

Lewis C. Wilkins

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Education and Qualifications

2015–present PhD in Inorganic Chemistry at Cardiff University

2010–2014 Chemistry MChem (Hons) at University of East Anglia.
First Class Honours degree

Example modules studied and marks achieved:

- Natural Products A and B (83% and 86% respectively)
- Bonding Structure and Periodicity (82%)
- Organic Molecules: Reactivity and Function (78%)
- Polymer and Materials Laboratory (71%)
- Inorganic Compounds: Structure and Function (70%)

2009-2010 Science Foundation year at University of East Anglia
82% (equivalent of 3 A-C grade A-levels)

2006-2008 A-levels at Wymondham High Sixth Form
3 A2 level passes in biology, chemistry and psychology and 1 AS level pass in mathematics.

2001-2006 GCSE's at Wymondham High School
11 A-C Grades (double science: A, mathematics: A, English language: A)

Research

University of East Anglia, supervisor – Prof Simon Lancaster (2013-2014)
Functionalization of $[\text{Fe}_2\{\text{SCH}_2\text{CH}(\text{CH}_2\text{OH})\text{S}\}(\text{CO})_6]$ iron-sulphur cluster and the impact on electrochemical reduction potentials.

Summer Project- University of East Anglia. August 2014
This project was designed to build on research of my final year and further develop these iron-sulfur clusters.

Cardiff University, supervisor – Dr Rebecca Melen (2015-present)
Investigating the use of boron Lewis acids as catalysts for a range of important processes and syntheses of novel compounds.

Awards

- 5th May 2015- Awarded Dalton Division RSC travel bursary of £644.06 to attend 98th CSC conference, Ottawa, Canada.
 - 26th Jan 2016- Awarded RSC Researcher Mobility grant worth £3587 to visit to University of Toronto for three months to study under Prof. Douglas Stephan.
 - 26th Jan 2016- Accepted to present poster on my work as part of the SET for BRITAIN competition at the House of Commons, London.
 - 9th May 2016- Awarded Organic Division RSC travel bursary of £200.00 to attend 99th CSC conference, Halifax, Canada.
 - 6th June 2016- Awarded Dalton Division RSC travel bursary of £111.17 to attend the Boron in the Americas XV conference, Kingston, Canada.
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Publications

Alexander Bähr, Lewis C. Wilkins, Kevin Ollegott, Benson M. Kariuki, Rebecca L. Melen. σ - versus π -Activation of Alkynyl Benzoates Using $B(C_6F_5)_3$. *Molecules* **2015**, *20*, 4530-4547 (Invited article, special issue on boron chemistry).

Rebecca L. Melen, Lewis C. Wilkins, Benson M. Kariuki, Hubert Wadepohl, Lutz H. Gade, A. Stephen K. Hashmi, Douglas W. Stephan, and Max M. Hansmann. Diverging Pathways in the Activation of Allenes with Lewis Acids and Bases: Addition, 1,2-Carboboration and Cyclization. *Organometallics*. **2015**, *34*, 4127.

Lewis C. Wilkins, Philipp Wieneke, Paul D. Newman, Benson M. Kariuki, Frank Rominger, A. Stephen K. Hashmi, Max M. Hansmann, Rebecca L. Melen. Pathways to functionalized heterocycles: The propargyl rearrangement using $B(C_6F_5)_3$. *Organometallics*, **2015**, *34*, 5298

Lewis C. Wilkins, Hugh B. Hamilton, Benson M. Kariuki, A. Stephen K. Hashmi, Max M. Hansmann, Rebecca L. Melen. Lewis acid-base mediated 1,2-addition reactions: Synthesis of pyrylium borates from en-ynoate precursors. *Dalton Trans.*, **2016**, *45*, 5929.

Lewis C. Wilkins, Benjamin A. R. Günther, Melanie Walther, James R. Lawson, Thomas Wirth, Rebecca Melen. Contrasting Frustrated Lewis Pair Reactivity with Selenium- and Boron-Based Lewis Acids. *Angew. Chem. Int. Ed.* **2016**, DOI: 10.1002/anie.201605239, *Angew. Chem.* **2016**, DOI: 10.1002/ange.201605239.

Lewis C. Wilkins, Rebecca L. Melen, Enantioselective Main Group Catalysis: Modern Catalysts for Organic Transformations, *Coord. Chem. Rev.*, **2016**, *324*, 123.

Lewis C. Wilkins, James R. Lawson, Philipp Wieneke, Frank Rominger, A. Stephen K. Hashmi, Max M. Hansmann, Rebecca L. Melen, The Propargyl Rearrangement to Functionalised Allyl- Boron and Borocation Compounds, *Chem. Eur. J.* **2016**, accepted.

Conference Participation and Contributions

Poster presentations:

- BORAM XV, Boron in the Americas- Queens University, Kingston, Canada, 25-28th June 2016.
- 99th Canadian Chemistry Conference- World Trade and Convention Centre, Halifax, Canada, 5-9th June 2016.
- Dalton 2016 Conference- University of Warwick, 29-31st March 2016.
- RSC Organic South East Division Meeting- University of East Anglia, 23rd March 2016.
- RSC Organic Section South West Regional Meeting- University of Southampton, 13th Jan 2016.
- 2nd Crystal Engineering and Materials Workshop of Ontario and Quebec- Guelph, Canada 10-12th June 2015.
- Cardiff Chemistry Conference- Cardiff University, 11-12th May 2015.
- Southern Dalton Meeting- University of Sussex, 21-22nd April 2015.

Oral Presentations:

- Main Group Interest Group Annual Meeting and AGM- Burlington House, London, 11th September 2015
 - 98th Canadian Chemistry Conference- Shaw Centre, Ontario, Canada, 13-17th June 2015.
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