



# SOMOS NASA | We Are NASA

## SEPM Esquina

¡Hola! Ames community,

2019 was a stellar year for the Ames Hispanic community. Numerous outreach events connected us with hundreds of underrepresented students and underserved families. Volunteers shared about the communities they came from, highlighted their path to NASA, and demonstrated the possibility and reality of Hispanics working for NASA and contributing to our Nation's space exploration program.

Many in the Ames Hispanic community were also recognized for outstanding achievements with both Ames Honor Awards and external awards, including the Federal Employee of the Year Awards.

As the Special Emphasis Program Manager (SEPM) for Hispanics, I have the distinct honor and privilege of supporting community outreach initiatives and recognition of our community by serving on a co-lateral detail with the NASA Ames Office of Diversity and Equal Opportunity (ODEO). The SEPM aspires to strengthen Center recognition of the contributions made by Hispanics and improve in identified areas of concern across the following areas:

### ■ Advice and Education

Provide advice and education to Center and Agency management, supervisors, and employees.

### ■ Workforce Interface and Integration

Help to create more inclusive work environments, thereby improving employee morale and retention, increasing employee engagement in Agency/Center missions, and enhancing career opportunities.

### ■ Monitoring and Workforce Data Analysis

Monitor employment policies, practices, and procedures and analysis of data to determine whether Hispanics are fully and successfully participating in the Agency and Center missions.

### ■ Community Outreach and Recruitment

Serve as a liaison for professional advocacy and community-based groups, as well as education organizations and institutions.

### ■ Measuring EEO Performance

Assess outcomes of SEP efforts.

Congratulations, Ames Hispanic community, for a successful year! I look forward to our continued efforts in 2020, highlighting our community as a vital part of the Agency and the Federal workforce.

Atentamente,  
Maria C. Lopez



“An Evening with NASA” - Page 6



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Photo Credit: NASA/Dominic Hart

2019 Program Highlights

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## Annual Alum Rock Union School District (ARUSD) “An Evening with NASA”

by Andres Martinez, Hispanic Advisory Committee for Employees - Chair

For the past four years, the Hispanic Advisory Committee for Employees (HACE) and several other Ames employees have supported the Annual Alum Rock Union School District (ARUSD) event “An Evening with NASA.” In April 2019, the event featured 35 STEM activities supported by over 90 Silicon Valley professional volunteers. Over 300 families were represented, with more than 1,400 people in attendance.



### An Evening with NASA Participants

ARUSD is in East San Jose, and close to 90% of the students are from low-income families. The school district serves a disadvantaged community that is not usually visited by role models such as engineers and scientists. This indeed was an event with significant impact, as students and their families learned about possible career opportunities at NASA and in Silicon Valley. For HACE, we have great satisfaction inspiring the next generation of future leaders.

Planning for the 5th Annual ARUSD “An Evening with NASA” will occur over the next couple of months, now as an official NASA event. All are welcomed to contact Andres Martinez ([andres.martinez@nasa.gov](mailto:andres.martinez@nasa.gov)) to be a part of this worthwhile community outreach.

### SOMOS NASA | We Are NASA - 2019 Highlights

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**Visit <https://eo.arc.nasa.gov> to learn more about the Ames Office of Diversity and Equal Opportunity!**



## Hispanic Heritage Month Celebration with Colonel George D. Zamka, USMC, Ret. and NASA Astronaut, Ret.

The Ames Office of Diversity and Equal Opportunity (ODEO) along with the Hispanic Advisory Committee for Employees (HACE) and the Ames Veterans Committee (AVC) held a very special Hispanic Heritage Month celebration with Colonel George D. Zamka, USMC, Ret. and NASA Astronaut, Ret. on October 9, 2019 in the Syvertson Auditorium.

The nationwide theme for Hispanic Heritage Month 2019 was “Hispanic Americans: A History of Serving Our Nation” and Colonel Zamka’s extensive service to our Nation made him the perfect speaker on the focus. Zamka highlighted his career with the United States Marine Corps and as a NASA astronaut completing spaceflights STS-120 and STS-130.

Zamka’s experience with the United States Marine Corps entailed serving as a second lieutenant, flying in overseas deployments to Japan and Southwest Asia, flying 66 combat missions over occupied Kuwait and Iraq during Desert Storm, and serving as a Forward Air Controller with 1st Battalion, 5th Marines and the



**Presentation at the Ames Syvertson Auditorium**

Photo Credit: NASA/Dominic Hart

31st Marine Expeditionary Unit in the Western Pacific before retiring from the Marine Corps in August 2010.

