

Chris Hutson

CEng, CSci, MEng, PhD, MSc, MIMMM

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Profile

Award-winning Chartered Engineer with 11 years delivering technical solutions in nuclear decommissioning. Led multi-disciplinary engineering integration for design, development and commissioning of six characterisation systems combining mechanical, instrumentation and robotic technologies on nuclear licensed sites. Proven capability in project delivery, contractor oversight, risk assessment and stakeholder engagement in highly regulated nuclear decommissioning environments. Winner of the 2025 IAEA Innovation Award and secured £2.9M in collaborative funding.

Skills

Project Engineering and Technical Delivery

- Technical coordination across mechanical, instrumentation, and control systems.
- Design, development and commissioning of characterisation systems for nuclear decommissioning.
- Contractor coordination, oversight of deliverables and cross-disciplinary configuration control.
- Technical expertise in measurement systems, sensors and robotic deployments in radioactive environments.
- Working knowledge of CDM Designer responsibilities in nuclear decommissioning projects.

Leadership and Project Management

- Project delivery from concept to handover (15+ projects completed).
- Project proposals, budget management and contract negotiation (£2.9M secured).
- Contractor and supplier liaison across 3+ organisations.
- Stakeholder engagement with safety teams, site operations, NDA and government.
- Team leadership (up to 10 staff) and technical supervision.
- Risk assessment and compliance documentation with nuclear safety requirements.
- Site-based commissioning and operational validation.

Key Achievements

- Developed and deployed **six measurement systems** on nuclear licensed sites: Oldbury, Trawsfynydd, Bradwell, Winfrith, Dungeness, Sellafield.
- Led technical delivery of world's first in-reactor Raman robotic inspection system at Trawsfynydd, managing full project lifecycle including contractor oversight.
- Authored 2025 UK irradiated graphite waste strategy review for NRS as an acknowledged expert.
- Winner, **IAEA Innovation Award on Robotics and Drones** (2025).
- Secured **£2.9M** in collaborative funding through strategic partnerships with NRS, UKAEA, Sellafield and DESNZ.
- Winner of **The Engineer's Innovator Award** (2018) – patented diamond radiation sensor.
- Led and supervised **8 researchers** (5 MSc, 3 PhD).

Professional Experience

University of Bristol

Research Fellow (Aug 2023–Present)

Senior Postdoc Research Assoc. (Mar 2021–Aug 23)

Postdoc Research Assoc. (Jan 2018–Mar 21)

- **Led technical delivery and configuration management of in-reactor robotic inspection system** at Trawsfynydd, coordinating multi-disciplinary engineering activities across contractor organisations, conducting design reviews, overseeing manufacturing, testing, demonstration and installation. Ensured design stability and compliance with site safety requirements and configuration control.
- **Coordinated technical activities** for delivery of six characterisation systems on licensed sites, maintaining configuration oversight of contractor deliverables, **managing cross-functional engineering teams** and supervising trials/commissioning activities.
- **Authored commissioned UK irradiated graphite waste strategy review** for NRS and NDA, providing technical leadership on nationally significant decommissioning challenge requiring engineering solutions to complex multi-dimensional problems.
- **Led DESNZ-commissioned training programme** for Ukrainian engineers on nuclear site recovery, managing 8 staff and delivering technical knowledge transfer.
- **Managed projects from concept to handover**, overseeing budgets, contracts, risk assessments, compliance documentation, and operational validation in accordance with nuclear site requirements.
- **Built strategic working relationships with NRS Strategic Innovation and Graphite Teams**, enabling successful deployment of novel decommissioning technologies.

Magnox Ltd

Graduate Scheme Materials & Metallurgist (2012–14)

- **Performed safety-critical inspections and integrity assessments** of Wylfa R1, contributing technical input to reactor Return To Service Safety Case.
- **Translated metallurgical findings into actionable engineering recommendations** for site operations, demonstrating sound engineering judgment in highly regulated nuclear environment.
- Developed practical understanding of nuclear safety cases, site licence requirements, and quality management systems.

Education

MEng, Materials Science and Engineering (2:1) – University of Oxford

2008–2012

PhD, Physics – University of Bristol

2014–2018

MSc, Corrosion Control Engineering – University of Manchester

2013–2018 (part time)

Professional Affiliations

- **Chartered Engineer and Chartered Scientist (IOM3)**
- **Chair, West of England Materials & Mining Association (WEMMA)**
- **School Governor, Whiteoak Academies, Nailsea**