

Brief Resumé: Howard Wilson

Howard Wilson received his Ph.D. in theoretical particle physics from the University of Cambridge in 1988, before establishing a career in fusion energy as a theoretical plasma physicist at the UK Atomic Energy Authority. In 2005 he moved to University of York, appointed as full Professor to establish a fusion research and training program in the UK academic community. In 2011 he won funding to establish the York Plasma Institute, serving as its first Director (until 2019) to bring together research and education across fusion energy, low temperature plasmas and laser plasma interactions.

In 2017 he was appointed (via secondment) to UK Atomic Energy Authority as Research Director for the national fusion program, and then served as (interim) Director for the newly-formed £222m national fusion reactor program called STEP from 2019 until 2020, when he returned full time to York. At University of York, Howard established and led the Fusion Centre for Doctoral Training, with about 80 PhD students in fusion energy across its five university partners. He was also Director for a national, multi-university research program on turbulence in tokamak plasmas.

He has served on many international program reviews and several international committees, including the Institute for Pure and Applied Physics (IUPAP), and chaired the International Tokamak Physics Activity (ITPA) in Pedestal and Edge Physics in support of ITER (2008-11). He served on EUROfusion Science and Technology Advisory Committee (STAC) (2022-23) and is presently a member of the Fusion Energy Sciences Advisory Committee.

He is a Fellow of the UK Institute of Physics, and awards include a Royal Society Wolfson Research Merit Award in 2011 and the APS John Dawson Award for Excellence in Plasma Physics Research in 2013. He has authored over 170 research papers, with an h-factor of 62. Research interests include theory of pedestal and edge localized mode (ELM) physics; turbulence and transport, and core plasma stability. His expertise also includes the design of fusion devices, either as volume neutron sources or for power, especially those based on the spherical tokamak concept.

In 2023, Howard was appointed as Fusion Pilot Plant R&D Lead at ORNL.