

EDITORIAL MESSAGE**In Memoriam of Joseph C. Hafele (1933–2014)**

Joseph Carl Hafele was born on July 25, 1933, in Peoria, Illinois, in the large family of Carl Louis Hafele and Thelma Loeb Hafele. He grew up among his many brothers and sisters.

In 1951, after serving in the US Army, he attended the University of Illinois at Urbana-Champaign. At the University, he got a BSc in engineering physics in 1959, and was bestowed the PhD degree in nuclear physics in 1962. After the graduation, during 1964–1966, he worked at the Los Alamos National Laboratory, wherein he conducted research in particle physics. After that, during 1966–1972, he worked within the Physics Faculty of Washington University at St. Louis, Missouri.

In 1958, he married Carol Hessling, and they raised four daughters.

In October 1971, Joseph C. Hafele commonly with Richard E. Keating, an astronomer from the US Naval Observatory, conducted the around-the-world-clock experiment which is one of the main experimental tests of the Theory of Relativity. Four Cesium atomic clocks were transported on board of a jet plane around the Globe twice, toward and against the direction of the Earth's rotation. The around-the-world-clock experiment showed, with high measurement precision, both gravitational and relativistic effects of Einstein's theory in the local space of the Earth. This experiment gave both of them world fame. Later, it became known as *Hafele-Keating experiment*.

Commencing in 1972, Joseph C. Hafele worked in different positions. He conducted some developments for Caterpillar Inc., lectured at Eureka College (1985–1991), was a visiting researcher for NASA at Langley AFB in Hampton, Virginia, lectured at Christopher Newport University in Newport News, Virginia. He retired in 1996, and settled in common with his wife Carol in Laramie, Wyoming.

Upon retirement, Joseph C. Hafele did not cease his scientific activity. Having no longer a physics laboratory for conducting experiments, he undertook deep theoretical research studies of the anomalous experiments which were unexplained in the frameworks of both modern classical mechanics and relativistic mechanics. He published a number of excellent papers in scientific journals, including our journal. It was a great honour for us to communicate with him and publish his research papers. Many of his scientific ideas still remain undeveloped until now.

In Laramie, Wyoming, he lived a modest life in common with his wife Carol, in their home where he grew tomatoes in



Joseph C. Hafele and Richard E. Keating on board of a jet plane while performing the around-the-world-clock experiment (1971).

his garden, and spent some astronomical observations at the telescope installed in his home observatory at the back yard.

Joseph C. Hafele passed away in November 15, 2014, being 81 years old. His heart suddenly stopped during surgery for an aortic aneurism at the Medical Center of the Rockies in Loveland, Colorado.

Let his memory live for ever!

Dmitri Rabounski and Larissa Borissova