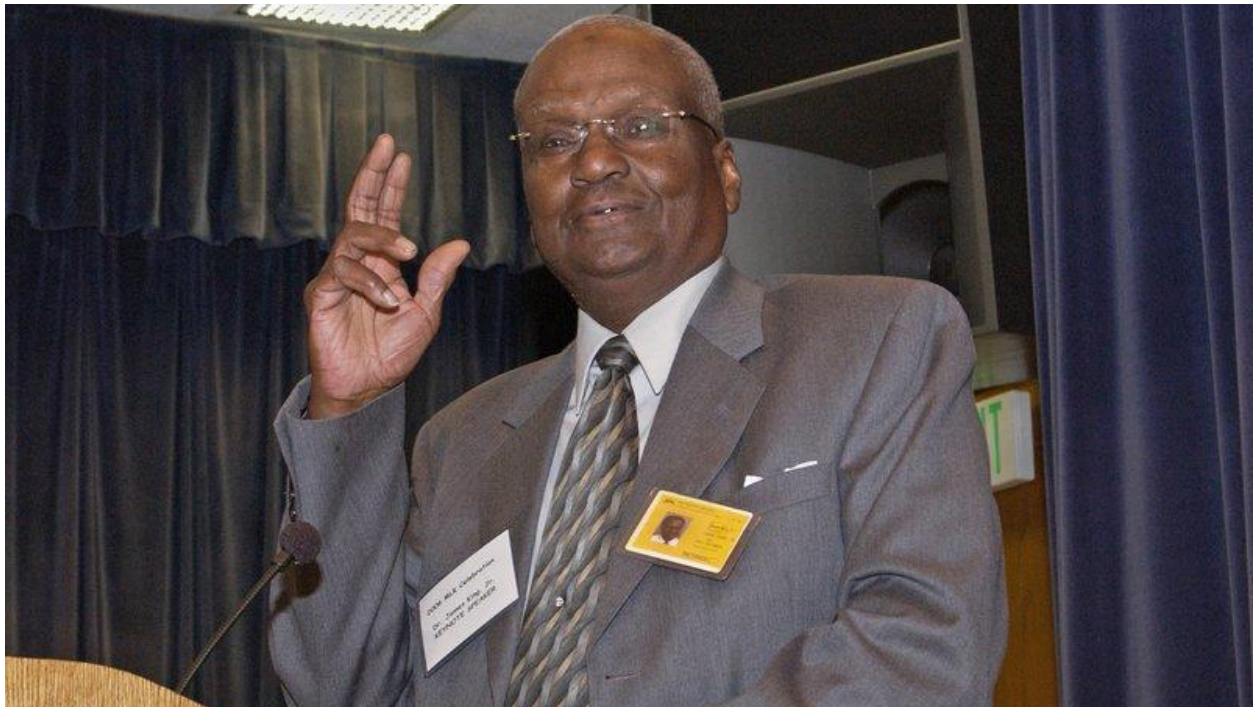
Lawson was very overqualified for the job. Even so, Roberts hired her once she’d satisfied herself that Lawson’s race wouldn’t be a problem for the other computers.

Lawson worked at JPL, doing calculations for the Corporal and Sergeant missile and Re-Entry Test Vehicle programs, until 1956, when she married and left to have children. She eventually returned to paid employment, working as a chemical engineer at Ramo-Wooldridge. She passed away in 1990.

Dr. James E. King, Jr.

If Janez Lawson’s career at JPL was brief, James E. King, Jr.’s was long and prominent. King was born in Georgia, and earned a bachelor’s degree in chemistry at Morehouse College in Atlanta. He excelled, and was admitted to graduate school at Caltech, where he completed a Ph.D. in chemistry in 1958.

King worked at a couple of other companies before joining JPL’s chemistry section in 1961, becoming the first Black Ph.D. to be hired at JPL. He was detailed to NASA headquarters from 1974 to 1976 to help set up NASA’s Upper Atmosphere Research Program, becoming its first director. After his return, he became manager of the Space Physics section. His organization became the Space Science and Applications section in 1982. In 1985, he took a two-year leave of absence to teach chemistry at Morehouse College.



King in Von Karman Auditorium for the 2006 Martin Luther King Day celebration.

After his return to JPL, King was named deputy Assistant Laboratory Director for the Technical Divisions (currently the Engineering and Science Directorate), a position he held until 1993, when Director Lew Allen promoted him to Assistant Laboratory Director. This made him the first Black member of the Executive Council. He commented later that he felt expected to behave and think like everyone else, but that “what I brought to the table, as an African American, were obviously different ideas and different views on the same subject, which I believe should help the director and deputy director in making the tough decisions they have to make.”