Zamka was selected as a pilot by NASA in June 1998 and reported for astronaut candidate training in August 1998. He had various technical and leadership roles in the Astronaut Office, including space rendezvous procedure development, Lead Astronaut for Shuttle Training, Shuttle landing and rollout Instructor, and Lead Astronaut for Shuttle Systems. In 2007, he completed his first spaceflight as pilot on STS-120. For his second spaceflight, Zamka commanded the crew of STS-130, which flew in February 2010. Colonel Zamka has logged more than 692 hours in space. In March 2013, Zamka retired from NASA and he is currently an Assistant Vice President and F-5 pilot with Tactical Air Support Inc., a company which provides combat training sorties and services to the Navy, Air Force and Marine Corps.

The Ames community was enthralled by Zamka’s distinguished service and his strategies for overcoming challenges along the way. A follow-on meet and greet reception was held for the Ames community to take pictures with Zamka and share their passion for space exploration.



**Follow-on Meet and Greet Reception**

Photo Credit: NASA/Dominic Hart

# Nuestras Estrellas | Our Stars

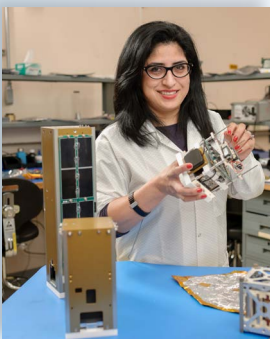
## 2019 AWARDS AND RECOGNITION



**Andres Martinez**  
**Ciencia, Honor y Cultura**  
(Science, Honor, and Culture)  
Senate of the Republic  
of Mexico



**Jessica Marquez, Ph.D.**  
**Outstanding Technical  
Contribution**  
Women of Color in STEM



**Ali Guarneros Luna**  
**Most Promising Engineer**  
- **Master's**  
HENAAC



**Elisban Rodriguez**  
**Ames Safety Award**  
ARC Safety and Mission  
Assurance Directorate



**Maria C. Lopez**  
**Federal Employee of the Year**  
- **Service to the Community**  
San Francisco Executive Board



**Carolina Rudisel**  
**Federal Employee of the Year**  
- **Equal Employment  
and Diversity**  
San Francisco Executive Board  
**Diversity and Equal  
Opportunity**  
Ames Honor Award



**Gabriel Lozano**  
**Administrative Professional**  
Ames Honor Award



**Albert "Chris" Maese**  
**Supervisor/Manager**  
Ames Honor Award





Group/Team:  
**TechEdSat**  
*Including Ali Guarneros Luna*  
**Ames Honor Award**

Group/Team:  
**Ames Federal Employees Union (AFEU)**  
*Including Suzanne Meyer, Sandra Ramirez,  
and Janette Rocha*  
**Ames Honor Award**



Group/Team:  
**Scientific and Technical Information (STI)**  
*Including Ivan Alvarez, Diana Frontella,  
Gregory Josselyn, Maria C. Lopez,  
Karen Moze, and Robert Padilla*  
**Ames Honor Award**



## AztechSat-1

by Andres Martinez,  
Hispanic Advisory Committee  
for Employees - Chair

NASA Ames Research Center is the lead Center for the first spaceflight project in collaboration between NASA and Mexico. NASA and the Mexican Space Agency (AEM – Agencia Espacial Mexicana) currently have a non-reimbursable Space Act Agreement for the purpose of investigating a novel form of communications for CubeSats. In the agreement, NASA was responsible for providing mentors, the use of our engineering evaluation laboratory, and the ride to space. The four NASA mentors included three members from Ames' Hispanic Advisory Committee for Employees (HACE) and one from JSC's Hispanic Employee Resource Group (HERG). The Mexican Space Agency is also providing two mentors.

The AztechSat-1 CubeSat technology demonstration provides NASA with a valuable opportunity to test economical, commercial off-the-shelf components which may be useful in future space missions. AztechSat-1 will demonstrate inter-satellite communications using Globalstar, the low Earth orbit (LEO) satellite constellation for satellite phone and low speed data communications. Success will be achieved by proving an efficient means to communicate with small satellites, downloading data in hours, rather than weeks, potentially decreasing mission costs by reducing the number of required ground stations.

The project, kicked off in July 2017, was led by the Universidad Popular Autónoma del Estado de Puebla (UPAEP), in Puebla, Mexico, and provided a



**Jose Cortez of NASA Ames (left) and Joel Contreras of UPAEP (right), conduct final integration of AzTechSat-1 into the Nanoracks CubeSat Deployer (NRCSD) - Photo Credit: NASA**

multidisciplinary team of students and professors the opportunity to manage a spaceflight by designing, building, and delivering a flight certified AztechSat-1 unit. The hands-on experience included designing and building all required ground segment systems and operational processes. Ultimately, the project provided students with invaluable lessons learned and acquired skills they can draw upon in the workplace, after graduation.

AztechSat-1 was launched on SpaceX-19 on December 5, 2019 and soon after, was delivered to the International Space Station (ISS), where it is scheduled to be deployed during the week of February 12, 2020. While it is Mexico's second small satellite since 1995, it is the first satellite, designed and built by students in Mexico, to be deployed from the ISS.

