

Curriculum Vitae Clare P. Grey, FRS, DBE

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EDUCATION:

D.Phil. in Chemistry, University of Oxford (1991)
Thesis title: A ^{199}Sn and ^{89}Y MAS NMR study of Rare-Earth Pyrochlores. Thesis advisor:
Prof. A. K. Cheetham
B.A. in Chemistry, *First Class Honours*, University of Oxford, (1987)

PROFESSIONAL EXPERIENCE:

Cofounder and Chief Scientist, Nyobolt – a battery fast charging company (2019 –)
Member, Expert Panel, the Faraday Institution (2018-)
Director, the Centre for Advanced Materials for Integrated Energy Systems (CAM-IES),
(2016 – 2022)
Adjunct Professor, Department of Chemistry, State University of New York at Stony Brook
(May 2015 - present)
Fellow Pembroke College Cambridge (2011 – present)
Head, Materials Research Interest Group (2010-2015) and Inorganic Sector (2009 –2010),
University of Cambridge
Associate Director (2011-2015), Director and PI (2009-2011), Northeastern Chemical
Energy Storage Center, a Department of Energy Frontier Center, Stony Brook University
Geoffrey Moorhouse Gibson Professor in Materials Chemistry, University of Cambridge,
UK, (July 2009-present)
Visiting Professor, Université de Picardie Jules Vernes, Amiens, (2006-07; 2007-08)
Associate Director, NSF Center for Environmental Molecular Sciences, (2002- 2009)
Professor, Department of Chemistry, State University of New York at Stony Brook (Sept.
2001-2015)
Visiting Professor, Université Louis Pasteur, Strasbourg, (2000)
Associate Professor, Department of Chemistry, State University of New York at Stony
Brook (Sept. 1997-Aug. 2001)
Assistant Professor, New York at Stony Brook (Jan. 1994-Aug. 1997)
Visiting Scientist at DuPont CR&D (Feb. 1992-Jan. 1994)
Royal Society Post-doctoral Fellow in the laboratory of Prof. W.S. Veeman, University of
Nijmegen (Jan. 1991-Feb. 1992)
Research Fellow, Balliol College, University of Oxford (Sept. 1990-Jan.1991).

AWARDS:

Honorary Doctor of Science, Warwick University (2024)
Spiers Memorial Lecture, Royal Society of Chemistry (2023)
DBE (2022)
ACS Central Science Disruptors & Innovators Prize (2022)
Bauerman Lecture, Imperial (2022)
Honorary Student of Christ Church, Oxford (2021)
Körber European Science Prize (2021)
Hughes Medal, Royal Society (2020)
Richard R. Ernst Prize in Magnetic Resonance (2020)
John B Goodenough Award, Royal Society of Chemistry (2019)
Charles Hatchett Award, Institute of Materials, Minerals and Mining (2019)
British Crystallographic Association (BCA) Prize Lecture (2019)
Eastern Analytical Symposium Award for Outstanding Achievements in Magnetic Resonance (2018)
Sacconi Medal from the Italian Chemical Society (2018)
Royal Society Research Professorship (2018)
Member Academia Europa (2017-)
Société Chimique de France, French-British Prize (2017)
Foreign member of the American Academy of Arts and Sciences (2017)
Fellow of the Electrochemical Society (2017)
International Solid-State Ionics Galvani-Nernst-Wagner Mid-Career Award (2017)
Arfvedson-Schlenk-Preis from the German Chemical Society (2015)
Davy Medal from the Royal Society (2014)
Honorary Fellowship, Balliol College Oxford (2014)
Honorary PhD Degree from Lancaster University (2013)
Laukien Award from the Experimental NMR Conference (2013)
Research Award, International Battery Association (2013)
Honorary PhD Degree “Docteur Honaris Causa” from the University of Orleans (2012)
Royal Society Kavli Medal and Lecture (2011)
Fellow of the Royal Society (2011)
Fellow of the International Society of Magnetic Resonance (2011)
RSC John Jeyes Award (2010)
AMPERE Award (2010)
Vaughan Lecturer (2008)
NYSTAR Award (2007)
Research Award of the Battery Division of the Electrochemical Society, (2007)
NSF POWRE Award (2000)
Camille and Henry Dreyfus Teacher-Scholar Award (1998)
Alfred P. Sloan Foundation Research Fellow (1998)
Cottrell Scholar (1997)
DuPont Young Professor Award (1997)
NSF National Young Investigator (1994)

Royal Society European Postdoctoral Fellowship (1991)
Junior Research Fellowship, Balliol College, University of Oxford (1990)
S.E.R.C. Quota Award (1987-1990)
Senior Scholarship, Christ Church, University of Oxford (1988)
Dixon Scholarship, Christ Church, University of Oxford (1987)
Open Scholarship, Christ Church, University of Oxford (1983)

TEACHING:

Stony Brook: Inorganic chemistry (for undergraduate majors + 1st semester graduate level); Designed and ran inorganic (and solid state) chemistry laboratory course for chemistry majors; Freshman (1st year) chemistry laboratory; Solid-State chemistry, crystallography, NMR and group theory (graduate level).

