



EPSRC

Centre for Innovative Manufacturing
in Continuous Manufacturing and Crystallisation

EPSRC

Engineering and Physical Sciences
Research Council

Prof. Chick Wilson



Prof. Chick Wilson

Department of Chemistry
University of Bath
C.C.Wilson@bath.ac.uk

Chick Wilson is Chair of Physical Chemistry at the University of Bath, previously Regius Chair in Chemistry at the University of Glasgow, Visiting Professor University of Durham and Head of Crystallography at ISIS, RAL. He chairs the Scientific Council of the ILL, Grenoble and is a member of the EPSRC Manufacturing the Future Strategic Advisory Team. He was President of the British Crystallographic Association (2003-2006) and has directed

EPSRC IDEAS Factories. He was awarded the Thomas Graham Medal (RPSG) in 2011, IoP/RSC Willis Prize in 2001 and the BCA Philips Award in 1996. He has over 285 published papers (h-index 31) from a wide portfolio of research in structural chemistry and crystallisation science, supported from a range of funding sources (ca. £6M as PI/co-PI, £9M as co-I). Chick has a passion for research communication and is regularly to be found delivering public lectures or in public discussions, for example at Cafe Scientifique events.

Research Interests

Structural materials chemistry, including: structural evolution in organic materials; co-crystallisation as a route to new materials and for enhanced physical properties; proton migration, disorder and transfer; optical and non-linear optical materials; metastable state materials; crystallisation science, including continuous crystallisation for manufacturing. Research has evolved towards an increasing emphasis on materials discovery to complement strong programmes in development and application of neutron and X-ray diffraction methods. Motivated strongly by attempting to control the self-assembly (through crystallisation) and properties of target materials at both the molecular and macroscopic level, integrating a strong experimental programme with advanced computational methods and focusing on understanding of fundamentals offers real potential for the rational development and exploitation of new molecular materials and solid-state assemblies.

Representative Publications

Craig Wales, Lynne H Thomas and Chick C Wilson (2012). *CrystEngComm*, 14, 7264-7274. Tautomerisation and Polymorphism in Molecular Complexes of Piroxicam with Mono-Substituted Benzoic Acids.

Lynne H. Thomas, Elaine Cheung, Andrew O F Jones, Andras A Kallay, Marie-Helene Lemee-Cailleau, Garry J McIntyre & Chick C Wilson (2012). *Cryst Growth Des*, 12, 1746-1751. 4-Phenoxyphenol: A Porous Molecular Material.

Lynne H Thomas, Craig Wales, Lihua Zhao & Chick C Wilson (2011). *Cryst Growth Design*, 11, 1450-1452 [DOI: 10.1021/cg2002018]. Paracetamol Form II: an elusive polymorph through facile multi-component crystallisation routes.

Valeska P. Ting, Marc Schmidtman, Chick C. Wilson & Mark T. Weller (2010). *Angew. Chem.*, 49, 9408-9411 [DOI: 10.1002/ange.201003185]. Cisplatin - Polymorphism and New Structural Insights into an Important Chemotherapeutic Drug.

M Adam, A Parkin, L H Thomas & C C Wilson (2010). *CrystEngComm*, 12, 917-924 [DOI: 10.1039/b912539f]. Bifurcated hydrogen bonded supramolecular units in molecular complexes of picolines with chloranilic acid.

Mark T. Weller, Paul F. Henry, Valeska P. Ting & Chick C. Wilson (2009). *Chem. Commun.*, 2009, 2973-2989 [DOI: 10.1039/b821336d]. Crystallography of hydrogen-containing compounds: realising the potential of neutron powder diffraction.

David M. S. Martins, Derek S. Middlemiss, Colin R. Pulham, Chick C. Wilson, Mark T. Weller, Paul F. Henry, Norman Shankland, Kenneth Shankland, William G. Marshall, Richard M. Ibberson, Stephen Moggach, Michaela Brunelli and Carole A. Morrison (2009). *J. Amer. Chem. Soc.*, 131, 3884-3893 [DOI: 10.1021/ja8082973]. Temperature-induced Proton Transfer in the 1:1 Adduct formed between Squaric Acid and 4,4'-Bipyridine.

M Schmidtman, M J Gutmann, D S Middlemiss & C.C. Wilson (2007). *CrystEngComm*, 9, 743-745 [DOI: 10.1039/b709136m]. Towards Proton Transfer in Hydrogen Bonded Molecular Complexes: Joint Experimental and Theoretical Modelling and an Energy Scale for Polymorphism.

C A Morrison, M M Siddick, P J Camp & C C Wilson (2005). *J Amer Chem Soc*, 127, 4042-4048. Towards understanding mobile proton behaviour from first principles: the short hydrogen bond in urea-phosphoric acid.