

PAUL ANDREW CLOUTIER
RESUME
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Paul Cloutier was born in Opelousas, Louisiana on Feb. 7, 1943. He received a B.S. in Physics from the University of Southwestern Louisiana (now University of Louisiana, Lafayette) in 1964, graduating as class co-valedictorian with an overall grade point average of 4.00, and was the recipient of the U.S.L. Alumni Association Award for Outstanding Male Graduate. He received a Ph.D. in Space Science from Rice University in 1967, becoming an Assistant Professor of Space Science at Rice at that time. He continued serving as a Rice faculty member for 41 years, attaining the rank of tenured Associate Professor in 1972 and Professor in 1977. His scientific research has focused on applications of plasma physics and magnetohydrodynamics to planetary neutral atmospheres and ionospheres, including the interaction of the solar wind with the ionospheres of Venus and Mars. He has authored or co-authored more than 100 papers in refereed scientific journals and books, and has served as thesis advisor for 24 M.S. and 21 Ph.D. recipients. In 1994, Dr. Cloutier was a recipient of the first Rice Graduate Student Association Award for Outstanding Graduate Teaching.

Professor Cloutier has served as Principal Investigator of numerous National Science Foundation and NASA scientific experiments and theoretical studies of the atmospheres, ionospheres and magnetospheres of Earth, Venus, Mars and moons of the outer solar system. He served as co-Principal Investigator for 13 sounding rocket payloads studying the Aurora Borealis from 1967 to 1977. He was Co-Investigator of the Pioneer-Venus Bus and Orbiter Ion Mass Spectrometer Experiments from 1977 to 1988, when he became Principal Investigator for that experiment. He was Co-Investigator of the Magnetometer/Electron Reflectometer Experiment for Mars Observer and for Mars Global Surveyor which was placed in Mars orbit in 1997. Among the discoveries by Mars Global Surveyor was evidence of an active Martian magnetic dynamo more than 3.5 billion years ago and linear crustal magnetic features which may be evidence of ancient plate tectonic activity at Mars. The discovery by the Rice group led by Dr. Cloutier of ionization of the Martian exosphere by energetic solar wind electrons provides an explanation for water loss by Mars and Venus.

Professor Cloutier retired from Rice on June 30, 2008, and was appointed Professor Emeritus and Research Professor of Physics and Astronomy. Since that time, he has served as consultant on several NASA review panels, including the JUNO mission to Jupiter and the SOLAR PROBE PLUS mission to be launched to study the solar magnetic field. He also serves as advisor and consultant to the Ad Astra Corporation building the VASIMR plasma rocket for NASA deep space missions.

Dr. Cloutier also maintained an active professional career in parallel with his academic career. In 1972, he and two Rice colleagues founded Innovatum, Inc., a research and development corporation devoted to applications of advanced technology in petrochemical, geophysical, communications, aerospace and defense industries. Dr. Cloutier served as President and Chairman of the Board for 28 years. During that time, Innovatum became a recognized world leader in several technologies for locating and tracking buried submarine oil and gas pipelines, electric power cables, and subsea fiber-optic communications cables. Dr. Cloutier is principal author of numerous U.S. and international patents related to various aspects of these technologies. Innovatum systems have also been used world-wide to locate missing undersea objects, including a lost nuclear weapon and objects of historical or archeological interest. In 1975, a group led by Dr. Cloutier located and explored the wreckage of the Civil War steamship U.S.S. Hatteras in the Gulf of Mexico near Galveston, Texas.

On March 31, 2000, Innovatum, Inc. was sold to Prairielands Energy Technology, Inc., a subsidiary of Montana-Dakota Utilities Resources Group (MDU). Dr. Cloutier continued to serve as President of Innovatum until November, 2006, providing consulting services to MDU after that time. He also currently works as a consultant to Lockheed Martin Corporation in development and applications of a new type of magnetometer.

Paul Cloutier and his wife Kaye live on Clear Lake in Nassau Bay, Texas. Their activities include water and snow skiing, kayaking, sailing and power boating, fresh and salt water fishing, and hunting and camping on their land near Woodville in East Texas. They also enjoy visiting their 5 grandchildren.