University of Picardie, Amiens: European Masters Course on Energy: Applications of NMR to Batteries and Fuel Cells.

Cambridge: 3rd year (Part II) “Characterization methods for inorganic chemistry” – ESR and magnetism. 4th year (Part III) “Inorganic Magnets” – magnetism, solid chemistry, crystallography.

ENGAGEMENT AND COMMUNICATION:

Sky News, Commentary on Government Budget, November 2023

Co-chaired the UK’s Battery Strategy Taskforce Committee – and provided input into the report produced by the Department for Business and Trade, that resulted from the work of this Taskforce. September – Dec 2023. Pushed for the creation of an oversight committee to review progressed towards goals/stated targets (committee currently in planning stages).

Provided input into the House of Lord debate of the report “the UK’s Battery Strategy Goes Flat: UK’s Net-Zero Target at Risk”, November 2022

(<https://www.parliamentlive.tv/Event/Index/1b901e77-b307-4cf7-9659-76d3d7ec29df>)

Royal Society “Net-zero” visit to Japan, November, 2022

PETRA IV Campaign Kick-off, Science Panel, Hamburg, September, 2022

Delegate COP 26, November 2021

Körber Award Ceremony, September 2021

New Scientist Interview on Körber Award, September 2021

BBC interview on Körber Award, September 2021

Gave presentation at Falling Walls Science Summit, Berlin

Gave evidence to the House of Commons enquiry into “The role of hydrogen in achieving Net Zero”, May 2021; wrote joint submission with Dr. Radcliffe and Prof. Gluyas

(<https://committees.parliament.uk/writtenevidence/36801/html/>)

Special Advisor to the House of Lords Science and Technology Committee for the enquiry into the “Role of batteries and fuel cells in achieving Net Zero” and the report “Battery strategy goes flat: Net-zero target at risk”, 2021.

Presented to House of Lords Science and Technology Committee in a seminar on Decarbonization, February 2021

Coordinated and wrote, together with the Royal Society and community world-wide the RS briefing “Climate change and batteries: the search for future power storage solutions”

<https://royalsociety.org/-/media/policy/projects/climate-change-science-solutions/climate-science-solutions-batteries.pdf>

Podcast with cosmologist Professor Lord Martin Rees discussing support and fostering of scientific innovation, particularly in the area of energy storage, Centre for Science and Policy, University of Cambridge, <http://www.csap.cam.ac.uk/news/article-energy-storage-innovation/> December 2020

“Taller tecnico NMR” Workshop to the Yacimientos de Litio Bolivianos (YLB), on the use of NMR spectroscopy in battery science (2020)

Panelist, Chemical Society of Nigerian, Women in Chemistry, Webinar, September, 2020
Global Young Academy Webinar to launch new the GYA Energy Initiative

(<https://globalyoungacademy.net/first-gyaenergy-webinar/>), June 2020

BBC World Service “Click” (<https://www.bbc.co.uk/programmes/w3cswbhm>) (August, 2018) on fast charging of batteries;

“The Life Scientific” Radio 4 Programme on “The Big Battery Challenge”

(<http://www.bbc.co.uk/programmes/b09tdr0r>), March 2018

Opened the New Chemistry Building at Lancaster University, October 2016

Presentation to an All-Party Parliamentary Climate Change Group event, ‘Energy storage and the transition to a low carbon economy’,

(<http://www.policyconnect.org.uk/appccg/news/energy-storage-and-transition-low-carbon-economy-summary>) Houses of Parliament, London, July 2016

“Putting Science to Work” Radio 4 Programme on Mitigating Air Pollution in Cities, Dec 2015

Panelist, BBC World Service, “The future of renewable energy” for the programme, “the Forum”, (<http://www.bbc.co.uk/programmes/p01g94yj>), September 2013.

Member of the Emerging Technologies Panel for the World Economic Forum (2012 – 2015). Helped write “Energy Harnessing: New Solutions for Sustainability and Growing Demand” (Oct 2013, <http://www.weforum.org/reports/energy-harnessing-new-solutions-sustainability-and-growing-demand>).

Royal Society of Chemistry Roadmap Champion for Energy Conversion and Storage (2011-2014)

Presentation to the Department of Energy and Climate Change (DECC) “Strategy Coffee Morning”: “Challenges in Using Lithium Ion Batteries in Road Transportation”, London, July

RSC Public Lecture, Burlington House, London, September: “Recharging the Planet: The Prospects and Chemical Challenges of using Batteries to Power a Low Carbon Economy” (http://thereaction.net/events/y2011/Recharging_our_future.aspx)

Kavli Public Lecture, The Royal Society, London, October: “Following function in real time: Towards the Next Generation of Batteries for Supercapacitors for Transport and Grid Storage” (<http://royalsociety.org/events/Following-function-in-real-time/>)

Presentation to National Academy, Solid State Sciences Committee, “New Materials and Challenges for Lithium-Ion Battery Research”, April 2008

Department of Energy, Basic Energy Sciences: “Basic Research Needs for Electrical Energy” Workshop, April 2007. Panel Lead and Writer. (Characterization)