King was involved in the community, serving as a member of Pasadena’s Planning Commission and of other local organizations. He was an active supporter of the Laboratory’s Educational Affairs Office, and received an ACT-SO Award from the N.A.A.C.P. for his role in that organization’s science and technology education efforts.

King retired in 1995, and returned to Morehouse College as Institute Professor of Space Science. He passed away in 2017. Caltech has a student award named in his honor.

A Perspective From JPL’s Employee Resource Group, Black Excellence Strategic Team (B.E.S.T.)

Firsts are triumphs for Black Americans and for all Americans. When a barrier is broken and a Black American is given an opportunity, they are in a position to do well and do good. They have the opportunity to build a better life for their family and to help their community. More importantly, they are in a position to positively impact society through the work that they do.

It is important that Black professionals are not considered to be anomalies. Anomalies are more heavily scrutinized and given less latitude to grow and develop. Anomalies are often required to be perfect as a condition of acceptance. Being perfect goes counter to daring mighty things. If you take away someone’s right to take acceptable risks, you take away their right to “dare mighty things.”

-Rich McKnight, B.E.S.T. Member and Webmaster



TOLIMAN is a low-cost mission concept aimed at detecting exoplanets via the astrometry method, and specifically targeting the Alpha Centauri system.

TOLIMAN, JPL’s Earth-like Exoplanet Finder, Moves Into Project Phase

By Taylor Hill

After completing accelerator and concept phases, The Office of Technology Infusion and Strategy announced the selection of TOLIMAN to move forward to the project phase of the JPL Next Investment Program.

The TOLIMAN project focuses on developing a new technology capable of detecting Earth-like exoplanets around nearby star systems. The technology can be infused in a CubeSat or larger space telescope mission concepts. Together with the Coronagraph Instrument slated for flight aboard the Nancy Roman Space Telescope, TOLIMAN aims to solidify JPL’s role at the forefront of exoplanet detection and characterization by developing astrometry and direct imaging technologies.

“Each of the three concept tasks met the goals of the JPL Next program,” said JPL Chief Technologist Tom Cwik. “It is exciting to see a potential ground-breaking new observation approach – TOLIMAN – push on to the next phase of development.”

With the team moving into the project phase, TOLIMAN Principal Investigator Eduardo Bendek (383A) said the team will now have funding to continue to push the technology readiness level and demonstrate the diffractive pupil technology needed to detect exoplanets based on the tiny ‘wobble’ of a binary star from the gravitational tug of an orbiting planet.

“It’s a very simple instrument, but we are trying to push the detection sensitivity to incredibly precise levels not yet shown,” Bendek said. “With the funding from the JNEXT program, we will start to be able to bridge the gap from a technology demonstration to a flight-ready science instrument.”

Additionally, the two other concepts that were finalists in the JPL Next program will be funded to develop plans for other potential JPL-internal funds:

MiDDaS

JPL Next will fund the development of an investment plan, working with the Foundry to examine potential direct infusion and use.

DARE

JPL Next will fund a plan of modified scope that may be integrated into an autonomy capability development currently underway. It is recognized that this project provides a starting point for infusing autonomy architectures into JPL mission designs.

“The JPL Next projects within OTIS [Office of Technology Infusion and Strategy] continue to advance capabilities that will bring fundamental strategic benefit to NASA and JPL,” said Associate Lab Director for Strategic Integration David Gallagher. “We look forward to seeing the TOLIMAN team push the boundaries of exoplanet exploration.”

Selections for the JPL Next Project Phase were finalized after considering the board review material and inputs from stakeholders, with final selection by Gallagher.

The JPL Next Program supports visionary system concepts that will change how JPL explores the universe. The program consists of Accelerator, Concept, and Project Phases.

To learn more about each team and the JPL Next program please visit:

<https://spacetech.jpl.nasa.gov/next/>



Left to right: Jonathan Moges, Shonte Tucker, and Devin Johnson.

Finding the B.E.S.T. Way Forward

By Taylor Hill

Data Scientist Jonathan Moges joined the Black Excellence Strategic Group (B.E.S.T.) in 2020 partly due to the isolation brought on by the pandemic, and partly in response to the murder of George Floyd.

“I needed a community to lean on – a community that sees me, gets me, and understands my shared pain,” Moges said.

Shonte Tucker, Deputy Section Manager for Spacecraft Mechanical Engineering (325), joined B.E.S.T. on day one of the group’s [formulation](#) – after years as a proud member of the previously named African American Resource Team (AART).

“Being a member of B.E.S.T. gives me a special feeling of community,” Tucker said. “It also gives me an opportunity to support new employees as they acclimate to the JPL environment.”

