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Miguel Sánchez Peña (1925–2009) organizer of the space activities in Argentina ☆

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ABSTRACT

One of the most important and active pioneers of the space activities in Argentina was Miguel Sánchez Peña, an aeronautical engineer and an officer of the Argentine Air Force. Sánchez Peña was the organizer of Argentina's governmental space program in the 1970s and part of the 80s, and contributed immeasurably to the Nation's sounding rocket program. Born in Mendoza, Argentina in 1925, Sánchez Peña attended the Military Aviation School (Escuela de Aviación Militar) in Córdoba, and later the Air Force Engineering School. Graduated as an engineer in 1959 he was sent to the University of Michigan in the United States to complete his graduate studies earning a Masters of Science degree in Aerospace Engineering. There he had the opportunity to study with several future NASA astronauts such as Theodore Freeman, Edward White and James McDivitt. After his return to Argentina in 1961 he was put in charge of the Space Development Group (Grupo de Desarrollos Espaciales) of the Air Force in Córdoba. While with the Air Force he managed the development of a family of various sounding rockets for high altitude research. Sánchez Peña was also in charge of the first Argentine rockets launched from Antarctica in 1965, as well as the first tests on an Argentine-fabricated rocket (Orión) from Wallops Island in the United States, in 1966. The Orion was the first operational sounding rocket constructed in South America. In the middle of the 1970s Miguel Sánchez Peña was named president of the CNIE (National Space Research Commission). Starting with just a modest one-desk office at the Argentine Air Force headquarters, in only a few years he turned CNIE into a multi-center organization with several hundred employees, three operational launch centers across the country and a family of research rockets open to the international scientific community. He was also actively representing Argentina in many IAF congresses, and was a member of the International Academy of Astronautics. After leaving CNIE he became president of the Asociación Argentina de Ciencias Espaciales (AACE), an IAF Member organization which was the continuation of the space organization created by Teófilo Tabanera in 1951. Miguel Sánchez Peña was, without doubt, the most active president of CNIE and thanks to his vision, hard work and the international trust he created, his efforts made it possible for Argentina to participate in many cooperative space experiments with partners like France, Germany, Perú, the United Kingdom and the United States.

1. Beginnings

Miguel Sanchez Peña was born on 5th April 1925 at the Rivadavia Department in the Province of Mendoza, Argentina. While in high school he began as an apprentice under his father, a building contractor, but his vocation took a different path. He entered into the Military Aviation School in Córdoba

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Fig. 1. Sánchez Peña carrying Argentina's flag during a parade at the Air Force Academy.

to become an Argentine Air Force officer, where he graduated at the top of his class with the commission of Sub-Lieutenant.

He continued his studies at the Air Force Aeronautical Engineering School, also in Córdoba, and graduated in 1950 as an aeronautical engineer, receiving the Aerotechnical Institute Award for the highest grade of his promotion Fig. 1.

His first assignment was a modest one, at the IV Air Brigade in Mendoza, "El Plumerillo", where he undertook the supervision of maintenance tasks as part of the Technical Team IV as engineer at the airplane service/repair section. He also was an instructor of Algebra and Thermodynamics in the Technical School of Apprentices, and also taught in the laboratory of materials at the local School of Technical Education. It was during those days, when some of the non-commissioned officers and other friends, who also liked hiking, had formed the "Argentine Wings Brigade".

Given his hiking background during his times as a student, Sánchez Peña, now a First Lieutenant, was offered an opportunity to take part in the "First Expedition of Aeronautical Personnel to the Aconcagua," in 1955 becoming part of this expedition which climbed the highest mountain in the Americas (6998 m). Once there, the first radio transmission was conducted from its peak.

A few years later Sánchez Peña received a scholarship from the Argentine Air Force to pursue a Masters of Science degree in Aerospace Engineering at the University of Michigan, USA, where he met with some of the future astronauts of the Gemini and Apollo Projects such as Edward White, James McDivitt and Theodore Freeman. Sanchez Peña earned his masters degree in 1960.

2. First space assignments

Upon returning to Argentina in 1961, he attended courses at the Air Force Command and Staff School. He was later assigned to the Area of Material in Córdoba, in which he was designated Chief of the Space Development Team in the Institute of Aeronautical and Space Research (Instituto de Investigaciones Aeronáuticas y Espaciales, IIAE), where during the 1960s there was an important program in the development of indigenous sounding rockets.

Later, he was chief and project director at the Department of Design and Production, where he took charge of the development of the Gamma Centaur, Orion, Canopus, Rigel, Castor, DIM, CLAG (hail mitigation rocket with a 5 kg chemical load at 10 km altitude) rockets, among others.

Afterwards he became the vice director at this institute. Among his duties were: supervisor of Argentine and foreign (US and French) rockets launches and large stratospheric balloons at the bases of Chamical (La Rioja province), Matienzo, Marambio (Antarctica) and Mar Chiquita (Buenos Aires).

In November 1962, in a great saline zone located in La Rioja province, the Self-Propelled Rockets Launching Center, CELPA (Centro de Lanzamiento de Proyectiles Auto-Propulsados) was created, as the French rocket "Centaure" built for CNES, took off to conduct high altitude atmospheric research into the South-Atlantic Anomaly.

These cooperation projects with France involved important technology transfer on rocket development, logistics, related equipment and instrumentation and transfer of personnel between both countries, and it greatly contributed to the experience and operational ability of the Argentine rocket groups. Many of these Argentine–French cooperative experiences were in conducting simultaneous tests on bases located abroad, such as Wallops Islands (US), Fort Churchill (Canada), Hammguir (North of Africa), Tumba (India) and Woomera (Australia). Some US rockets were also launched from CELPA carrying payloads designed and fabricated in Argentina by IIAE with the collaboration of universities such as the National University of Tucumán Fig. 2.

In 1963, as a coordinating organization and external affairs liaison, the National Commission of Space Research (Comisión Nacional de Investigaciones Espaciales, CNIE), a civilian entity created in 1960, asked IIAE to design and develop two sounding rockets: one to put 5 kg payload to 80 km altitude; and the other to put 10 kg payload to an altitude of 100 km. These requirements were to be

Fig. 2. Sánchez Peña with Wernher Von Braun during his visit to Argentina in 1963.