DR. RICHARD P. WELLE

SENIOR SCIENTIST

SPACE SCIENCE APPLICATIONS LABORATORY

Dr. Richard Welle is a senior scientist in the Space Science Applications Laboratory, Technology and Laboratory Operations, where he focuses on the development of new applications for CubeSats, with a particular emphasis on CubeSat-scale optical communication systems and technologies.

Prior to this, Welle was director of the Microsatellite Systems Department in the Space Materials Laboratory for ten years, where he was responsible for the Aerospace program developing CubeSats and other kg-class spacecraft, as well as supporting various non-satellite programs and developing new research and technology programs in the field of microsatellites.

With more than 35 years of experience in his field, Welle is an expert in microsatellites and microsatellite systems, thermophysics and heat transfer, reacting/radiating flows, multiphase and cryogenic flows, electric propulsion, and mechanical systems.

Welle joined The Aerospace Corporation in 1986 as a member of the technical staff in the Aerophysics Laboratory. In 1995, he was promoted to section manager of the Experimental Mechanics Section, and was later named a senior scientist in the Office of Innovative Materials.

The Aerospace Corporation is an independent, nonprofit organization dedicated to the objective application of science and technology toward the solution of critical issues affecting the nation's space program.

Education

Welle earned his bachelor's degree in physics and chemistry from Southwest State University, Minnesota; his master's degree in physics from the University of Tennessee; and his Ph.D. in aerospace engineering from the University of Southern California.

Honors and Awards

Welle has been awarded 24 U.S. and two foreign patents on technologies in the areas of microfluidics, identification taggants, solar power, and ultrasonics. Welle also has several patent applications pending relating to optical communication in small satellites.

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