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# ADVANCING PHILANTHROPY



## José Hernández

The former astronaut is  
the opening keynote speaker  
for AFP ICON 2025

# Taking Flight—and Helping Others Do the Same



**As the opening keynote speaker for AFP ICON 2025, former astronaut José Hernández shares how his life experiences have enabled his success in life, including launching his own foundation for young people in STEM.**

By Ed Finkel

**T**he son of Mexican American migrant farmworkers who toiled in the fields himself as a young man, José Hernández had a big dream: To one day become an astronaut.

In 2009, that dream came true when he served as the flight engineer aboard the Space Shuttle Discovery as it flew to the International Space Station for the 14-day STS-128 mission.

“It’s only an 8½-minute trip to space,” Hernández says. “Once you’re up there, you’re up to 3 Gs [three times the force of gravity] across your chest. ... It’s very uncomfortable. After 8½ minutes, you’re ready for this ride to be over. Then we reach main engine cutoff, and the 500-pound gorilla disappears. Now, you’re loosey-goosey in your seat, but you’re in zero Gs, and your seatbelt’s holding you onto your seat. And you’re going around the world at 280 miles above ground, at 17,500 miles per hour, which means once every 90 minutes. Amazing.”

Since his time in space, Hernández has continued to serve: as a legislative analyst at NASA Headquarters in Washington, D.C., as a candidate for U.S. Congress

at the firsthand urging of former President Barack Obama, and—since 2012—as an aerospace engineering consultant with the company he founded, Tierra Luna Engineering. In his spare time, he has also written three books, founded a vineyard, and later used his grapes to launch a wine label.

Now, as the opening keynote speaker at AFP ICON in Seattle, April 27–29, Hernández shares those experiences and how the values his family taught him have enabled his success in life, including launching his own foundation to encourage young people to consider STEM careers.

“I know the ins and outs of fundraising, and the trials and tribulations involved with that,” he says. “It’s a lot of hard work, and a lot of unsung heroes who are doing God’s work in making our world better. My salute to everybody that’s involved in this type of work.”

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## BEGINNINGS

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Hernández’s early life was a nomadic one. His parents—who had third-grade educations—moved to different





parts of California in the spring, summer, and fall with their four children before heading home to Mexico in the winter, where Hernández remembers doing schoolwork at his grandmother's kitchen table. By the time Hernández was in second grade, the family had made Stockton, California, their permanent home, at the urging of a caring teacher.

The path to Hernández's space exploration dream began in fifth grade, when Apollo 17 went to the moon and Gene Cernan became the last astronaut to walk on its surface. Hernández voiced the desire to become an astronaut, and his father sat him down at the kitchen table to give him a "five-ingredient recipe" for success.

"First, determine your purpose in life," Hernández recalls. "Second, recognize how far you are. Third, draw yourself a road map, so you know how to get there. Fourth, prepare yourself accordingly. ... And fifth, develop a work ethic second to none."

His father added, "The same effort you put out picking fruits and vegetables on Saturdays and Sundays, and seven days a week during the summer, you put that effort into your books."

Hernández added a sixth ingredient: perseverance, which saw him through 11 rejections from the space program. "If you really believe in your dream, in your purpose in life, you keep at it and chip away at it," he says. "Keep preparing yourself more and more, and never give up. And eventually, I think you'll get there."

After graduate school, Hernández took his first step toward his dream by going to work at Lawrence



Livermore National Laboratory on an X-ray laser to be deployed in space to defend against a Soviet nuclear attack, part of the Reagan-era Strategic Defense Initiative (aka "Star Wars"). "I just knew that we were going to send hardware into space," he recalls. "I said, 'Man, NASA is going to look at this favorably.'"

But five years later, the Berlin Wall came down and the Star Wars project was canceled. Hernández suggested to his boss that perhaps the X-ray transport models they had been developing could be used for something else. His boss agreed, and in time, they shifted their focus to create the first full-field digital mammography system for earlier breast cancer detection. "We proved to the U.S. Food and Drug Administration that our [digital] images had much more information," he says. "More information means earlier detection. Earlier detection means saving lives."

Hernández's final assignment at Lawrence Livermore involved serving as deputy program manager of the Highly Enriched Uranium Implementation program, which helped

## Recipe for Success

1<sup>st</sup>

Determine your purpose in life.

2<sup>nd</sup>

Recognize how far you are.

3<sup>rd</sup>

Draw yourself a road map, so you know how to get there.

4<sup>th</sup>

Prepare yourself accordingly.

5<sup>th</sup>

Develop a work ethic second to none.

6<sup>th</sup>

Persevere.



the newly formed Russian Federation secure its nuclear weapons stockpile so it didn't fall into the hands of terrorists or hostile nations.

"We gave them resources, money, but also talent," Hernández says, adding that he traveled 25 times to Russia and learned the language with a one-on-one tutor—which proved to be strategic. "I had heard in the news ... that the newly formed Russian Federation had signed an agreement to build what was going to be the International Space Station."

Hernández figured learning Russian and having experience working with Russians could only help his chances to go there. "I think that's what made me stand out," he says. "Finally, after the 12th attempt, I got selected as part of the 19th class of NASA astronauts."

## UP IN SPACE

By the time he got the call, Hernández had left Lawrence Livermore and was serving as chief of the materials and processes branch at Johnson Space Center in Houston. (One of his most important projects was serving as part of the investigation into the root cause of the Space Shuttle Columbia accident.)

When he reported to Johnson Space Center, Hernández was 42 years old, the second oldest of his class. At that age, it was probably not long before his window of opportunity would have closed. While "I certainly did a happy dance," he says, "a lot of people think that I [must have] felt like I had won the lottery. ... My attitude was, 'It's about frickin' time.' I had paid my dues, and I had done a lot to get myself prepared, and I was ready."

