Curriculum Vitae of Dr. David Waller B.Sc., M.Sc., Ph.D.

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Personal Details

Date of Birth:	28.09.1961
Place of Birth:	Bristol, United Kingdom
Nationality:	British
Country of Residence:	Permanent residence in Norway
Marital Status:	Norwegian partner

Work Experience

September 2021 — Professor (II) of Industrial Catalysis (20% position)
Department of Chemical Engineering
NTNU
Trondheim

A teaching and research position with a focus on nitrogen catalysis chemistry related to ammonia and nitric acid production, based on existing processes, and future Green nitrogen fixation

2020 to date — Senior Catalyst Expert
Yara International ASA
Ammonia and Nitric Acid Technology Department
Yara Technology Centre
Porsgrunn

Project manager for nitrous oxide abatement catalyst projects involving improvements to catalyst stability and recycling; Project manager for precious metal recovery projects; Project manager for an ammonia SOFC project with SINTEF. Technical resource for high and low temperature WGS catalyst projects; Senior Industrial researcher for the iCSI SFI. Technical resource for NO oxidation catalyst projects

2017 to 2019 — Senior Catalyst Expert
Yara International ASA
New Front-End Technology & process Intensification Department
Yara Technology Centre
Porsgrunn

Project manager for an ammonia SOFC project with SINTEF. Technical adviser to TechnoSER and IFE on the scale-up of a production process and design of a production facility for an absorbent for CO_2. Senior industrial researcher for the iCSI SFI.

Technical adviser for catalysts related to hydrogen and nitric acid production, and nitrous oxide abatement.

2013 to 2017 — Senior Catalyst Expert
Yara International ASA
Catalyst Systems Core Competence Community
Yara Technology Centre
Porsgrunn

Technical adviser for catalysts related to hydrogen and nitric acid production; and nitrous oxide abatement. Pilot plant Work-package leader for the EU 3d printing project PRINTCR3DIT (2015-2018). Senior industrial researcher for the iCSI SFI (2015 to present)

2007 to 2013 — Chief Engineer (Sjefingeniør)
Yara International ASA
Catalyst Systems Core Competence Community
Yara Technology Centre
Porsgrunn

Project manager for development of N_2O abatement catalysts. Responsibility for transfer of an injection moulding production technology of abatement catalysts, to a production facility in Poland. Project manager for development of platinum and oxide-based ammonia combustion catalysts. Project manager for platinum recovery technology. Project manager for the scale-up of production of a vanadia-based de-NOx catalyst.

2004 to Jun 2007 — Principal Scientist (Overingeniør)
Yara International ASA
Section for Nitric Acid Research
(Yara International was formally the Agri Division of Norsk Hydro)

Responsibilities as above

2002 to 2004 — Principal Scientist (Overingeniør)
Section for Catalysis and Reactor Technology
Oil & Energy Research Centre
Norsk Hydro ASA
Porsgrunn

Project manager for development of nitric acid emission abatement catalysts. Project manager for the development and transfer of a full-scale production process for the N_2O abatement catalyst to a facility in Poland

2000 to 2002 — Materials Scientist
Sandvik Hard Materials
Coventry
United Kingdom

Project manager for development of the new generation of super-hard nano-crystalline tungsten carbide-cobalt composite materials

1998 to 2000 Senior Scientist (Senior Forsker)
Department of Materials Development
Norsk Hydro ASA
Corporate Research Laboratory
Porsgrunn

Development of ion-conducting ceramic membranes for gas separation applications (Specialised in fabrication of dense membrane films, and measurements of cation diffusion). Development of catalysts for N_2O decomposition (Project manager from 1999).

1994 to 1998 Research Associate
Department of Materials
Imperial College of Science, Technology and Medicine
London
United Kingdom
Development of ion-conducting membranes, for fuel cell and gas separation applications. Determination of high temperature cation transport in oxides using dynamic SIMS. Production of oxide thin-films using Pulsed Laser Ablation

1993 to 1994 Process Scientist
I.C.I. Paints
Slough, United Kingdom

Responsible for bulk pigment dispersion and milling

1990 to 1993 Research Assistant
Davy-Faraday Research Laboratory
The Royal Institution of Great Britain
London, United Kingdom

Synchrotron Radiation studies of catalyst activation and operation, at high temperatures and under reactive gas environments. Development of high temperature cells for combined X-ray diffraction and X-ray absorption spectroscopic studies of catalysts. Development of an UHV IR cell for the study of gas adsorption on catalysts

1989 to 1990 Research Assistant
Department of Electrical and Electronic Engineering
University College,
Torrington Place,
London, United Kingdom
Fabrication of micro-optical components using sol-gel technology
Funded by U.S. Air Force Office of Scientific Research, as part of the Strategic Defence Initiative (SDI)

Education

1985 to 1988	Ph.D. Thesis title "Methanol Synthesis Catalysts" School of Chemistry University of Bath United Kingdom *Supervised by Prof. F. S. Stone F.R.S. and Prof. M.S. Spencer of I.C.I Agricultural Division, Billingham*
1983 to 1984	M.Sc. Surface Chemistry and Colloids Department of Chemistry University of Bristol United Kingdom *Dissertation entitled "A study of periodic precipitation"*
1980 to 1983	B.Sc. (Hons) Chemistry Department of Chemistry University College, Cardiff United Kingdom *Awarded 1983* *First year courses: Chemistry, Physics and Metallurgy* *Second and third year courses: Physical, Inorganic and Organic Chemistry*

Membership of Organisations and Awards

Member of the American Ceramic Society
Member of Tekna (Norwegian organisation for professional scientists and engineers)
Norsk Hydro-Agri Research Award in 2003 for development of the De-N_2O catalyst for ammonia combustion burners.
The 2007 Glassbjørnen Prize (Main Prize) was awarded to Yara International ASA for the De-N_2O catalyst technology, by the Norwegian Foundation for Sustainable Consumption and Production

Student Supervision

I was, and am the co-supervisor of six PhD students at NTNU, UiO and University College London. In addition I have been the co-supervisor of eight Masters students at NTNU, UiO and the University of Rennes, France.

Publications
Author an co-author of 22 refereed journal articles, 16 conference presentations and 15 patents and patent applications (Full list available on request)