Rita C. Sagalyn
Inducted 2004

Rita C. Sagalyn was born in 1924. She carried out research on the near-earth and space environments for nearly fifty years. Her career as a research scientist began in the 1940s with work on radar devices at MIT Radiation Laboratory and on communication and propagation at University of Michigan, where she received her B.S. degree in 1948. She earned an M.A. degree from Harvard University in 1950. During the early 1950s, her research established for first time the electrical properties of the lower atmosphere. That knowledge was critical to development of means to protect aircraft from electrification and storms. In 1958, Mrs. Sagalyn designed new instrumentation to study the electrical state of the upper atmosphere using rockets, and she went on during the 1960s to satellite investigations.

At the USAF Cambridge Research Laboratory, she developed an ion-attitude sensor for measuring spacecraft pitch and yaw, and it was tested successfully aboard several Gemini missions in the mid-1960s. Astronauts praised the Experiment D-10 detector as “pretty darn smart” and described its accuracy as “right on the nose.”

Between 1965 and 1980, Mrs. Sagalyn developed instruments for several of NASA’s early flight programs, including the Orbiting Geophysical Observatory (OGO), Injun, and International Satellites for Ionospheric Studies (ISIS). She has received national and international recognition for her role in establishing and executing an outstanding space science and technology program at the Air Force Research Laboratory (AFRL). Her research, documented in over 100 publications, advanced the world’s understanding of energetic particles in space and the electromagnetic forces that control them. Knowledge about the interaction of these phenomena with space systems has led to increased survivability and reliability of military, civil, and commercial satellites as well as to improved performance of C3 and surveillance systems.

Mrs. Sagalyn's lectures on space, ionospheric, and tropospheric science and technology took her to universities around the world, including the University of Tokyo, Imperial College in London, and Trinity College in Dublin. She was instrumental in the establishment of interagency programs that included the Air Force, NASA, Navy, Defense Nuclear Agency (DNA), National Oceanic and Atmospheric Administration (NOAA) and National Science Foundation (NSF). Furthermore, she developed international collaborations involving the European Space Agency (ESA), the Italian Space Agency, and the German Max Planck Institute.

Mrs. Sagalyn joined the Senior Executive Service in 1981. As director of the Space Physics Division, Geophysics Directorate, AFRL at Hanscom AFB, Massachusetts, from 1982 to 1997, she initiated and led many successful technology programs, including the Chemical Release, Radiation Effects Satellite (CRRES) launched in 1990, Spacecraft Charging at High Altitude, Space Weather Prediction, Plasma and Particle Instruments on DMSP satellites, a Compact Environmental Anomaly Sensor (CEASE) for operational satellites, and an active charge control satellite-mounted (CCS) system. Before retiring from the AFRL on 1 July 1998, she became senior scientist in the Space Vehicles Directorate at Hanscom.