



TCSUH SPECIAL SEMINAR

Dr. Bruce P. Strauss

IEEE Council on Superconductivity; Office of High Energy Physics, DOE (ret.)

Wednesday, November 1, 2023

In Person: Houston Science Center (HSC), Room 102 –12:00 p.m. – 1:00 p.m.

Sandwiches will be provided on a first-come, first-served basis.

Fifty-Five Years of Success, Pitfalls, and Potholes in the Technology of Superconductivity

ABSTRACT: In the winter of 1961, Bell Labs published an article on the development of Nb₃Sn. The article in *Applied Physics Letters* described a small solenoid wound with powder-in-tube conductor. Since then, we have witnessed the construction of large bubble chambers, the Fermilab Tevatron, the CERN LHC, and especially Magnetic Resonance Imaging (MRI), to name the significant applications. This seminar will examine the challenges of both conductor and device development.

BIO: Dr. Bruce Strauss is a private consultant with clients at major physics laboratories and corporations. He spends considerable time as an officer with the IEEE Council on Superconductivity. He has over 55 years of experience in all aspects of applied superconductivity.

He was previously a Physicist/Program Manager for the United States Department of Energy's R&D on upgrades for the LHC Accelerator Project covering applications of advanced superconducting magnets. As a member of the Office of High Energy Physics at DOE, he is responsible for their superconductivity wire and magnet activities. He received his undergraduate and Ph.D. at the Massachusetts Institute of Technology and an MBA at the University of Chicago.

After early experience at the Avco Everett Research Laboratory and Argonne National Laboratory, he joined the Fermi National Accelerator Laboratory in Batavia, Illinois. At Fermilab, he rose to the rank of Assistant Director of the Tevatron Project. He was responsible for the procurement scheme for the project's entire superconductor inventory.

He left Fermilab to join the Magnetic Corporation of America, where he was production manager for superconducting wire and magnet fabrication. Subsequently, he was the principal of two management consulting organizations. Clients included government agencies, national laboratories, and industrial concerns. A significant consulting contribution was to the Management and Administration Branch of the DOE for the Independent Cost Estimation (ICE) process for all technical components, installation, and commissioning for the Superconducting Super Collider.

Dr. Strauss is an incorporator of the Applied Superconductivity Conference (ASC), Inc., now the Applied Superconductivity Education Foundation, where he serves as the corporate treasurer and member of several technical committees. He is also past president of the IEEE Technical Council on Superconductivity. He is a Fellow of the IEEE and is a foreign member of the Russian Academy of Electrotechnical Sciences. In 2012, he was awarded the IEEE Council on Superconductivity Max Swerdlow Award for Contributions to Superconductivity and is a member of Sigma Xi and Eta Kappa Nu. He chaired the MT-20, MT-23, and 2010 ASC Conferences. He has published over 150 peer-reviewed papers and holds five U.S. patents.

Persons who require special accommodations to attend this lecture should call 713-498-9703.