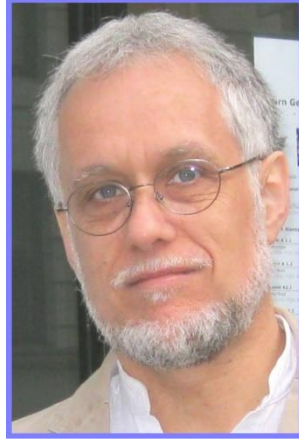


Wolfgang Stautner



Wolfgang Stautner is the most senior and experienced cryogenics engineer at General Electric and works in the Electromagnetics and Superconductivity Laboratory at GE Global Research. He has been active in Industry and Research in the field of cryogenics and superconductivity for more than 38 years which have resulted in more than 55 publications and to date 60 patent applications.

He received his M.Sc. degree in Process Engineering in 1977 and started his career at the Institute of Technical Physics (ITP) of the Karlsruhe Research Center (now KIT), Germany's largest research facility, where he had the opportunity to learn in depth about cryogenics and superconducting magnet technology while working on the European Tokamak coil for nuclear fusion for the international Large Coil Task program. He was also heavily involved in quench stability considerations and cooldown calculations.

In 1982 he was invited to join Bruker Analytics in Karlsruhe, Germany, to create, establish and manage the cryogenics department, leading a team of physicists, engineers, technicians and designers. In this role he designed, developed and installed NMR and MRI magnets from bore sizes of 50 mm to 1000 mm and fields from 0.5 to 18 Tesla.

In 1996 he joined Oxford Magnet Technology, Oxford, UK, (now Siemens PLC) to work on the first open conduction-cooled MRI magnet based on HTS conductors. In addition to providing technical expertise for whole-body MRI magnets, he assumed the role of Project and Design Manager and led the development of the world's first Pulse Tube Cooler with a cooling capacity of 1.4 W @ 4.3 K. In parallel, he pursued his passion for creative novel technical designs by completing his Design Management studies at the German Steinbeis Center (RKW).

In 2000 he became the 1st Principal Technology Engineer at Siemens Magnet Technology. In this role he designed and developed low cryogen whole-body MRI magnets, which drastically reduced the helium bath inventory. As head of the Technology Group at Siemens and a member of the Board of Managers, he drove the MRI business towards market success by focusing on "next generation" MRI magnets. After being promoted in 2004, he assumed the role of Principal Physicist.

At GE his cryogenic research activities focused on the new generation of whole-body MRI magnet systems by bringing sustainability efforts and "Green Technology" to a new level, developing dedicated scanners both for extremities with novel superconductors and for polarizing systems to study changes in the metabolism. He developed cryogenics for large scale superconducting machinery, e.g. for Wind, Marine, Hydro and Aviation applications. Further topical research in cryogenics included novel thermosiphon designs, heat pipes and other cryo components as well as driving cryogenic technology for LNG and the development of specialty cryocoolers.

He continues to encourage university students and share his knowledge with them. He also acts as a reviewer and referee for IEEE, DOE and is an invited panelist, session chair and plenary speaker at superconductivity and cryogenic conferences.