For the next two years, as an astronaut candidate, Hernández studied manuals and textbooks on topics like orbital mechanics and flight dynamics. He also learned how to pilot a jet and operate the space shuttle. "I had thought the hard work was over with," he says. "Every Friday for those two years, you had an oral test, a written test, a simulator test. And you'd better pass everything, or else you get a pink slip the following Monday."

After those two years, Hernández got a technical assignment, which involved continued training—but less daily stress—while waiting to get assigned to a mission. Once assigned, he trained with six crewmates-to-be. Then, on August 28, 2009, the group blasted off as the second-to-last mission to complete the construction of the International Space Station, where they spent 14 days installing seven tons of equipment. Sixteen countries were involved, although the U.S. and Russia were the main participants, he recalls.

As the flight engineer, Hernández was third in command. "The flight engineer is the coveted seat if you're not a pilot—that's the most coveted as a mission specialist," he says. "If anything goes out of tolerance, you peel off with the pilot, left or right, who owns the system. And you work the problem. You're the expert."

Upon returning to Earth, Hernández spent a year in Washington as a legislative analyst "so I could learn how NASA works in D.C. And I preached the good gospel of space exploration to our legislators," he says. That's also when he met Obama.

After his congressional run, in 2012 Hernández began Tierra Luna Engineering, a four-person aerospace consulting firm. Among its projects has been serving as a technical liaison to help Mexico buy three commercial satellites from Boeing, ensuring that the product met the country's operational and design requirements.

Tierra Luna also has undertaken software development and managed hardware development for Lonestar Data Holdings, which is building a lunar landing device containing a mini-data center. “In two years, we’re going to build and send up into space, no kidding, a five-terabyte system, which is a commercial, ultra-secure data repository center,” Hernández says.

## DOWN TO EARTH

Hernández has always given back. He received a college scholarship from the League of United Latin American Citizens, and after graduate school, he returned to help the organization—as a member, then president of the local council in Stockton, and then national vice president. “We’re always raising money at the local level,” he says. “Every year, we have a crab feed, and all that money goes to scholarships; and then we have a dinner and award the scholarships.”

During graduate school at University of California-Santa Barbara, Hernández joined a student

organization called Los Ingenieros, created by the nationwide Society of Mexican American Engineers and Scientists (now Latinos in Science and Engineering). After receiving his degree, he created a Silicon Valley chapter of the society, became its president, then a national board member, and finally national president. The society holds a national symposium with a job fair of about 100 booths. “College kids come in with their resumes and shop around for career and summer internships,” he says.

Then, in 2006, Hernández founded his own nonprofit, called the José M. Hernández Reaching for the Stars Foundation, to tap into the excitement he felt after being selected as an astronaut trainee. “We preach the good gospel of STEM careers in the Central Valley of California,” he says. “We do this in three ways.”

For starters, the foundation invites more than 1,000 fifth graders to a “science blast event” at the University of the Pacific, Hernández’s undergraduate alma mater. “We expose them to a one-day, hands-on ‘exploratorium’ experience to wake up their scientific

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curiosity," he says. "Why fifth graders? Because that's the age I decided I wanted to be an astronaut."

Secondly, the foundation hosts a five-week Summer Academy for 7th through 12th graders, also at University of the Pacific, to prepare them for their next year's science and math curriculum. There's also another purpose: "We want them to realize that ... a college campus is nothing foreign, that they belong there, and we expose them to the college atmosphere," he says.

The third prong is to bestow first-year scholarships on graduating students, "and for that, you require a lot of fundraising in the community," Hernández says. "I'm very proud of this foundation's work. We have an 18-member community board. They're the ones that run everything. I just show up when they tell me to show up, for fundraising or speaking to the kids. That's the part I like the most."

Hernández' other fundraising experience came when he ran for Congress in 2012, in a district with a freshman Republican that leaned Republican by 12% in terms of voter registration. He lost by 1.5%. "I gave [his opponent] a good run for the money," he says, but that campaign was the beginning and the end of his political career.


"Raising money for campaigns is tough," he adds. "I raised \$2 million, \$50 to \$100 at a time. I was always on the phone, on the phone, on the phone, dialing for dollars. And it was tough work. ... I love fundraising for good causes, but fundraising for political causes, it's even tougher. Because you've got to convince people to let loose of their money [and] to believe in a person for political office."

That experience, however, taught him to be honest with those to whom you're making an ask, and not overpromise what the donation will accomplish. "But also understand what's important to the donor and ... emphasize that during your conversations, so that you can maximize the donation," he says. "Before you start talking, listen. And use what you learn, when you start talking, to maximize that donation."

Hernández's three books are titled *Reaching for the Stars*, an autobiography that became a Prime Video movie called "A Million Miles Away" starring Michael Pena (which is one of only two biopics about an astronaut, the other being about Neil Armstrong); *From Farm Worker to Astronaut*, a two-part story of his life aimed at adolescents; and *The Boy Who Touched the Stars*, an illustrated, bilingual children's book. He's now at work on a fourth book.

Owning a vineyard has brought Hernández back to his roots. His parents help him manage it. "You can take the boy out of the farm, but not the farm out of the boy," he says. "My therapy is to go out in the vineyard, and get on the tractor, and plow the fields, mow the lawn."

After taking a couple of winemaking classes, Hernández decided to do something with his grapes other than simply sell them at market and founded the Tierra Luna Cellars wine label, which offers three varieties. "I said, 'This isn't rocket science. I can do this.'"

Of course, José Hernández can do rocket science, too. 

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