CURRICULUM VITAE

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2020–present Director of the Neutron Technologies Division at Oak Ridge National Laboratory. The division develops and supports instrument and spallation target technologies in support of the user program on the 30 instruments of the Spallation Neutron Source and the High Flux Isotope Reactor.

2012–present Adjunct Professor at the Niels Bohr Institute, Copenhagen University.

2010–2019 Neutron Instruments Division Head at the European Spallation Source. Design and optimisation of neutron instruments. Management and coordination of the ESS instruments from both in-house teams and in-kind partners, from conceptual development and selection through design, procurement, installation and commissioning. Management of and participation in instrument reviews and project reviews. Overseeing scientific integration between instruments and across the facility. Line management responsibility for the ESS instrument scientists.

2002-2010 Head of Neutron Optics Laboratory at the Institut Laue-Langevin (ILL) in Grenoble, France. Research, development and service provision in instrumentation for optimizing neutron scattering instruments. Main responsibilities: Thin-film multilayers, ^{3}He spin-filters, crystal monochromators and instrument optimisation. Participation in international collaborations on neutron instrumentation. Line management responsibility for about 20 staff.

1999-2002 Instrument scientist at the ISIS Facility in Oxfordshire, UK, on the OSIRIS backscattering spectrometer and powder diffractometer. Bringing the instrument from construction through to commissioning and first users.

1995-1999 Instrument scientist at the Institut Laue-Langevin. Until June 1995 second-responsible on the IN4 thermal chopper spectrometer and then first-responsible on the D7 polarisation-analysis diffuse-scattering diffractometer. Modernising D7 and bringing it into the user programme, allowing instrument builder (Otto Schärpf) to retire, proposing instrument upgrade.

1992-1994 Post-doctoral research assistant at the pulsed neutron scattering facility of the National Laboratory for High Energy Physics (KEK) in Tsukuba, Japan. Excitations in percolating antiferromagnets and momentum distributions probed via neutron Compton scattering.

Education

1988-1991 Ph.D. in Physics at Keele University (UK) and the Institut Laue-Langevin (France), supported by an ILL studentship. Thesis Title: A Neutron Scattering Study of Liquid Helium-4

1985-1988 B.Sc. in Physics and Mathematics at Keele University in the UK. First Class Honours in both subjects.

Publications About 150 publications in refereed journals. H-index: 25

Main Committee Memberships:

2019	Chair of the review panel for the IN1-Lagrange vibrational spectroscopy instrument at ILL, Grenoble.
2019	Member of the panel for Technical Review of the Second Target Station Instrument Concepts for Oak Ridge National Laboratory in the U.S.
2018–present	Member of the Advisory Editorial Board of Nuclear Instruments and Methods in Physics Research Section A
2018	Member of the Neutron Sciences Instruments Advisory Board of Oak Ridge National Laboratory in the U.S.
2018-2019	Chair of the Technical Review Committee for the n2EDM project at the Paul Scherrer Institut in Switzerland, for measuring the electric dipole moment of the neutron, using ultra-cold neutrons.
2017	Chair of the Instrument Subcommittee of the ILL Scientific Council, reviewing instrument projects for the Endurance Phase 2 programme.
2016-2017	Member of the UK Neutron Strategy Working Group. Meeting several times a year to advise STFC on neutron facility strategy.
2015-2016	Director of the International School of Neutron Scattering and Instrumentation held in Erice, Italy in July-August 2015 and April 2016.
2015–2019	Member of the Proposal Evaluation Committee of the Materials and Life Sciences Facility at the Japan Proton Accelerator Research Complex (J-PARC) in Tokai, Japan. Meeting twice a year to evaluate beamtime proposals.
2015	Chair of the review panel for the PF2 very-cold and ultra-cold neutron facility at ILL, Grenoble.
2014–2019	Member of the Scientific Council of the ILL, Grenoble. Meeting twice a year to advise on scientific and technical matters of importance to the ILL.
2013	Member of the evaluation team of the Laboratory for Developments and Methods and the Condensed Matter Theory Group at the Paul Scherrer Institut, Switzerland
2013	Member of the Instrument Review Panel for ISIS spectrometers, STFC, UK.
2011-2013	Member of the College 1 subcommittee of the ILL Scientific Council: Review of proposals on applied metallurgy, instrumentation and techniques
2011-2012	Member of the Proposal Review Committee of the Jülich Centre for Neutron Scattering.
2011	Principal organiser of the Neutron Instrument Design School, held in Lilla Vik, Sweden. About 30 students and 20 lecturers 7-17/6/2011.
2010-2012	Coordinator of the Joint Research Activity on “Advanced Techniques” for the NMI3 programme of FP7.
2010	Principal organiser of the International Workshop on Neutron Optics, held in Alpe d’Huez, France. About 80 participants 17-19/3/2010. Proceedings published in Nucl. Instrum. Meth. A.
2009-2013	Member of the Beam Instruments Advisory Group of the Bragg Institute, ANSTO, Australia. Meeting twice a year to advise on the performance and management of their major capital projects.

