Walter A.Vincenti

Professor Emeritus of Aeronautics and Astronautics
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For seminal pioneering supersonic wind tunnel research, education in high temperature gas dynamics, and exceptional contributions to the history of engineering technology.

Professor Emeritus of Aeronautics and Astronautics at Stanford University, Stanford, California, has performed exemplary work in supersonic swept wing theory and high temperature gas dynamics. He has helped preserve the history of technology and has developed ways to improve our understanding of how technology fits into our society.

Born to Italian immigrant parents in 1917, Vincenti's family moved from his native Baltimore,

Maryland, to Pasadena, California, in 1920 where he grew up in the shadow of the California Institute of Technology. Despite growing up near Cal Tech, Vincenti opted to attend college at Stanford University in 1934, where he majored in Mechanical Engineering and later, as a graduate student, in Aeronautics. In 1940, Vincenti went to work at the National Advisory Committee for Aeronautics' (NACA) Ames Aeronautical Laboratory at Moffett Field, California (now the NASA Ames Research Center) where he was head of the Center's first supersonic wind tunnel. Using his research from the wind tunnel, Vincenti published a NASA report on the "Comparison Between Theory and Experiment for Wings at Supersonic Speeds," the first substantive experimental data on swept wings that was obtained in the United States. After his work in supersonic technology, Vincenti became involved with researching transonic theories.

In 1957, Vincenti left NACA Ames to take a professorship at Stanford University. At Stanford, Vincenti teamed up with Nicholas Hoff to restart the school's Department of Aeronautics. He also became known for his research and teaching in the field of high temperature gas dynamics, writing the book *Introduction to Physical Gas Dynamics* in 1965.

In 1971, Vincenti established Stanford's Program in Values, Technology and Society – now known as the Program in Science, Technology, and Society – chairing it until 1995. The program grew out of a graduate seminar class that Vincenti organized beginning in 1965, that studied the history of technology. During his leadership of the program, Vincenti pioneered new research in the history of technology, becoming a recognized scholar in the field. In 1990, he authored the book *What Engineers Know and How they Know It*. That book, considered a classic in the field of the history of technology, is a historical reflection on engineering practices in U.S. aeronautics from 1908 to 1953, and uses case studies of actual aeronautical engineering feats to tell its story.

Vincenti's past honors include the 1948 Pi Tau Sigma Gold Medal and a 1956 Rockefeller Public Service Award. The National Academy of Engineering elected Vincenti to membership, and he is a corresponding member of the International Academy of Astronautics.