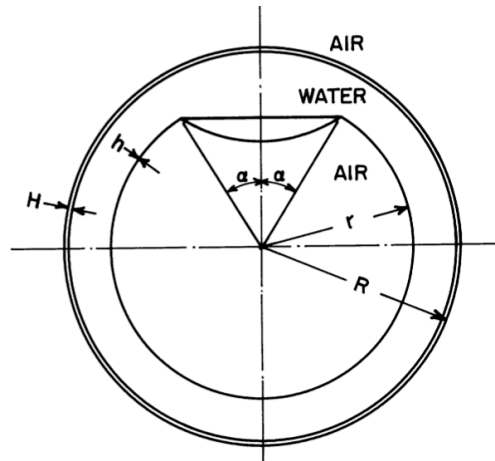




Professor Tsai-Chen Soong (1923-2015)



**FIG. 1. BUCKLED SPHERICAL TEST SPECIMEN
IN SPHERICAL CONTAINER**

From: Nicholas J. Hoff and Tsai-Chen Soong, "Lower bounds for the buckling pressure of spherical shells", SUDAER No. 133, July 1962, Dept. of Aeronautics and Astronautics, Stanford University, California

See:

<https://www.findagrave.com/memorial/149212971/tsai-chen-soong>

Obituary (from <https://www.findagrave.com/memorial/149212971/tsai-chen-soong>):

Dr. Tsai Chen ("TC") Soong, age 92, passed away on February 26, 2015 from a cerebral hemorrhage. Dr. Soong graduated from Tsinghua University (considered the MIT of China) and received a PhD in aeronautics and astronautics from Stanford University.

In an early sign of his brilliance, Dr. Soong received the second highest score in China's nationwide college entrance examination. Born in Hangzhou, China, he grew up during a tumultuous time in China's history – warlords, economic turmoil, Japanese invasion, and civil war between the Communist Party and the Chinese Nationalist Party. During the Second World War and thereafter, Dr. Soong was an officer in the Chinese Air Force. He was stationed in Taiwan where Chiang Kai-Shek fled with the remaining Nationalist forces after the Communists emerged victorious in 1949. In Taiwan, he had to juggle four jobs to support his family.

In appreciation of his invaluable contributions, one of his employers, as a gift, paid for his passage on a ship to the United States when Dr. Soong received a full scholarship to attend Stanford University. Dr. Soong was separated from his family for five years while he completed the PhD program. Upon graduation, he worked as an engineer at The Boeing Company in Seattle, Washington, and then for Xerox Corporation in Webster, New York. In a more than twenty-five year career, he achieved the rank of Xerox Fellow, the company's highest technical position. Dr. Soong was also an adjunct engineering professor at the University of Rochester. He was an inventor with 32 U.S. patents and also authored numerous technical articles.

Dr. Soong was fascinated with the performance of sports equipment and authored pioneering studies on throwing the javelin, discus, and shot put. Also, he created innovative racquetball rackets, tennis rackets and golf clubs which involved obtaining patents, developing prototypes, lining up manufacturers in Taiwan and China, and marketing his sports equipment.

Selected Publications:

Nicholas J. Hoff and Tsai-Chen Soong, "Lower bounds for the buckling pressure of spherical shells", SUDAER No. 133, July 1962, Dept. of Aeronautics and Astronautics, Stanford University, California

Hoff, N. J., and Tsai-chen Soong: Buckling of Circular Cylindrical Shells in Axial Compression, Stanford University Department of Aeronautics and Astronautics Report SUDAER No. 204, August 1964. Accepted for publication in Intern. J. Mech. Sci.

T.C. Soong, "Buckling of circular cylindrical shells under external pressure", SUDAER Report No. 228, Department of Aeronautics and Astronautics, Stanford University, April 1965

Hoff, N J, and Soong, T C (1965). Buckling of circular cylindrical shells in axial compression, Int J Mech Sci 7, 489-495.

Soong, T C (1967). Buckling of cylindrical shells under pressure by using Sanders' theory, AIAA / 5, 1049-1052.

Soong, T.C., "Influence of Boundary Constraints on the Buckling of Eccentrically Stiffened Orthotropic Cylinders", presented at the 7th International Symposium on Space Technology and Science, Tokyo, May, 1967.

Hoff N.J. & Soong T.C. (1967). "Buckling of Axially-Compressed Cylindrical Shells with Non-Uniform Boundary Conditions." Symposium of Thin-Walled Structures, University College, Swansea, 61-80.

Hoff, N. J., and Soong, T-C, "Buckling of axially compressed circular cylindrical shells with non-uniform boundary conditions," in "Thin Walled Steel Structures," edited by K. C. Rokey and H. V. Hill, Crosby Lockwood and Son, Ltd., London, 1969.

Soong Tsai-Chen, "Stability of cylindrical shells with eccentric helical reinforcement," Raket. Tekh. Kosmon., 7, No. 1, 74-84 (1969).

Soong, T.C., "Buckling of Cylindrical Shells with Eccentric Spiral Type Stiffeners", AIAA Journal, Vol. 7, No.1, pp. 65-72, Jan. 1969.

Soong, T.C., "Buckling of Cylindrical Shells with Intermittently Attached Stiffeners", AIAA Journal, Vol. 8, No. 5, pp. 928-936, May 1970.

Viswanathan, A. V., Soong, T. C., and Miller, R. E. Jr., "Buckling Analysis for Axially Compressed Flat Plates, Structural Sections, and Stiffened Plates Reinforced with Laminated Composites," NASA CR-1887, 1971.

Viswanathan, A., Soong, T., and Miller, R., 1972, "Buckling Analysis for Structural Sections and Stiffened Plates Reinforced With Laminated Composites," Int. J. Solids Struct., 8 , pp. 347-367.

A.V. Viswanathan, T.C. Soong and R.E. Miller Jr, "Compressive buckling analysis and design of stiffened flat plates with multilayered composite reinforcement", Computers & Structures, Vol. 3, No. 2, March 1973, pp. 281-297

Soong, T. C., and Choi, I., 1985, "Bucking of an Elastic Elliptical Ring Inside a Rigid Boundary," ASME J. Appl. Mech., 52(3), pp. 523-528