US/Africa Workshop, "Frontiers in Materials Research and Education", Abuja, Nigeria, January 2007: Panel Lead, (Materials Chemistry)
National Science Foundation Workshop on "Sustainability and Chemistry," May-June 2006 Report "Chemistry for a Sustainable Future": Panel Lead (Energy) and Writer (Energy and Environmental Chemistry)
National Science Foundation Workshop, "The status of solid state chemistry and its impact in the physical sciences, May 2006, Workshop organizer
National Science Foundation Workshop, Approaches for Combating Terrorism, July 2005, Panel Lead and Writer, (Power Sources)
ECS Biannual Meeting, Educational Division Talk, "XYZ for the Rest of Us" Los Angeles, October 2005

EDITORIAL BOARD MEMBERSHIP:

Editorial Board, ACS Central Science, Jan 2021 – present
Editorial Board, ACS Energy Letters, Jan 2021 – present
Editorial Board, Chemistry of Materials, Jan. 2005–Jan. 2010, Jan 2018 – present
Editorial Board, Accounts of Chemical Research, 2015 – present
Editorial Board, Journal of the American Chemical Society, 2011–2017, 2021 – present
Editorial Board, Journal of Materials Chemistry, July 2009 – 2010
Editorial Board, Solid State Sciences, Jan 2002 – present
Editorial Board, Journal of Magnetic Resonance, Jan 1999 – present

ADVISORY BOARD/COMMITTEE MEMBERSHIP:

Chair, Royal Society Career Development Fellowship Panel (2023 – present)
Royal Society & Berlin-Brandenburg Academy of Sciences bilateral meeting, co-organiser (2023 – present)
Member, Expert Panel, the Faraday Institution (2018–2022)
Royal Society, Net Zero panel, 2019 – present
Cambridge Global Challenges (CGC) Steering Group, 2019 – present
Commonwealth Science Conference Committee, 2019 – 2021
Royal Society/NAS Science Forum on Energy Storage, Steering Group, 2019 – 2021
FLAIR (Future Leaders – African Independent Research) Fellowships Royal Society/African Academy of Sciences, Steering Committee (2018 – 2021); Member of interview panel (2018 – 2021)
Cambridge Energy, Transitions Steering group 2011 – present
Advisory Board, Winton Programme for the Physics of Sustainability, Cambridge University, 2011 – 2019
Advisory Board, Max Planck Institute for Polymer Physics, 2009 – 2015
Advisory Board, Center for Functional Nanomaterials (CFN), Brookhaven National Laboratory, 2006 – 2012.
NY State Advanced Energy Center, Member, Research Committee (2006 – 2009)
Advisory Board, Penn. State, Center for Environmental Kinetics Analysis (NSF EMSI), Dec. 2005 – 2010

Member of the Stony Brook University “Status of Women Faculty” Taskforce
(representative for the physical sciences) (1999 – 2009)
Member of the Stony Brook Women in Science and Engineering (WISE) Advisory Working
Group (1994 – 2009)

TALKS AT INSTITUTIONS, COMPANIES AND CONFERENCES
(since 1994)

- 1994** 34th Experimental NMR Conference, Asilomar, April
Eastern Analytical Symposium, New Jersey, November
Adelphi University, November
- 1995** Nato Summer School, on the 'Characterization of Advanced
Materials' Pisa, Italy, September
DuPont Central Research, Wilmington DE, October
Eastern Analytical Symposium, New Jersey, November
Unilever Research, Port Sunlight, UK, December
- 1996** ALCOA Technical Center, Pittsburgh, January
SUNY Stony Brook, (Chemistry Department) March
ACS Meeting, New Orleans, March
MRS Meeting, San Francisco, March
Georgetown University, April
Collaborative Laboratories, April
University of Connecticut, May
Solid State Gordon Conference, July
Chemagnetics Users Meeting, July
Brookhaven National Laboratory, May
McGill University, October
SUNY Brockport, October
Rutgers University, Camden, November
Drexel University, Philadelphia, November
University of Birmingham, UK, November
Royal Society Anglo-Indian Meeting, Bangalore, December
- 1997** Department of Earth and Space Sciences, SUNY Stony Brook, January
University of Massachusetts, Amherst, January
Washington Regional NMR Meeting, N.I.H., February
University of Utah, March
37th Experimental NMR Conference, Orlando, March
Chemistry Department, North Carolina State University, May
Physics Department, University of Kent, May
Inorganic Chemistry Laboratory, University of Oxford, May

Air Products, May
Zeolites Gordon Conference (short talk), June
Denver, CO, July
Tulane University, October 1997

1998 ACS Dallas Meeting, March
National Chemical Laboratory, Pune, India, May
National Institute of Standards and Technology, June
Duracell, Boston, June
Air Products, August
University of Illinois at Chicago, October
6th NSF Materials Chemistry Workshop, October
Recent Advances in Magnetic Resonance, Schlumberger-Doll Research Center, Connecticut,
November
University of South Carolina, November
New York Technical College, December
MRS Fall Meeting, Boston, December

