



What if Mike Gruntman had not escaped the Soviet Union?



Images courtesy of Mike Gruntman

Mike Gruntman, USC Viterbi professor of astronautics and aerospace and mechanical engineering, has helped build one of the largest academic space engineering programs in the United States. It's the lifeblood of private space companies like SpaceX and Virgin Galactic. It's the home of the USC Rocket Propulsion Laboratory, which in 2019 launched the first student-built rocket to outer space. It's the first and only university to offer a B.S., M.S. and Ph.D. in astronautical engineering.

It's perhaps no exaggeration to say the department would not exist without Gruntman. But what if he had never escaped the Soviet Union?

In an alternate world, Gruntman should have been a favorite son of the Soviet space program. As a 3-year-old raised in Tyuratam — a secret location deep in present-day Kazakhstan — he was one of the world's few witnesses to the launch of Sputnik in 1957, the first man-made satellite. His father was the chief engineer who built the cosmodrome, or Russian spaceport, from which Sputnik launched.

But though he earned his Ph.D. in physics from the Space Research Institute of the USSR Academy of Sciences and worked as a researcher for the IKI and IPM institutes, Gruntman turned anti-communist at an early age. In 1984, he tasted tear gas for the first time, aiding the Polish Solidarity movement against

riot police imposing martial law in Gdansk. When the "cracks developed in the Iron Curtain," Gruntman found himself in a Dutch airport in March 1990. Three days later, with \$80 in his pocket, Gruntman walked into a new office and new life at USC.

Though Gruntman is not ready to share the exact details of his complex escape plan, he relied heavily on the support of colleagues and friends from six countries on three continents. One of these was Darrell Judge '63, Ph.D. '65, professor emeritus of physics and astronomy and astronautical engineering at the USC Dornsife College of Letters, Arts and Sciences. Judge, Gruntman recalled, helped him escape from the former Soviet Union and make the transition to the scientific community at USC.

"Darrell's generosity, hospitality and friendship have touched the lives of many people, including mine," Gruntman said. "As I started my life from scratch in the U.S., he warmly welcomed me to his group at USC and offered the hospitality of his home during my first week in Los Angeles."

Gruntman would go on to map the interstellar frontier of our solar system in 2008 (a project he began at age 24!) as part of the IBEX spacecraft team. But none of it would've been possible without first reaching a new terrestrial frontier in Southern California.