

Eric O Forster Award Presentation

“Green Developments in Gaseous Insulation Systems”

Christian M. FRANCK

Abstract

Climate change, pollution, and limited material resources are some of the most pressing global problems that need to be urgently addressed and will entail a fundamental change in the way modern societies operate. Our community of dielectric and electrical insulation experts has accepted to tackle these challenges and is increasingly working on finding solution. This Eric O. Forster Memorial Lecture aims to give an introduction into the challenges that we're facing with respect to gaseous insulation systems and to give an overview on current trends in research and development, as well as on achievements of the past decade. The lecture closes by highlighting future trends and making societal questions explicit that need to be debated in parallel to the technical developments.

Biography



Christian Michael Franck (Senior Member of IEEE) was born in Bonn, Germany in February 1973. He studied physics in Bonn, Edinburgh (Scotland) and Kiel (Germany), where he received his diploma degree from the University of Kiel in 1999. Afterwards he worked at the Max Planck-Institute for Plasma Physics at the University of Greifswald, German. Under the supervision of Prof. Klinger, he performed research in the area of electromagnetic wave propagation in magnetized plasmas, receiving his Ph.D. in experimental physics in 2003. From 2003 to 2009, he was with the ABB Swiss Corporate Research Center, Baden-Dattwil, Switzerland, as a scientist and later as a group leader for gas circuit breakers and high-voltage systems. In January 2010 he joined ETH Zurich as Assistant Professor. He was promoted to Associate Professor in June 2015 and to Full Professor in March 2020. His current main research interests include gaseous insulation and switching arcs, with focus on SF₆-alternatives, and solid insulation systems, with emphasis on their resilience to mixed electrical stresses. He served as convenor for CIGRE WG D1.67. He is the chair of the IEEE-DEIS Education Committee since January 2023.