

"My mantra is 'Querer es poder.' I believe everyone has the potential to do it. They just have to believe in themselves enough to actually do it."











Curtiss N-9H

Orlando Figueroa Former Director of Mars Exploration at the National

Aeronautics and Space Administration (NASA)



Known as the "Mars Czar."

Smithsonian Latino Center

- A paratrooper, postman, and patriot.
- Became the first Puerto Rican pilot, the first Hispanic fighter pilot in the United States Marine Corps, and the first air mailman in Puerto Rico.

DESGUBRA

- Awarded a World War I Victory Medal, a U.S. Signal Corps Military Aviator Badge, and a Naval Aviator Insignia.
- Became a hero in Puerto Rico during the 1920s, traveling to many Puerto Rican cities by air with local townspeople celebrating his landings with live music and fireworks.
 Became known as "The Eagle of Sabana Grande."



Fun Facts:

- The famous portrayal of "Uncle Sam" on the left first appeared during World War I.
- Airplanes in World War I were first used for reconnaissance, a mission where they would fly above the battlefield and find out the enemy's movements and position.
- The Curtiss N-9H was a seaplane version of the famous Curtiss JN-4D trainer used by the U.S. Army Air Service during the First World War.
- The N-9H was withdrawn from the U.S. Navy inventory in 1927 after 10 years of service.

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Photo of Félix Rigau Carrera in his airplane in Sabana Grande, Puerto Rico provided by Roane Hunt. Curtiss N-9H photo provided by Smithsonian Collections.



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- Earned a bachelor's degree in mechanical engineering from the University of Puerto Rico at Mayagüez.
- Named Head of the Cryogenics Technology Section at the NASA Goddard Space Flight Center, located in Maryland, in 1982.
- Under Figueroa's leadership, NASA's Mars Exploration Rover project successfully landed some of the most advanced rovers ever created onto Mars in 2004!
- Retired from NASA in 2010 to start the Orlando Leadership Enterprise, LLC, an aerospace consulting company.
- Received numerous awards including the 2008 Smithsonian Latino Center Legacy Award.

🕗 Fun Facts:

- The first Mars Rovers (two robotic geologists, or rock scientists) were called Spirit and Opportunity.
- Each weighed almost 400 pounds, the weight of a lion!
- Opportunity can still be found on Mars.
- Mars is the fourth planet from the Sun. It is nicknamed the "Red Planet" because it has rust-colored dust on its rocky surface.
- The largest canyon on Mars would stretch from New York City to Los Angeles. That makes the Grand Canyon look tiny!
- Mars has our solar system's largest volcano, Olympus Mons. It is almost three times larger than Mount Everest, the tallest mountain on Earth!

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Orlando Figueroa photo courtesy of the Partnership for Public Service flickr page

"What I always say to... Latino parents is that we... should spend more time with our families and kids... challenging our kids to pursue dreams that may seem unreachable."

(R)

"When I was about 9 years old, I remember seeing some astronauts on TV... The American astronauts were getting ready for the repair mission to Skylab, and I drew a rough sketch of how I thought the EVA was going to be."



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Astronaut José Hernández First Mexican American Chosen to Travel to Space

- Worked in the Office of Legislative and Intergovernmental Affairs to help develop space policy and NASA's annual budget.
- Developed award-winning quantitative X-ray transport models that allowed for the development of human tissue absorbed dose models.
- Developed the first full-field digital mammography system for the earlier detection of breast cancer.
- Traveled on the STS-128 space shuttle mission where he oversaw the transfer of more than 18,000 pounds of equipment between the shuttle and the International Space Station.
- Currently President and CEO of PT Strategies LLC and Tierra Luna Engineering in Stockton, California.

"I was hoeing a row of sugar beets in a field near Stockton, California, and I heard on my transistor radio that Franklin Chang-Diaz had been selected for the Astronaut Corps. I was already interested in science and engineering, but that was the moment I said, 'I want to fly in space.'" - José Hernández

) Fun Facts:

- It took 136 space flights on seven different types of launch vehicles to build the International Space Station (ISS).
- The ISS weighs almost 1 million pounds including visiting spacecraft. That's as heavy as 500 elephants!
- The station's surface area is the size of a US football field!



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José Hernández photo courtesy of NASA. Quotes courtesy of interview by Nadra Kareem Nittle from ThoughtCo.