1999 University of West Virginia, January
Pennsylvania State University, February
Queens College, CUNY, March
University of Waterloo, Toronto, Canada, March
Florida Catalysis Conference, Palm Coast, FL, April
Zeolite Gordon Research Conference, Plymouth, NH, June
1st Alpine NMR Conference, Chamonix, France, September
Northeastern Corridor Zeolite Association Meeting, Philadelphia, December
Chair, NMR symposium of the 43rd Rocky Mountain Conference on Analytical Chemistry
[Vice-chair 1999; committee member 1994-1999; Session organizer 1996-1999];

2000 Institut des Materiaux Jean Rouxel, CRNS-Nantes, February
Institut de Chimie de la Matière Condensée de Bordeaux, CRNS-Pessac, France, February
Université Louis Pasteur, Strasbourg, France, March
Duracell Worldwide Technology Center, Needham, MA, March
British Zeolite Associate Meeting, London, April
Inorganic Chemistry Laboratory, University of Oxford, April
University of Cambridge, April
CRNS-Orleans, April
National Synchrotron Light Source Users Meeting, Brookhaven National Laboratory, May
Catalysis Gordon Conference, New London, NH, June
Inorganic Gordon Conference, Newport, R.I, July
Chemagnetics Workshop, Estes Park, CO, August
Ampere meeting on “NMR of novel Materials”, Greece, September
198th Meeting of the Electrochemical Society, Phoenix, Arizona, October

Workshop on Interfaces, Phenomena, and Nanostructures in Lithium Batteries, Argonne National Laboratory, December

- 2001** University of Munich (LMU), January
Ohio State University, February
American Chemical Society Meeting, San Diego, April
Department of Energy, Separations and Analytical Chemistry Contractors Meeting, April
Iowa State University, April
American Ceramics Society, Indianapolis, April
Canadian Chemical Society Meeting, Montreal, May
Lithium Battery Meeting, Bordeaux, May
National Institute of Chemical Physics and Biophysics, Tallinn, Estonia, June
NMR Gordon Conference, June
International Society of Magnetic Resonance, Rhodes, Greece, August
Duracell, Boston, August
International Bunsen Discussion meeting; Solid State Electrolytes, Munster, Germany, October
Union College, Schenectady, New York, October
U. C. Berkeley, November
U. C. Davis, November
- 2002** University of Picardie, Amiens, France, January
Lille University, France, January
Hunter College, February
University of Windsor, Canada, April
Experimental NMR Conference, Monterey, April
Argonne National Laboratory, May
ACS Meeting, Boston, August
3rd International Materials Conference, Konstanz, September
Georgia Tech., October
Long Island University, November
Temple University, November
- 2003** International Battery Association Meeting, Kona, Hawaii, January
National Institute of Advanced Industrial Science and Technology, AIST Shikoku, Takamatsu, Japan, January
SONY Corporation, Yokohama, Japan, January
“World of Physics”, Stony Brook Outreach seminar series, February
Exxon Mobil Corporation, March
Solid State Ionics Conference, California, June
ACS Meeting, New York, September
Alpine NMR Conference, Chamonix, France, September
Drexel University, Pennsylvania, October
Washington State University, St. Louis, MO.

Indo-Pacific Catalysis Association Symposium, Taipei, Taiwan, November,
Pre-conference school, Indo-Pacific Catalysis Association Symposium, Tsinghua University,
Hsinchu, Taiwan, November

2004 Southampton University, UK, January
University of Nijmegen, the Netherlands, January
University of Bonn, Germany, January
Northwestern University, January
Princeton University, March
Physics Department, SUNY Stony Brook, April
University of Iowa, April
International Meeting on Lithium Ion Batteries, Nara, Japan, June
RSC Dalton Discussion Meeting, St. Andrews, UK, July
Solid State Gordon Research Conference, July
ACS Meeting, Philadelphia, August
Solid State Chemistry 2004, Prague, September
“Recent Advances and Applications of Solid-State NMR
from Superconducting Physics to Molecular Biology”, Warwick, September
New Opportunities in Materials Chemistry, London, September
84th International Bunsen Discussion Meeting, Münster, Germany, October
SERMACS meeting, Raleigh, North Carolina, November
MRS Meeting, Boston, November
New York Academy of Sciences, New York, December

2005 U. Michigan, Ann Arbor, January
U. C. Santa Barbara, March
Caltech, March
ACS Meeting, San Diego, March
Lithium Battery Discussion Meeting, Arachon, France, May
ECS Polymer Batteries and Fuel Cells Conference, Las Vegas, June
EUROMAR ENC Conference, Veldhoven, the Netherlands, July
Rocky Mountain Conference, Denver Colorado, August
EMSI (Environmental Molecular Science) Meeting, Arlington, VA , August
ACS Meeting, Baltimore, August
ECS Meeting, Los Angeles, October
University of Delaware, October
Cornell University, Ithaca, November
MRS Meeting, Boston, November
Session Organizer, Battery Session, MRS Meeting, December

2006 ICMR/ICTP Workshop on Recent Developments in Inorganic Materials, International
Center for Theoretical Physics Workshop, Trieste, Italy November
Texas A&M University, College Station, Texas, January,
Trinity College, Connecticut, February

