

# Finnish Americans in space

By Ilpo Lagerstedt

This year was the 40th anniversary of Apollo 11, the first moon landing. National Aeronautic and Space Administration's or NASA's astronauts Neil Armstrong and Buzz Aldrin landed July 20, 1969 on the moon using the lunar module. The third astronaut, Michael Collins was waiting for them in the Apollo command nodule in the lunar orbit.

Late Sunday evening, or about 5 a.m. Monday morning in Finland, Neil Armstrong stepped on the surface of the moon reciting the historic words: "This is one small step for man, one giant leap for mankind."

Buzz Aldrin was the second man on the moon. The newspaper "Amerikan Uutiset" reported on June 15, 1969 that Aldrin's ancestors had left Finland for Sweden and then Sweden for America in the 17th century. Aldrin roots are probably in the farmers of Savo province, Finland.

In the mid 16th century many Savo farmers emigrated to the Swedish wilderness and later to North America.

But there are other Finnish-Americans who worked in the U.S. military and civilian space programs too. For instance, Sven Nyquist was born in the United States in 1923, but he attended high school in Vaasa, Finland. Nyquist also participated in the Finland's war against Soviet Russia in 1939-1944. Later he studied at Åbo Akademi in Turku. In the 1950s, Nyquist returned to the United States, where he graduated as an aviation industry engineer. Nyquist worked as an engineer at Aeronutronic Systems, which worked on Project Far Side.

Project Far Side was the U.S. Air Force's plan to launch a small rocket from a balloon into orbit. But the United States didn't use balloons to get satellites to the orbit, but missiles, which were originally made to bring the warheads on the neck of the enemy. The first astronauts flew into space using missiles too.

Another Finnish American, John B.

Suomala, had staff and line responsibilities for inertial guidance systems of intercontinental ballistic missiles programs and automatic ground environmental systems, including the Air Force early warning radar antennas systems, at the instrumentation laboratory of Massachusetts Institute of Technology. Later he provided comments and recommendations for NASA's Apollo Moon Mission.

Finnish geodetic scientist Veikko Heiskanen helped the U.S. Air Force with precision studies of the intercontinental missiles. Raimo Hakkinen was chief scientist at the Solid and Fluid Physics Department of the Missile and Space System Division of Douglas Corporation. John Rahkonen worked as a propulsion chemist for Thiokol, which made rocket fuels. In Canada, George P. Wilenius ran an extensive space program.

President John F. Kennedy decided on the manned moon landing in 1961. NASA needed vehicles for the landing, as well as rockets and a lot of researching. Architect Aarne Kontturi was born in Ashtabula Harbor, Ohio. His father was born in Ylistaro, Finland. Aarne Kontturi designed launch pads for NASA at Kennedy Space Center.

Leo Carlson, who was born in Uusimaa, worked at Grumman in Long Island; Grumman was a company that built military airplanes and the lunar landing module which landed astronauts on the moon. Carlson was responsible for the gas systems of the spacecraft, which includes breathing gas of astronauts too.

There was likely another Finn working at Grumman. He was Alfred Pirkola, whose father was born in Karelia. I am told that his work was extremely secret. When he died in 1986, there was nothing about his career in his obituary in the local newspaper.

Boeing built the first stage of the giant moon rocket Saturn 5. One of the engineers of Boeing was Charles R. Lehtinen, whose ancestors are from Eastern Finland. He was due to "push the button" to ignite the five engines of the Sat-



Chaplain John Piirto (in white) offers a prayer of thanksgiving for the Apollo 11 mission as President Richard Nixon listens.

urn 5 rocket that took the Apollo 11 astronauts to the moon. In fact, Lehtinen fired the three-minute-10-second fire ignition switch that activated all the automatic Saturn firing mechanism. He remembers that Apollo 11 was the highlight of his career: "Being in control of the launch was very exciting," he said.

NASA's flight directors monitored each step of Apollo 11. One of the flight controllers was Captain George Ojalehto, whose father was born in Lestijärvi in Keski-Pohjanmaa.

His position was Network Controller, which made him responsible for ensuring that the tracking stations around the world were ready to support the tracking, telemetry and command functions between the Mission Control Center and the spacecraft before and during the mission and to ensure that the data was properly displayed for the mission team members.

Ojalehto said they spent an enormous amount of time preparing and training for the mission. The actual mission felt a bit easier to accomplish than the simulations and their inserted problems. He said: "Of course it was an extremely exiting time when LEM actually landed successfully on the lunar surface and when the mission was finally complete with splashdown and the recovery of the astronauts."

The astronauts of Apollo 11 successfully landed near the aircraft carrier Hornet in the Pacific Ocean on July 24, 1969. They went by helicopter to the ship, then were transferred to a special quarantine facility, in the event they had brought dangerous bacteria from the moon.

U.S. President Richard Nixon was on board of the Hornet to welcome the astronauts back.

He had a short conversation with the astronauts, then said: "I think that would be very appropriate if Chaplain Piirto, the chaplain of this ship, were to offer a prayer of thanksgiving."

The first men on the moon and the President of United States listened quietly as Chaplain John Piirto, USMC said: "Lord God, our heavenly Father, our minds are staggered and our spirits exultant with the magnitude and precision of this entire Apollo 11 mission. ... A man on the moon was promised in this decade, and though some were unconvinced, the reality is with us this morning ... We applaud their splendid exploits and we pour out our Thanksgiving for their safe return to us, to their families, to all mankind. From our inmost beings we sing humble, yet exuberant praise."

John Piirto's paternal grandparents were from Ilmajoki and Kurikka. His mother's parents were from Karelia and Southern Finland. Piirto also welcomed the Apollo 12 astronauts in November 1969.

After the Apollo program, NASA focused on building space shuttles. NASA tried to convince policy makers that expensive, but multiple-use shuttles were, in the long run, cheaper than disposable rockets.

The Office of Management and Budget (OMB) is a Cabinet-level office, and the largest office within the Executive Office of the President of the United States. William Niskanen was the assistant director of the OMB in 1970s. His father was born in Savo, Finland.

William Niskanen did not believe the assurances by NASA officials and said: "They start at a number that strains credibility and go up from there..."

Policy makers still eventually approved the space shuttle. Rockwell, formerly North American Aviation, was the company that had built Apollo spacecrafts and the second stage of Saturn 5 rocket. Rocketdyne, a division of Rockwell, had built the engines of Saturn 5 and many other U.S. rockets.

Rockwell built the space shuttles too. Jerry Risto's grandfather was from Karungi, North Finland and his grandmother's family from Oulujoki; Jerry worked at Rockwell's Rocketdyne Division.

He said: "I began at Rockwell International's Automotive business in 1973 as a consultant in personnel. I later became an employee of Rockwell's Rocketdyne Division in 1975, which, among other things, manufactured the main engines for the space shuttle. I also worked there in personnel."

Risto worked for years at Science Center in staff, training and development, and information activities.

Time has shown that William Niskanen was right about the space shuttle; it is expensive to fly. NASA has had no choice but to continue to use the shuttles to send astronauts into space.

Third-generation Finnish American Timothy Kopra flew the shuttle Endeavour in 2009 to the International Space Station. He'll be aboard the last shuttle flight too.

**Editor's note:** Ilpo Lagerstedt has written a book about Apollo Moon flights called "Rakettimiehä" (Rocketmen) published in 2008.



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