

**Innovation for industry at European Research Infrastructures and ERICs cases:**  
European Spallation Source ERIC Accelerator and Detector Technologies –  
Progress, Challenges, and Opportunities

**2<sup>nd</sup> Webinar: A new generation of neutron detectors and  
opportunities for industry**

14 April 2021 at 14:00 (CET)

Richard Hall-Wilton – Group Leader Detector Technologies  
European Spallation Source ERIC



Richard studied Natural Sciences (physics and geology) at Sidney Sussex College, Cambridge University, UK. With the thesis entitled "Diffractive and non-diffractive charm production in deep inelastic scattering at the ZEUS experiment on HERA", he obtained his PhD in experimental particle physics at Bristol University in 1999. Since then he held different research positions at various universities and research institutes: York University Canada, University College London, Wisconsin University, and 6 years with CERN. He is a visiting professor at the University of Milano-Bicocca and an honorary senior research fellow at the University of Glasgow.

Richard has been based primarily at European research institutes - firstly at DESY, then CERN and currently at ESS – with the only exception of two years (1999-2000) in Toronto, Canada, building a detector upgrade for the ZEUS experiment in Hamburg. Throughout his career, he has been centrally involved in designing, developing, building, installing, commissioning and operating advanced detector systems and has a wide and varied experience in detectors. He is a world expert in neutron and diamond detector technologies, and has extensive experience with gaseous detectors and semiconductor detectors. He has developed beam monitors as both safety and monitoring systems, advanced triggers for large experiments, including zero- and minimum-biases for the CMS experiment at the LHC, and also tracking triggers. He was a physics coordinator for heavy flavour physics on the ZEUS experiment in DESY, Hamburg. At CERN, he was a core member of the CMS technical coordination team as well as coordinator of the beam and radiation monitoring for CMS, as well as a key bridge-person between CMS and the LHC machine.

Since arriving at ESS at the beginning of 2011, Richard has been group leader for the detector group. This period has comprised building the detector group at ESS, as well as leading the critical R+D effort for ESS to find replacements to the isotope Helium-3 as the detection medium for neutrons.