- University of Rhode Island, March
 Frontiers in Inorganic Materials Chemistry, Santa Barbara, April
 Experimental NMR Conference, Asilomar, April
 Canadian Chemical Society Meeting, Halifax, Nova Scotia, May
 British Zeolite Association, Ambleside, July
 57th Annual Meeting of the International Society of Electrochemistry, Edinburgh, August
 University of Utah, Salt Lake City, September
 RSC Symposium, "From Single Molecules to extended lattices" Cambridge, UK, October
 MRS Symposia, "Inorganic Materials", and "Magnetic Resonance Symposium in Materials Science," Boston, November
- 2007** US/Africa Workshop, "Frontiers in Materials Research and Education", Abuja, Nigeria, January
 Oxford University, February
 École Normale Supérieure Lyon, March
 University of Picardie, Amiens, March
 Institut de Ciència de Materials de Barcelona, March
 University of St. Andrews, March
 "Cryo MAS Open Day" Symposium, University of Southampton, June
 "NMR of Metals in Biological Systems and in Materials", Delaware, June
 ICMAT 2007, Singapore, July
 49th Rocky Mountain Conference, Breckenridge, Colorado, July
 IZC Pre-conference summer school, Dalian, China, August
 International Zeolite Conference (IZC), Beijing, China, August
 "Lauterbur's Legacy: Looking at Life". A memorial symposium for Prof. P. Lauterbur, Stony Brook, September
 Battery Division Research Award Address, ECS Meeting, Washington D.C., October
 ISMAR, Taiwan, October
 NAE "Japan-America Frontiers of Engineering" Symposium, Palo Alto, November
 ICMCB-CNRS, Bordeaux, France, November
 Vassar College, New York, November
 NYU, New York, December
 ICMS-ICMR Winter School on Chemistry and Physics of Materials, JNCASR, Bangalore, December
 GE Corporate Research, Bangalore, December
 Indian Institute of Science, Bangalore, December
- 2008** GRC on Electrochemistry, Ventura, CA, January
 U.C. Santa Barbara, January
 Focused Battery Technical Workshop III, Material Challenges for High Energy Density and Long-life Lithium-Ion cells, Caltech, February
 Joint U.C.S.B.- Max Planck Meeting on Energy, Lake Arrowhead, February
 Zing Conference on Solid-State Chemistry, Cancun, Mexico, March
 MRS Meeting, San Francisco, March

Fairfield University, Connecticut, April
Georgetown University, Washington DC, April
UOP, Frontiers of Chemistry Lecture, May
International Meeting on Lithium Ion Batteries, Tianjin, China, June
Euromar, St. Petersburg, Russia, July
Synchrotron Radiation in Materials Science, Campinas, Brazil, July
Vaughan Lecture, Rocky Mountain Conference on Analytical Chemistry, Breckenridge, Colorado, July 2008
American Chemical Society Meeting, Philadelphia, August
University of New Orleans, New Orleans, September
University of Buffalo, Buffalo, October
Frontiers in Chemistry Lectureship, Case Western University, Ohio, October,
49th Battery Symposium, Osaka, Japan, November
Fundamentals on LIBs, Tegernsee, Germany, November
MRS Meeting, Boston, December

2009 GM, Michigan, January
Department of Chemistry, Columbia University, New York, February
1st International Workshop on Advanced Materials, Dubai, Arab Emirates, February
ACS Meeting, Salt Lake City, March
Experimental NMR Conference, Pacific Grove, CA, March
Armourers and Brasiers Cambridge Forum, Cambridge, UK, June
Chinese Academy of Sciences - Cambridge University Workshop, Cambridge, UK, July
Nano Materials for Energy Storage and Conversion BioNanotechnology (SLONANO), Slovenia, October
New York State Advanced Energy Conference, Hauppauge, New York, October
Program Chair, Alpine NMR Meeting, Chamonix, 2009

2010 British Embassy, "Battery technology workshop", London, January
Solid State Day, Gottfried Wilhelm Leibniz University Hannover, Institute for Physical Chemistry and Electrochemistry, Hannover, Germany, January
EURACT- NMR Workshop, The Institute for Nuclear Waste Management, Germany, January
Department of the Navy, Naval Research Laboratory, Chemistry Colloquium, Washington, D.C., April
E-MRS, (Solid State Ionics Symposium) Strasbourg, June
Gordon Research Conference on Inorganic Chemistry, Maine, June
Smith School of Enterprise and the Environment, World Forum 2010, Oxford, June
Gordon Research Conference on Catalysis, New Hampshire, June
EUROMAR Meeting, Florence, July
Gordon Research Conference on Solid State Chemistry, New Hampshire, August
Solid State Protonic Conduction 15 (SSPC-15), Santa Barbara, August 29, 2010
ACS Meeting, Boston, August