And just six months into Devin Johnson’s career at JPL, B.E.S.T. is proving integral in providing a solid foundation for the systems engineer to find his place on Lab.

“As a Black man in my first job out of college, 3,000 miles away from anywhere I’ve ever lived, I was a bit scared as I began my job,” Johnson said. “I was in search of a community that I could learn from, where I wouldn’t feel judged but welcome. And that is exactly what B.E.S.T. did.”

The stories and timeframes are different, but the desire to join a community aimed at supporting Black JPLers and lifting one another up is a narrative that gets at the core of B.E.S.T.

In honor of Black History Month, we asked members Moges, Tucker, and Johnson to talk about their goals coming out of the pandemic, the group’s role in supporting JPL’s Office of Inclusion, and why B.E.S.T. is crucial on Lab.

Coming out of the pandemic and looking into the future, what is your vision for B.E.S.T., and its place in the overall Lab community?

Jonathan Moges, B.E.S.T. president: There are two main pillars that I value at B.E.S.T. – to make all Black JPLers feel welcomed and uplifted, and to strengthen key partnerships, including the Office of Inclusion, our fellow ERGs [employee resource groups], and other communities at JPL. As of 2021, Black or African American JPLers represent about 3 percent of the Lab’s population. I’d love to see B.E.S.T. grow and strengthen the community beyond a support network and support the Lab with strategic guidance in other functions like talent recruitment and employee retention.

Shonte Tucker, B.E.S.T. Steering Committee member: As B.E.S.T continues to grow in membership and visual presence, I would like to see B.E.S.T play a very supportive role in JPL’s DEIA Strategic Plan execution. I would also like to see B.E.S.T continue to be the change we wish to see in the Lab.

Devin Johnson, B.E.S.T. events coordinator: As co-events coordinators, Joey [Jefferson] and I have a goal to recover from the virtual world of the last couple of years, and get B.E.S.T. back into the swing of things with more in-person events. There are so many new employees at JPL that entered during a time where they couldn’t meet anybody face to face, which makes it extremely hard to build connections (coming from my experience as a previous virtual JPL intern). Even those who have been at the Lab for years have weakened relations with their fellow B.E.S.T. members and the rest of the Lab. We are aiming to come back from this bigger and better than ever before, with new and different events to keep the community engaged.

With the recent creation of JPL’s Office of Inclusion, how do you see B.E.S.T. supporting inclusion at the Lab?

Tucker: B.E.S.T will play a key role supporting JPL’s DEIA Strategic Plan. Two strategic goals outlined in the plan are: diverse community, and equitable opportunities. B.E.S.T will be an organization individual contributors and managers engage with to build a wider network, and create a more inclusive workforce. Further, B.E.S.T will continue to provide leadership opportunities within the organization that will help members develop important skills – like event/activity/schedule coordination, effective communication, and budget management – preparing them for leadership roles in their respective organizations, flight projects, and R&D and technology tasks.

Moges: B.E.S.T.’s role strongly aligns with the Office of Inclusion’s strategic goals of a diverse community and equitable opportunity. By having lab-wide and community wide events, we welcome all to understand Black culture and the Black experience at JPL. We also partner with other communities to broaden our understanding of each other and foster more community. Equitable Opportunity is helped by our events and community as an ERG. By having members across experience levels, line and project roles, and managers and individual contributors, we create a safe space to share experiences and equip those new to JPL with the understanding to advocate for themselves, be comfortable as themselves, and seek out mentors to help support their careers.

The Lab held its first Juneteenth event, sponsored by B.E.S.T., this past summer. How did you feel that event went, and how would you like to see that grow?

Johnson: In 2022, we threw a huge celebration on the Mall for Juneteenth - a holiday recognized for the day that the last slaves in the Confederacy (in Galveston, Texas) learned that they had been emancipated. This event included a barbecue, music, and a huge dance party, which are all things we plan to continue this year and the years to come. This is a huge event as we get to spread history and knowledge to everyone else at JPL while getting everyone to celebrate with us and understand the importance of the holiday.

Moges: Personally, the Juneteenth celebration event has a special place in my heart. Last year, we celebrated Juneteenth with JPL for the very first time and doing the electric slide on the Mall was just the cherry on top. Without spoiling anymore, I can share that I am always in awe of the upcoming ideas the committee has in store and plans to execute.

To new employees of the Lab, what are the most important things you'd like them to know about B.E.S.T.?

Tucker: I want them to know that B.E.S.T. represents a community of people who stand ready to support them in their acclimation to the Lab, and to the local community. We want people who are new to the area to know we are a friendly and fun-loving group, and we look forward to connecting with them.

