

Andrés Martínez

Earth Independent Operations (EIO), Domain Lead (Program Executive)
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NASA Headquarters



Andrés Martínez is currently the Earth Independent Operations (EIO) Program Executive within the Mars Campaign Office (MCO), which is part of the Moon-to-Mars Program in the Exploration Systems Development Mission Directorate (ESDMD) at NASA Headquarters.

Mr. Martínez was born in Jojutla, Morelos, Mexico and immigrated to the United States in 1974 at the age of ten. Mr. Martínez grew up in Echo Park, a neighborhood in Los Angeles, California and attended schools in the L.A. Unified School District. After graduating from California State Polytechnic University (Cal Poly) in 1990, he moved to Silicon Valley to pursue his engineering career.

Nothing truly prepares us for the complexities of human exploration missions to Mars. The combination of long durations, small crews, delayed communications, and limited abort options is unparalleled in human experience. Mars missions will inevitably face unanticipated anomalies and unavoidable communication delays of up to 20 minutes each way, along with periodic blackouts of up to two weeks. The iconic phrase, "Houston, we have a problem," will reach Earth 20 minutes after it is sent.

In response to these challenges, Andrés led an assessment that resulted in the creation of a new NASA program, Earth Independent Operations (EIO), dedicated to researching and developing integrated technologies that enable crews to effectively manage on-board situations without real-time ground support. As the EIO Program Executive, Mr. Martínez spearheads the development of systems leveraging advanced technologies such as artificial intelligence, machine learning, sensor fusion, high-performance spaceflight computing, and data visualization to mitigate risks associated with limited ground support.

Prior to this role, Andrés served as the ESDMD Robotic Precursors Program Executive, overseeing small spacecraft deep space missions and secondary lunar payloads. Andrés delivered four of the seven NASA-sponsored small spacecrafts launched on the historic Artemis I, with missions that continue to fill crucial knowledge gaps for human exploration. Two of these precursor robotics missions, BioSentinel and CAPSTONE, are still operational in deep space.

Mr. Martínez' journey with NASA began in July 2007 with the Constellation Program Data Systems team, and since then, he has held various positions in systems engineering, project and program management, leading over 30 spaceflight missions. Mr. Martínez' career prior to NASA was equally distinguished, with significant contributions in Silicon Valley, including roles at Xerox Corporation's legendary Palo Alto Research Center (PARC), co-founding GroupFire Inc., and senior leadership positions at Lawrence Livermore National Laboratory and Motorola.

Throughout his career, Andrés has been fortunate to receive numerous recognitions at the iconic places he has worked in his over 34 years in Silicon Valley, including being named one of the "2015 Top 20 Most Influential Latinos in Technology" by CNET en Español and receiving the "Professional Achievement Level II" award by the Hispanic Engineering National Achievement Award Conference (HENAAC) in 2018. In June 2019, Mr. Martínez was honored by the Mexican Senate with the "Science, Honor, and Culture" medal Award. In 2022, he was honored with an "Honorary Doctorate in Engineering" by the Universidad Popular Autónoma del Estado de Puebla (UPAEP) for his contributions to global space activities. At NASA, he has received various awards and recognitions. In 2024, he was bestowed the NASA Exceptional Service medal "for exceptional service in developing new technology to support space exploration through innovative programs that engage diverse populations from around the world".

Mr. Martínez has been married for 38 years to his wife Olga and together have two children, Andrés and Paulina, and a granddaughter, Melody.