

# Life in the Universe

## BIOGRAPHICAL SKETCH

**Prof. Dr. Richard B. Hoover, D.Sc., h.c. (RAS)**

Dr. Richard B. Hoover joined NASA/MSFC in 1966. He initially worked on the S-056 Experiment for solar studies from Skylab. He holds 12 patents for advanced x-ray telescopes and microscopes and was *NASA Inventor of the Year* in 1992. He was advisor on Solar and Cosmic X-ray Astronomy for UAB and Stanford University Ph.D. students who worked with him to develop the Sounding Rocket Payload that produced the first high resolution images of the Sun with a normal incidence multilayer telescope. In 1968, Dr. Hoover initiated his studies of diatoms and a few years later was invited by the Royal Society of Belgium to inventory and photograph the treasures of the Henri van Heurck diatom collection. Several of these photos appeared in his June, 1979 National Geographic article: “*Those Marvelous, Myriad Diatoms*”. Sir Fred Hoyle, the astronomer who first described the synthesis of elements in hot stars and proposed the Steady State Theory of the Universe read this article and phoned Hoover and invited him to join a collaborative study of the nature of interstellar dust. Their joint paper was published in 1986 in *Earth, Moon, and Planets*. Prof. Hoover established the Astrobiology Program at NASA/MSFC and began his study of microbial extremophiles and microfossils in carbonaceous meteorites in 1997. He organized and led scientific expeditions to North Siberia, Alaska, Canada, Iceland, Austria, South Africa, Patagonia and Antarctica. With his colleague Dr. Elena V. Pikuta, Hoover described one new family, five genera and fifteen species of bacteria from samples he collected during these expeditions. Skylab Astronaut Owen Garriott descended to the Rainbow Hydrothermal Vent in the Russian Submersible *Mir*. and collected a sample containing an exotic new archaeon.

Prof. Hoover has collected meteorites in Sri Lanka and Antarctica. He has discovered cyanobacteria, diatoms and other microfossils in several carbonaceous meteorites. Measurements of the Carbon/Oxygen ratios and undetectable nitrogen levels prove these biological remains are indigenous to the stones rather than modern terrestrial biological contaminants. With Russian Colleagues, Hoover co-authored the English/Russian Volume: “*The Orgueil Meteorite: Atlas of Microfossils*”. Dr. Hoover has delivered lectures on every continent on Earth, authored/edited over 400 scientific papers and peer-reviewed journals and 45 volumes. In 2001, Dr. Hoover was elected Fellow National of the Explorers Club and an Honorary Life Member of the Planetary Studies Foundation. In recognition of his scientific expeditions and discoveries, Prof. Richard B. Hoover was awarded the Degree and Title *Doctor of Science, h. c.* and Professor of the Russian Academy of Sciences, and on May 25, 2023, he was named Professor Doctor of Ilia State University in Tbilisi, Georgia.

On July 7, 2023 Prof. Dr. Richard B. Hoover was notified of his Election as Fellow of the *World Academy of Art and Science (WAAS)* that traces its origin to discussions between Albert Einstein and J. Robert Oppenheimer. Past fellows include: Sir Arthur C. Clarke, Buckminster Fuller, Linus Pauling, Jonas Salk, Margaret Mead and Yehudi Menuhin.



*Richard B. Hoover  
Ice Cave - Feb. 28, 2008  
Schirmacher Oasis, Antarctica*