Johnson: As a new employee myself, I want to encourage everyone to just reach out if you are interested in anything we do, our purpose, our mission, or just want to learn more. I got involved within a couple of months because I wanted to get to know more people at the Lab and be able to support other employees who look like me while also being able to receive that support. The biggest thing is that we love, support, and appreciate allies joining B.E.S.T. as well. As an ERG, we are here to aid each other, provide community, and fight for inclusion and equity across JPL, and there are no restrictions on what race, religion, gender, or sexual orientation you have to be to want the best for your fellow coworkers!

How can employees join B.E.S.T or find out more information?

Moges: I highly encourage any employee who is curious about joining, seeking volunteer opportunities, or want to learn more of what we do to please reach out to us.



Events



Von Karman Lecture - To Boldly Go Where No Robots Have Gone Before: Solar System Exploration with Autonomous Robots at JPL

Thursday, March 9
7 to 8 p.m.

[Watch on YouTube](#)

The Perseverance rover, which landed on Mars in February 2021, has the most advanced autonomous driving capability ever flown to Mars. Having such an advanced capability contributes to the rover in its challenging mission to discover signs of life that may have existed on Mars in a distant past. This talk provides an overview on the current research and development efforts on robotics autonomy at JPL, with an emphasis on enhancing the safety, efficiency, and performance of robotic mobility through the applications of risk-aware decision making and machine learning.

- **Speaker:** Masahiro Ono, Robotic Mobility Engineer, NASA/JPL
- **Host:** Brian White, Office of Communications and Education, NASA/JPL
- **Co-host:** Rachel Etheredge, Lead Producer – The Studio, NASA/JPL

JPL Family News

Retirees

The following JPL employees recently announced their retirements:

50+ Years:

Anthon J. Rasmussen, Section 3314, 52 years

40+ Years:

Glenn E. Campbell, Section 2680, 48 years

Phillip R. Morton, Section 4000, 43 years

David E. Brinza, Section 5150, 41 years

30+ Years:

James Grimes, Section 312B, 39 years

Emma M. Ramos, Section 4020, 38 years

Grace Tan-Wang, Section 3900, 37 years

Chengchih Chu, Section 3430, 35 years

William K. Reinholtz, Section 393A, 35 years

Patricia Beachamp, Section 3000, 34 years

Patricia Thiennes, Section 2503, 33 years

20+ Years:

Dean Ines, Section 5120, 27 years

Cynthia Williams, Section 2310, 25 years

Thomas Brown, Section 5143, 22 years

Mary M. Soria, Section 386F, 22 years

10+ Years:

John Howard, Section 1841, 18 years

William H. Daffer, Section 329D, 15 years

Marc Goettel, Section 1000, 11 years

Passings

Passings must be submitted through Human Resources, which coordinates with the family of the deceased.

Winston Gin died on Feb. 10, 2022 at the age of 93. He worked at JPL for 42 years, retiring Dec. 14, 2001.

Gin joined JPL shortly after the USSR launched Sputnik 1 to start the space race in the late 1950s. He worked as a manager in the Solid and Liquid Propulsion section from 1963 to 1984. He was administrative assistant to the deputy director from 1984 to 2001. While at JPL, Gin earned a U.S. patent for controlling solid fueled rocket vehicles and designed propulsion systems for interplanetary probes.

As a veteran of the Korean War, Gin is buried at Fort Logan National Cemetery in Denver, Colorado.

He is survived by his son, Robert Gin.

Awards & Honors

JPLers often Dare Mighty Things, and nearly as often earn awards or professional designations. JPL Space will periodically feature a roundup of recent honorees. Please join us in congratulating your accomplished colleagues.

David Miller

Election to the National Academy of Engineering

For contributions in control technology for space-based telescope design, and leadership in cross-agency guidance of space technology.

- [Full story](#)

Erik M. Conway

American Association for the Advancement of Science, Fellow

Election as a Fellow honors members whose efforts on behalf of the advancement of science or its applications in service to society have distinguished them among their peers and colleagues.

- [Full story](#)

Shouleh Nikzad

American Astronomical Society's Joseph Weber Award on Astronomical Instrumentation

For her pioneering contributions pushing the boundaries of ultraviolet/visible photon-counting charge-coupled devices, her sustained infusion of related technologies across multiple fields, her diligent engineering leadership, and her consistent and attentive mentoring of early-career instrumentation researchers.

- [Full story](#)

Babette Christelle Tchonang

2022 EuroGOOS Kostas Nittis Medal

Awarded annually to early-career marine scientists for outstanding contributions to the operational oceanography and broader ocean observing fields.

- [Full story](#)