- EU/Department of Energy Transatlantic Workshop on Storage, Washington, October: “Next Generation Batteries for Grid Storage”
 Warwick, 850 MHz Solid State NMR Opening Ceremony, October
 Chemistry Department, Durham University, November
 RSC John Jeyes Award Lecture, Bath, November
 MRS, Boston, December
 RSC NMR Discussion Day, London, December
 RSC Solid State Chemistry Meeting, UCL, London, December
- 2011** LMU Chemistry Department, Munich, January
 The Kelvin Club, Peterhouse Scientific Society, February: “Recharging the Planet: New Approaches to Optimising the Performance of Lithium Ion Batteries”
 MIT Chemistry Department, February
 RSC John Jeyes Award Lecture Award Lectures, Glasgow and Surrey, February
 52th Experimental NMR Conference, Asilomar, April
 MRS, “Frontiers of Solid State Ionics”, San Francisco, April
 Energy Frontier Research Centers Summit and Forum, Washington DC, May
 2011 Lithium Ion Battery Discussion Meeting, Arcachon, June
 Solid State Ionics, Plenary Lecture, Warsaw, July
 Presentation to the Department of Energy and Climate Change (DECC), London, July.
 RSC Public Lecture, Burlington House, London, September
 Strongly Correlated Electron Systems (SCES) 2011, Cambridge, September
 International Symposium on Advanced Complex Inorganic Nanomaterials (ACIN 2011), Namur, September
 Kavli Public Lecture, The Royal Society, London, October
 The Cavendish Laboratory, Cambridge, October
 Chemistry Department, University College London, November
 CAPE, Cambridge, November
 ANZMAG, Torquay, Australia, November
 Deakin University, Melbourne, December
 CSIRO, Melbourne, December
- 2012** Electrochemistry Gordon Conference, Ventura, January
 Battery EV Tech, London, February
 Batteries Gordon Conference, Ventura, February
 Johnson Matthey Academic Conference (JMAC12), March
 Wuhan University of Technology, China, April
 Nanjing University, China, April
 Cardiff Spring Conference 2012, May
 IMLB 2012 Conference, JeJu Island, Korea, June
 Euromar, Dublin, July
 ISACS 8, Toronto, Canada, July
 nCAM2012, Cambridge, September
 German Chemical Society Conference, Darmstadt, September

- 2013** iNano Opening, Plenary Talk, Billund, January
 Chemistry Department, ENS Lyon, January
 RS, Theo Murphy International Scientific Meeting, 28 & 29 January
 STFC, Hydrogen & Fuels Workshop, Oxford, February
 Chemistry Department, University of Wisconsin, February
 IBA2013, Research Award Address, Barcelona, March
 ACS, New Orleans, March
 54th ENC, Laukien Award Address, Asilomar, CA, April
 ISMAR 2013, Rio de Janeiro, Brazil, May
 University of Basel, Basel, May
 SSI-19 Conference, Kyoto, June
 RSC MC11, Warwick University, July
 ICMRM, Cambridge, August
 Electrochem2013, Southampton University, Southampton, September
 RSC ISACS12, Cambridge, September
 pNMR workshop, Chamonix, September
 8th Alpine Meeting on Solid State NMR, Chamonix, September
 LG Chemicals, Daejeon, Korea, October
 Korea Basic Science Institute, Daegu, Korea, October
 Department of Energy Science, Sungkyunkwan University, Korea, October
 Samsung Advanced Institute of Technology (SAIT), Seoul, Korea, October
 RSC-Korean Li Air Forum, Seoul Korea, October
 Institute of Energy & Climate Research, Forschungszentrum Juelich, Germany, November
 MRS, December
 Alistore Meeting, Bordeaux, December
- 2014** Physics Department, Nottingham University, January
 ISMAR Lecture, 20th Meeting of the National Magnetic Resonance Society (India),
 "NMRS-2014", Assam, India, February
 Chemistry Department, Birmingham University, March
 School of Chemistry, Trinity College Dublin, March
 BMW, Munich Battery Discussions, Munich, March
 WE Heraeus-Seminar "Analytical Tools for Fuel Cells and Batteries", Bad Honnef,
 Germany, March
 Power our Future-14, CIC energigune, Vitoria, Spain, April
 IMLB 2014, Como, June
 Euromar 2014, Zurich, June
 56th Rocky Mountain Conference on Magnetic Resonance, Breckenridge, July
 AGICHEM Meeting, Edinburgh, July
 "Not a fish out of water: Operando studies of energy materials". EMC² EFRC Center,
 Cornell, August
 ISE Lausanne, September
 Thomas Young Centre, Energy Materials Workshop, UCL, London, September

Nanqiang Lecture, Xiamen, October,
Queen Mary College, Departmental Seminar, London, November
Japanese Battery Meeting, Kyoto, Japan, November
UK Energy Storage Conference 2014, Warwick, November