2006-2010 "ILL Expert" on the College 1 subcommittee of the ILL Scientific Council. Meeting twice a year to assess research proposals submitted to the ILL on Applied Metallurgy, Instrumentation and Techniques.

2002 Member of the College 6 subcommittee of the ILL Scientific Council: Review of proposals on structure and dynamics of liquids and glasses.

2001-2002 Group Convenor of ESS Instrumentation Task Group on Indirect Geometry Spectrometers.

1997-1999 College Secretary to the College 6 subcommittee of the ILL Scientific Council. Meeting twice a year to assess research proposals submitted to the ILL on the structure and dynamics of liquids and glasses.

I have been a member of the Programme or International Advisory Committee for about 10 recurring conferences, including ICANS (International Collaboration on Advanced Neutron Sources), ICNS (International Conference on Neutron Scattering), ECNS (European Conference on Neutron Scattering), PNCMI (Polarized Neutrons for Condensed Matter Investigations) and NOP (Neutron Optics Workshop).

I am a regular lecturer at a number of neutron scattering schools, including the Oxford School on Neutron Scattering (since 2009).

Languages Fluent English, Danish, pretty good French and Swedish, some German and a little Japanese

I am married with 3 children, aged 20-24

Highlight publication list:

[1] Collective excitations in liquid ^{4}He: experiment and presentation of data
K.H. Andersen, W.G. Stirling, R. Scherm, A. Stunault, B Fåk, H. Godfrin and A.J. Dianoux, J. Phys.: Condens. Matter 6 (4), 821-834 (1994)

[2] High-resolution measurements of rotons in ^{4}He
K.H. Andersen, J. Bossy, J.C. Cook, O.G. Randl and J.-L. Ragazzoni, Phys. Rev. Lett. 77 (19), 4043-4045 (1996)

[3] Backscattering spectrometers at the ESS
K.H. Andersen, J. Neutron Res. 10 (3-4), 179-186 (2002)

[4] FIRES: A novel neutron back scattering spectrometer
F. Demmel and K.H. Andersen, Meas. Sci. Technol. 19, 034021 (2008)

[5] Disordered materials studied using neutron polarization analysis on the multi-detector spectrometer, D7
J.R. Stewart, P.P. Deen, K.H. Andersen, H. Schober, J.F. Barthelemy, J.M. Hillier, A.P. Murani, T.Hayes, B. Lindenau, J.Appl.Cryst. 42, 69-84(2009)

[6] Design challenges and performance of nested neutron mirrors for microfocusing on SNAP
G.E. Ice, J.W.L. Pang, C. Tulk, J. Molaison, J.-Y. Choi, C. Vaughn, L. Lytle, P.Z. Takacs, K.H. Andersen, T. Bigault and A. Khounsary, J. Appl. Cryst. 42, 1004–1008 (2009)

[7] Optimization of focusing neutronic devices using artificial intelligence techniques
P.M. Bentley and K.H. Andersen, J. Appl. Cryst 42, 217-224 (2009)

[8] Polarized ^{3}He Spin-Filters using MEOP for Wide-Angle Polarization Analysis
K.H. Andersen, D. Jullien, A.K. Petoukhov, P. Mouveau, F. Bordenave, F. Thomas, E. Babcock, Physica B 404, 2652-2654 (2009)

[9] Generalization of the classical xyz-polarization analysis technique to out-of-plane and inelastic scattering
G. Ehlers, J.R. Stewart, A.R. Wildes, P.P. Deen, K.H. Andersen, Rev. Sci. Instrum. 84, 093901 (2013)

[10] Simulation of a suite of generic long-pulse neutron instruments to optimize the time structure of the European Spallation Source
K. Lefmann, K.H. Kleno, J.O. Birk, B.R. Hansen, S.L. Holm, E. Knudsen, K. Lieutenant, L. von Moos, M. Sales, P.K. Willendrup, K.H. Andersen, Rev. Sci. Instr. 84, 055106 (2013)

[11] High intensity neutron beamlines
P.M. Bentley, C.P. Cooper-Jensen, K.H. Andersen, Rev. Accel. Sci. Tech. 06, 259 (2013)

[12] The first prototype diamond monochromator at the Institut Laue-Langevin
P. Courtois, M.T. Fernandez-Diaz, G. Nenert, K.H. Andersen, A.K. Freund, S. Gsell, M. Fischer, M. Schreck, P. Link, M. Meven, J. Phys.: Conf. Series 528, 012001 (2014)

[13] Promising times for neutron scattering
K.H. Andersen and J.G. Barker, J. Appl. Cryst 47, 1163-1164 (2014)

[14] A Proposal for a Next Generation European Neutron Source
K.H. Andersen and C.J. Carlile, J. Phys.: Conference Series 746, 012030 (2016)

[15] Optimization of moderators and beam extraction at ESS
K.H. Andersen, M. Bertelsen, L. Zanini, E.B. Klinkby, T. Schönfeldt, P.M. Bentley, J. Saroun, J.Appl.Cryst. 51 (2018)

[16] The instrument suite of the European Spallation Source
K.H. Andersen, et al., Nucl. Instr. Meth. A 957, 163402 (2019)