AztechSat-1 is only a 10 cm<sup>3</sup> cube, but the mission represents the start of the space age in Mexico. It has generated an incredible amount of interest across academia, and both the private and public sector. The project will make history and NASA Ames Research Center is playing a key role. Ad astra México.

## Message from the Hispanic Advisory Committee for Employees Co-Chair

by Vidal Salazar

Many of us have that memory as kids: “What do I want to be when I grow up? Well, I want to be an astronaut! I want to travel through space and study the planets!” I remember that like it was yesterday, my teachers asking me and listening, as if I was reciting just a dream, one that nobody ever thought would be possible.

It is funny how things happen. A dream like this doesn’t come easy for a Latino kid, a kid with limited resources and from a foreign country...an immigrant. Achieving the dream wasn’t easy and it required a series of steps that put me on the right path. Each step brought me closer to my goal, to what I always wanted to be, what I always wanted to do, and along the way, there were always those role models who showed me that it was possible. Role models are important for every child, teenager and adult. They are as necessary as water for our bodies and mind; without them, we don’t have a goal, we don’t have direction and we can get lost.



Vidal Salazar, HACE Co-Chair

My goal with the Hispanic Advisory Committee for Employees (HACE) is not only to gather and represent the Latino workforce from Ames, but to raise awareness of the Ames community by showcasing our Latino roots with events, talks, presentations and celebrations of our Latino heritage. We all have the responsibility to the next generation of Ames workers, to represent them and help them achieve their dreams.

HACE has been my rock. This group has shown me the importance of representing the Latino community not only at work, but also outside of the walls of Ames, to the community that surrounds us. We have the privilege to inspire and groom the next generation of scientists and researchers that will continue to enrich the Ames culture and Latino presence across the Agency. Outreach is important, it is needed, and we cannot afford to lose role models. We need to show how proud we are of the work we do at Ames, to excite other students about “one day working for NASA.” That was me, the kid who wanted to be an astronaut. Did I become an astronaut? Well... they say it’s never too late! In the meantime, with a smile on my face and the dreams in my heart, I will continue to support my role models, astronauts, NASA and the United States’ successes in earth science and space exploration.







## Career Spotlight: DR. JOSEPH RIOS - UTM Chief Engineer



What technology can make it possible to deliver transplant organs in a timelier manner, inspect wind towers more quickly and safely, clear car accident debris from the road faster, and get pizza to your house while the pizza is hot? Drones. People have already shown how beneficial they can be for all those cases and more. But how do we safely enable all those things to happen together in the air, while also staying clear of more traditional flights and keeping everyone on the ground safe? That is where NASA's Unmanned Aircraft Systems (UAS) Traffic Management (UTM) concept comes into play. Unmanned Aircraft Systems, better known as "drones," are going to be flying more frequently in the coming years and NASA has been developing a way for them to stay safe in the airspace. By having all the pilots share flight information with each other and helping them understand the current and future rules of the airspace, UTM lets drones get work done in a safe and efficient way.

Dr. Joseph Rios serves as the Chief Engineer for NASA's UTM Project. He is responsible for coordinating the technical research of managing small drones at scale in a decentralized manner. UTM originated from the NASA Ames in Silicon Valley, Joseph's home Center, and he leads the technical effort of transitioning UTM from a concept to a field-tested system with broad support from the Federal Aviation Administration (FAA) and the drone industry.

Joseph has been with NASA since 2007, and his work generally focuses on computational and data issues related to the National Airspace System. Prior to UTM, he worked on large-scale optimization models for traffic flow management, data exchange schemas for air traffic, and tools for general aviation pilots flying in remote locations. His extensive knowledge of these projects has provided him with a unique perspective on how to safely, efficiently, and equitably move traffic through the airspace and the primacy of data in that process.

After graduating with a dual undergraduate degree in pure mathematics and film/video theory, Joseph taught high school math in Papua New Guinea via the Peace Corps. Once he returned home, he continued his teaching career at the high school level and proceeded to earn his M.S. in Computer Science from Cal State Hayward, followed by a Ph.D. in Computer Engineering from UC Santa Cruz. He began his NASA career as a summer intern and transitioned to a civil servant. Joseph enjoys time with his family, learning new things, and watching mediocre movies. The diversity of his experience plays an integral role in the strategic and day-to-day operations Joseph executes as the Chief Engineer for the continual success of UAS Traffic Management.



**Above: May 2019. UTM TLC4 Shakedown Tests in Reno, NV**  
**Header Image: Aug 30, 2018. NASA Administrator Jim Bridenstine on left and Joseph Rios, Ames UAS Traffic Management Lab**  
Photo Credits: NASA/Dominic Hart