- 2015** Chemistry Department, Liverpool University, February
International Workshop on Advanced Materials, Ras al Khaimah, UAE, March
Wincools – ETH/EMFL Winter School, Champéry, March
Adlinger Center, Princeton University, March
Dupont CR&D, Wilmington DE, March
Beyond Lithium VIII, Oakridge, June
Solid State Ionics, Colorado, June
USIC Conference, Universities of Scotland, July
ISMAR, Shanghai, August
German Chemical Society Meeting (AS Award Address), Dresden, August
Joint Anglo-German Discussion Meeting, Darmstadt, September
Energy Materials Symposium, Bath, September
Size & Strain Conference, Oxford, September
ECS, Phoenix, October
Dutch NMR Discussion Group, November
African MRS, Ghana, December
- 2016** LMU Munich, talk to the Chemistry Department, January
Keynote, 17th International Materials Engineering Conference (IMEC 17), Israel, February
Weitzman Institute Departmental Seminar, Israel, February
Paul Scherrer Institute, Switzerland, March
Chemistry Department, ETH, Switzerland, March
International Battery Association meeting, Nantes, March
Graphene Flagship Meeting, Chalmers University, Gothenburg, Sweden, April
Hume Rothery Lecture, Department of Materials, Oxford, April
Chemistry Department, University of Reading, May
Electrochemical Society Meeting, San Diego, May
NSF Ceramics Workshop, San Diego, May
International Meeting on Lithium Ion Batteries (IMLB), Chicago, June
Euromar, Aarhus, Denmark, July
Plenary. SMARTER 5 Conference, Germany, September
Challenges & Prospects for Solid-State Chemistry 2016 (CPSSC 16), Seville, Spain,
September
Solid-State Protonic Conductors (SSPC-18), Oslo, Norway, September
pNMR Final Workshop, Italy, September
University of Lancaster, Chemistry Department Opening and Lecture, October
EPFL Chemistry Department and Marvel Centre Distinguished Lecture, Switzerland,
October
Materials for Tomorrow Conference, Chalmers University, Sweden, November

- Plenary, CHAINS: Chemistry as Innovating Science 2016, Netherlands, December
- 2017** Joint seminar to the Chemistry and Physics Departments at St Andrews, February
International Workshop on Advanced Materials: IWAM-2017, Ras al Khaimah, February
58th Experimental NMR Conference, Monterey, March 2017
ACS, San Francisco, Talks in the Presidential and Synthesis & Characterization of Materials for Energy Applications Symposia, and the 2016 E.V. Murphree Award in Industrial & Engineering Chemistry Symposium in honor of Michael M. Thackeray, April 2017
Applied Materials, Palo Alto, April 2017
Award address, 21st International Conference on Solid State Ionics, Padua, Italy, June 2017
Plenary, IUPAC Congress, Sao Paulo, Brazil, July 2017
Plenary, 68th Meeting of the International Society of Electrochemistry, USA, August 2017
10th Alpine Congress on Solid State NMR, Chamonix, September 2017
Regius-200-Symposium, Glasgow, September 2017
232nd ECS Meeting, National Harbor, MD, USA, October 2017
Inorganic Chemical Laboratory, University of Oxford
19th National Electrochemistry Conference of China, Shanghai, December 2017
- 2018** Franklin Lecture, Stony Brook University, January
Chemistry Department, University of Warwick, February
Munich Battery Discussions, February
International Battery Association, Jeju Island, South Korea, March 2018
SCF Award Ceremony and Lecture, Dijon; SCF Lecture tour, Université Paul Sabatier, Toulouse, U. Montpellier, May
Kyushu University, June
Plenary, IMLB 2018, Kyoto, June
Keynote, 7th EuCheMS Chemistry Congress, Liverpool, August
Keynote, Graphene Week, San Sebastian, September
Sacconi Metal Address, Bologna, September
Keynote, Royal Society Energy Materials Conference, September 2018
5th International Workshop on Lithium, Industrial Minerals and Energy, Santiago, Chile, October
Plenary, Emerging Material Technologies Summit, Hanoi, Vietnam, November 2018
Eastern Analytical Symposium Award Address, New Jersey, November
- 2019** CEA Grenoble, January
Cheetham Lecture, UC Santa Barbara, January
Five-College Lecturer: Lectures at Mount Holyoke College, the University of Massachusetts at Amherst, and Smith College, Massachusetts, January
Physics Department, Bristol University, February
Gordon Conference, "Nanomaterials for Applications in Energy Technology", February
Plenary, International Battery Association Meeting, San Diego, March
British Crystallographic Association Spring Meeting, (Prize Lecture) Nottingham, April
Chemistry Department, University of Bath, May

