Curriculum Vitae
Clare P. Grey

Department of Chemistry,
University of Cambridge,
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http://www.ch.cam.ac.uk/staff/cpg.html

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:

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) Cambridge University
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:

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 Post-doctoral 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.

PROFESSIONAL SERVICES/ OTHER AWARDS AND HONOURS:

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)
Editorial Board, Accounts of Chemical Research, 2015 - present
Editorial Board, Journal of the American Chemical Society, 2011-present
Editorial Board, Journal of Materials Chemistry, July 2009-2010
Editorial Board, Chemistry of Materials, Jan. 2005-Jan. 2010
Editorial Board, Solid State Sciences, Jan 2002-present
Editorial Board, Journal of Magnetic Resonance, Jan 1999-present
Program Chair, Alpine NMR Meeting, Chamonix, 2009
Session Organizer, MRS Meeting, December 2005, Battery Session
Chair, NMR symposium of the 43rd Rocky Mountain Conference on Analytical Chemistry [Vice-chair 1999; committee member 1994-1999; Session organizer 1996-1999];
Advisory Board, Winton Programme for the Physics of Sustainability, Cambridge University, 2011-present
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)
ECS Biannual Meeting, Educational Division Talk, "XYZ for the Rest of Us" Los Angeles, October 2005

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

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

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, Campenas, Brazil, July
Vaughan Lecture, Rocky Mountain Conference on Analytical Chemistry, Brekenridge, 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

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". EMC^2 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, Champery, 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
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
SMARTER 5 Conference, Germany, September
Challenges & Prospects for Solid-State Chemistry 2016 (CPSSC 16), Seville, 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 Dept. and Marvel Centre Distinguished Lecture, Switzerland, October
Materials for Tomorrow Conference, Chalmers University, Sweden, November
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

PUBLICATIONS:

1. "Paramagnetic shift probes in high-resolution solid-state NMR", A.K. Cheetham, C.M. Dobson, C.P. Grey and R.J.B. Jakeman, *Nature* (London), **328**, 706-707, (1987).

2. "Studies of rare-earth stannates by ^{119}Sn MAS NMR - The use of paramagnetic shifts probes in the solid state", C.P. Grey, C.M. Dobson, A.K. Cheetham and R.J.B. Jakeman, *J. Am. Chem. Soc.*, **111**, 505-511, (1989).

3. "Oxidative coupling of methane over tin-containing rare-earth pyrochlores", A. Ashcroft, A.K. Cheetham, M.L.H. Green, C.P. Grey and P.D. Vernon, *J. Chem. Soc. Chem. Comm.,* 1667-1669, (1989).

4. "High resolution ^{13}C MAS NMR-spectra of paramagnetic lanthanide complexes", A.N. Clayton, C.M. Dobson and C.P. Grey, *J. Chem. Soc. Chem. Comm.*, 72-74, (1990).

5. "Y-89 MAS NMR study of rare-earth pyrochlores - Paramagnetic shifts in the solid-state", C.P. Grey, M.E. Smith, A.K. Cheetham, C.M. Dobson and N. Dupré, *J. Am. Chem. Soc.,* **112**, 4670-4675, (1990).

6. "Selective oxidation of methane to synthesis gas-using transition-metal catalysts", A.T. Ashcroft, A.K. Cheetham, J.S. Foord, M.L.H. Green, C.P. Grey, A.J. Murrell and P.D.F. Vernon, *Nature* (London), **344**, 319-321, (1990).

7. "An investigation into the conversion of methanol to hydrocarbons over a SAPO-34 catalyst using Magic-Angle-Spinning NMR and gas-chromatography", Y. Xu, C.P. Grey, J.M. Thomas and A.K. Cheetham, *Catal. Lett.*, **4,** 251-260, (1990).

8. "ESR and solid state MAS NMR study of the silica-supported $H_{3+n}PV_nMo_{12-n}O_{40}$ (n=0,1,2,3) Heteropolyacids", E.M. Serwicka and C.P. Grey, *Colloid Surface*, **45**, 69-82, (1990).

9. "A study on the reaction-mechanism of methanol conversion to hydrocarbons by solid-state NMR and gas-chromatography on a SAPO-34 catalyst", Y. Xu, C.P. Grey, J.M. Thomas and A.K. Cheetham, *Catal. Sci. Technol.*, Proc. Tokyo Conf., Eds. S. Yoshida, N. Takezawa, T. Ono, 1: 79-84 (1991).

10. "Isomorphous substitution in in nonlinear optical $KTiOPO_4$ - powder diffraction and magic angle spinning Nuclear-Magnetic-Resonance study of $(K_{1/2}Na_{1/2})TiOPO_4$ and $(Rb_{1/2}Na_{1/2})TiOPO_4$", S.J. Crennell, J.J. Owen, C.P. Grey, A.K. Cheetham, J.A. Kaduk and R.H. Jarman, *J. Mat. Chem.*, **1**, 113-119, (1991).

11. "Structure of cobaltacene in SnS_2: a single crystal solid state ^{2}H NMR study", C.P. Grey, J.S.O. Evans, S.J. Heyes and D. O'Hare, *J.C.S. Chem Comm.*, 1380-1382, (1991).

12. "Multiple-frequency decoupling in the Magic-Angle-Spinning NMR of paramagnetic solids", D.P. Raleigh, C.P. Grey, N. Soffe and C.M. Dobson, *J. Magn. Reson.*, **97**, 162-170, (1992).

13. "Structural information from NMR studies of paramagnetic solids - Na-23 MAS spectra of sodium lanthanide salts of ethylenediaminetetraacetic acid", A.R. Brough, C.P. Grey and C.M. Dobson, *J. Chem. Soc. Chem. Comm.*, 742-743, (1992).

14. "The detection of weak heteronuclear coupling between Spin-1 and spin-1/2 nuclei in MAS NMR; ^{14}N/^{13}C/^{1}H triple resonance experiments", C.P. Grey and W.S. Veeman, *Chem. Phys. Lett.*, **192**, 379-385, (1992).

15. "Susceptibility matching in MAS NMR - the determination of hyperfine tensors from paramagnetic stannates", C.P. Grey, C.M. Dobson and A.K. Cheetham, *J. Magn. Reson.*, **98**, 414-420, (1992).

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RESEARCH INTERESTS

- Synthesis, characterization and electrochemical testing of lithium 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
- Structures of solid-water interfaces: investigation of ion uptake and sorption in synthetic and natural materials
- Catalysis and sorption: structure and function