Smithsonian Latino Center

Dr. Pablo de León

Argentine Aerospace Engineer and Designer of the NDX-1 Space Suit



- Head of the space suit laboratory at the University of North Dakota.
- Leads several NASA-sponsored projects in space suit systems and human space flight.
- Author of *Historia de la Actividad Espacial en Argentina* which talks about the history of the space activities in Argentina from 1930 to 1980.
- Received the Orden de Mérito Newberiano medal, given by the Instituto Nacional Newberiano, the aerospace history institute of Argentina.

Fun Facts:

- The NDX-1 space suit, designed by de León, endures very cold temperatures and winds of more than 47 miles per hour!
- The prototype suit costs \$100,000.
 - The suit is made out of more than 350 materials, including touch honey comb Kevlar and carbon fibers to reduce its weight without losing resistance.

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Photo courtesy of NASA. Quote courtesy of Smithsonian Magazine's interview by Jeff Campgna.



"I cannot be a person that I am not... I was raised in a family of very strong women and I bring that because that's how I was raised."



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Dr. Yajaira Sierra Sastre

Puerto Rican Nanotechnology Scientist and Aspiring Astronaut

- Graduated with a bachelor's degree in chemistry from the University of Puerto Rico at Mayagüez.
- Earned a Ph.D. in nanomaterial chemistry at Cornell University while working as a high school chemistry teacher.
- The only Hispanic among six specialists chosen by NASA for the first Hawaii Space Exploration Analog and Simulation (HI-SEAS) project.



Fun Facts:

- Nanotechnology is the manipulation of matter on an atomic, molecular, and supramolecular scale.
- There are 25,400,000 nanometers in an inch. A sheet of newspaper is about 100,000
- nanometers thick.

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Photo courtesy of Hi-Seas.org and Yajaira Sierra Sastre. Quote courtesy of an EFE interview with Yajaira Sierra Sastre.

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Importance of culture and Identity

We all belong to a culture. One definition of culture is the sum of knowledge, beliefs, and behavior that we learn and pass on in our community. We usually express our culture in certain ways, like how we dress, what we eat, what we believe, and how we play.

Introduce your culture and identity in three words:

- 1.
- 2.
- 3.



Earned her undergraduate degree in Biology from the University of Costa Rica and her Master's Degree in Zoology from Duke University.

DESGUER

Involved in the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), the Ecological Society of America (ESA), SEEDS (Strategies for Ecology Education, Development and Sustainability), and Ninety Nines, the international organization of women pilots.

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Photo courtesy of The D Word Project: Creating a Niche for Diversity Interview with Raynelle Rino-Southon.





L

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LIFT: An upward force caused by the rush of air over the wings, supporting the airplane in flight.

- **PILOT**: A person who controls the airplane.
- RADAR: Beamed radio waves for detecting and locating objects. The objects are "seen" on the radar screen or scope.
- THRUST: A forward force.
- WING: Part of the airplane shaped like an airfoil and designed in such a way to provide lift when air flows over it.

• **ENGINE**: The part of the airplane which provides power, or propulsion, to pull the airplane through the air.

- **DRAG**: The component of the total air force on a body parallel to relative wind and opposite to thrust.
- GRAVITY: Force toward the center of the earth.

Aviation vocabulary challenge:

Find the words! W w S R M N R Е Ν G S G Ν Т L A Т F Μ R W Е Ν G Ν Е S 0 Ρ R U S R G Ν Ρ А L F Т R Е 0 F Е Т T А G Ρ ٧ G 0 С I 1 А D Α L 0 Т Q D Е Т S Ν I S Ν C Т н R U S Т Κ F Е L А R w 1 G 0 0 S U G Υ D 0 F 0 U S γ н 1 T Т т Т D R А G Ν 0 U Κ н R W R R D А

Check out the "How Things Fly" gallery at the National Air and Space Museum!

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Aviation vocabulary challenge:

Find the words!											
	W	I	М	Y	К	N	R	0	W	S	R
	т	Ν	G	S	I	G	А	Ρ	Ι	Ν	Е
	F	М	R	W	Е	Ν	G	I	Ν	Е	S
	0	Ρ	А	R	U	S	R	L	G	Ν	Ρ
	L	I	F	Т	R	Е	А	0	F	G	Е
	I	L	I	Ρ	А	D	V	А	G	0	С
	S	0	т	Q	D	Ν	I	S	Е	Ν	т
	С	Т	Н	R	U	S	Т	К	F	Е	L
	0	S	U	А	R	G	Y	W	I	G	0
	U	I	S	D	0	I	Т	Y	Н	F	0
	Т	D	R	А	G	Ν	Y	0	U	Т	К
	Н	Т	А	R	W	R	М	А	R	D	А

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