- UK-Italy Bilateral Workshop CNR-RS, Venice, June
 IUPAC 2019, Paris, July
 “Frontiers in Solid State Research” International Symposium, Max Planck, Stuttgart, July
 Electrochemical Conference on Energy and the Environment (ECEE 2019), Glasgow, July
 6th International Workshop on Lithium, Industrial Minerals and Energy, La Paz, Bolivia, September
 The Royal Society UK-Italy Bilateral International Meeting in Venice, September
 Rice University/Imperial College Workshop on Energy & Minerals, September
 Framing Integration Futures, Houston, September
 SESDIM, Madrid, October
 Edinburgh, CAMREG Meeting, December
 Alistore ERI Meeting, December
 Avogadro Colloquium Rome, December
- 2020** NEXGENNA, International Symposium, Lancaster, January
 Chemistry Department, University of Sheffield, January
 Japanese Battery Meeting, Tokyo, February
 Murata, Tokyo, February
 IOM3 – 2020 Annual Energy Materials Lecture, Webinar, May
 Faraday Masterclass, May
 StorageX Symposium, Stanford, June
 ECS Montreal Student Chapter Virtual Meeting, June
 Global Young Academy Webinar, June
 Chemistry a European Journal – 25th Birthday Celebration Webinar, August
 Towards Extreme Fast Charging and High Energy Batteries, CBMM Webinar, October
 (Online) 2020 International Workshop on Lithium, Industrial Minerals and Energy, November
 Faraday Institution Conference, November
 Euromar, Richard Ernst Prize Talk, December
 Shiekh Saqr Materials Lecture, International Winter School on Frontiers in Materials Science, Bangalore, December
 California Institute of Technology, December
- 2021** U. C. San Diego, Chemistry Department, January
 Trinity College Cambridge Science Society, January
 MIT ssNMR/DNP Zoominar, February
 APL Materials Horizons, Cambridge, UK, April
 Prof. Ulrich Stimming retirement symposium, Newcastle, UK, April
 University of Maryland, April
 Pimental Lecture, Berkeley Chemistry Department, April
 Indian Institute of Science (IISc) TIFR Chemical Sciences Webinar Series, April
 Molecular Foundry, Lawrence Berkeley Lab, California, US, June
 1st Virtual International Workshop on Post-Li Research: Women in Focus, July
 16th International Conference on Magnetic Resonance Microscopy, Malmo, August

- 25th IUCr, Prague, August
 ACS Fall 2021 National Meeting & Exposition, Atlanta, US, August
 Future Directions in Chemistry: from Biology to Advanced Materials, IST Austria, August
 International Shell Advanced Energy Storage Battery Conference, September
 International Battery Association meeting, Xiamen, China, October
 MRS-ACS Workshop on “Chemistry and Materials Science: Enabling a Sustainable Energy Future”, November
 Falling Walls Conference (Breaking the Walls on Fast Charging) Berlin, November
 Worshipful Company of Fuellers, a City of London Livery Company, November
 Faraday Institution Conference, November
 Kaist 2nd Emerging Materials, e-Symposium, November
 Norwegian Tech. University, Trondheim, November
 International Winter School 2021, JNCASR, Bangalore, December
 40th RSC Solid State Chemistry Christmas Meeting, December
- 2022** University of Oxford, Chemistry Undergraduate Society, January
 Talk to Austrian School Teachers, Vienna (online), February
 Bauerman Lecture, Imperial College London, February
 University of Cambridge NanoScience & Chemistry Society, February
 BGS and Cambridge Workshop, March
 Munich Discussion Days, Munich, March
 McBain Lecture, Pune (online), India, April
 Opening Ceremony of SKKU Institute of Energy Science & Technology (SIEST) and 1st SIEST Forum, Korea (online), May
 Zernike Institute for Advanced Materials, Groningen, NL, May
 Gordon Conference on Batteries, Ventura CA, US, June
 IMLB 2022, Sydney Australia, June
 Chemistry Department, University of Sydney, June
 Royal Australian Chemical Society Meeting, Brisbane, July
 Solid State Ionics, Boston, July
 ACS Disruptors Central Sciences Disruptors & Innovators Prize Symposium Award Talk, US (online), September
 ACS Disruptors Central Sciences Disruptors Prize China Roadshow, China (online), September
 IBA2022 Bled, Slovenia, October
 26th Solvay Conference, celebrating the 100th anniversary of the first Solvay conference on Chemistry, Brussels, Belgium October
 2022 International Conference on Niobium Based Batteries, Cambridge, December
- 2023** TUM Munich, Talk Chemistry Department, Munich, February
 RSC NMRDG23 Spin Hyperpolarisation Symposium, Nottingham, April
 Battery 2030 Plenary Talk, Uppsala University, May
 John Waugh Lecture, MIT, May
 Biennial Meeting of the Spanish Royal Chemical Society (RSEQ), Zaragoza, June

Euromar Meeting, Glasgow, July
Summer School, Italy, September
Theory and Molecular Simulation in the Physical Sciences, Cambridge, September
Faraday Institution Annual Conference, Birmingham, September
Spiers Memorial Lecture, York, September
Challenges and opportunities in non-equilibrium soft matter, Mont San Benet, Spain,
September
ECS Meeting, Gothenburg, October
Malcolm Green Lecture, Oxford, October
AABA 14, Ho-Chi Minh City, Vietnam, November
TIFR Hyderabad, December
RAM-90 and International Winter School, JNC, Bangalore, December
C2S, IIT Bombay, Mumbai, December
IMESD 2023, IITR Roorkee, December

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RESEARCH INTERESTS

- Synthesis, characterization and electrochemical testing of lithium and sodium ion batteries electrode materials
- Development of new *in situ* NMR methods for probing lithium-ion battery and supercapacitor function
- Application of novel local probes of structure (NMR, pair distribution function analysis) to monitor structural changes in electrode materials during and following cycling
- Oxygen-ion and proton conductivity in membranes for solid oxide fuel cells
- Transport and interfaces in solid state batteries