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EDUCATION

- 2006 Ph.D. University of Sheffield, UK
Advisor: Joseph P. A. Harrity
- 2003 M.Chem. University of Sheffield, UK
(with study in US) Advisor: Alan C. Spivey
(Exchange university 2001–2002: University of California, Santa Barbara; GPA 3.90);
Advisor: Thomas R. R. Pettus

PROFESSIONAL EXPERIENCE

- 1/2012–present Assistant Professor, Department of Chemistry
University of North Carolina at Chapel Hill, Chapel Hill, NC
- 7/2011–12/2011 Visiting Assistant Professor, Department of Chemistry
University of North Carolina at Chapel Hill, Chapel Hill, NC
- 11/2006–6/2011 Postdoctoral Research Associate
Advisor: Prof. Amir H. Hoveyda (collaboration w/ Prof. Richard R. Schrock, MIT)
Boston College, Chestnut Hill, MA
- 6/2003–11/2006 Graduate Research Assistant
Advisor: Prof. Joseph P. A. Harrity
University of Sheffield, UK
- 9/2002–6/2003 Undergraduate Research
Advisor: Prof. Alan C. Spivey
University of Sheffield, UK
- 9/2001–9/2002 Undergraduate Research Opportunities Program
Advisor: Prof. Thomas R. R. Pettus
University of California, Santa Barbara, CA

HONORS

- 2017 Thieme Chemistry Journal Award
- 2012 UNC Junior Faculty Development Award
- 2012 Eli Lilly New Faculty Award
- 2003 R. D. Haworth Medal in Chemistry: University of Sheffield
- 2002 Robert H. DeWolfe Fellowship: University of California, Santa Barbara

BIBLIOGRAPHY AND PRODUCTS OF SCHOLARSHIP

Refereed Articles – University of North Carolina at Chapel Hill (‡ = contributed equally, § = undergraduate)

26. Murray, S. A.; Luc, E. C. M.;[§] **Meek, S. J.***
 “Synthesis of Alkenyl Boronates from Epoxides with Di-[B(pin)]-methane via Pd-Catalyzed Dehydroboration.”
Org. Lett. (accepted)
<http://pubs.acs.org/doi/pdf/10.1021/acs.orglett.7b03853>
25. Marcum, J. S.;[‡] Roberts, C. C.;[‡] Manan, R. S.; Cervarich, T. N.; **Meek, S. J.***
 “Chiral Pincer Carbodicarbene Ligands for Enantioselective Rhodium-Catalyzed Hydroarylation of Terminal and Internal 1,3-Dienes with Indoles,”
J. Am. Chem. Soc. **2017**, *139*, 15580–15583.
<http://pubs.acs.org/doi/pdf/10.1021/jacs.7b08575>
24. Murray, S. A.; Liang, M. Z.; **Meek, S. J.***
 “Stereoselective Tandem Bis-Electrophile Couplings of Diborylmethane,”
J. Am. Chem. Soc. **2017**, *139*, 14061–14064.
<http://pubs.acs.org/doi/pdf/10.1021/jacs.7b09309>
- Paper highlighted in Organic Process Research & Development, see: *Org. Process Res. Dev.* **2017**, *21*, 1695–1704.
 - Selected to appear on *JACS Spotlights*
23. Green, J. C.;[‡] Joannou, M. V.;[‡] Murray, S. A.; Zanghi, J.; **Meek, S. J.***
 “Enantioselective Synthesis of Anti-Hydroxy Bis(boronates) by Cu-Catalyzed Tandem Borylation/1,2-Addition,”
ACS Catal. **2017**, *7*, 4441–4445.
<http://pubs.acs.org/doi/pdf/10.1021/acscatal.7b01123>
- For a highlight of this paper, see: *Synfacts* **2017**, *13*, 1057.
22. Goldfogel, M. J.; Roberts, C. C.; Manan, R. S.; **Meek, S. J.***
 “Diastereoselective Synthesis of γ -Substituted 2-Butanones via (CDC)-Rh-Catalyzed Intermolecular Additions of Silyloxyfurans to Dienes,”
Org. Lett. **2017**, *19*, 90–93.
<http://pubs.acs.org/doi/pdf/10.1021/acs.orglett.6b03369>
- For a highlight of this paper, see: *Synfacts* **2017**, *13*, 269.
21. Murray, S. A.[‡]; Green, J. C.[‡]; Tailor, S. B.;[§] **Meek, S. J.***
 “Enantio- and Diastereoselective Synthesis of β -Boryl Tertiary Alcohols by Cu-Catalyzed 1,2-Additions of Alkyl Geminal Diborons to α -Ketoesters,”
Angew. Chem. Int. Ed. **2016**, *55*, 9065–9069.
<http://onlinelibrary.wiley.com/doi/10.1002/anie.201603465/epdf>
- For a highlight of this paper, see: *Synfacts* **2016**, *12*, 934.
20. Goldfogel, M. J.; **Meek, S. J.***
 “Diastereoselective Synthesis of Vicinal Tertiary and N-Substituted Quaternary Stereogenic Centers by Catalytic Hydroalkylation of Dienes,”
Chem. Sci. **2016**, *7*, 4079–4084.
<http://pubs.rsc.org/en/content/articlepdf/2016/sc/c5sc04908c?page=search>
- For a highlight of this paper, see: *Synfacts* **2016**, *12*, 494.
19. **Meek, S. J.**; Pitman, C.; Miller, A. J. M.
 “Deducing Reaction Mechanism: A Guide for Students, Researchers, and Instructors.”
J. Chem. Ed. **2016**, *93*, 275–286.
<http://pubs.acs.org/doi/pdf/10.1021/acs.jchemed.5b00160>
18. Joannou, M. V.; Moyer, B. S.; Goldfogel, M. J.; **Meek, S. J.***

“Silver(I)-Catalyzed Diastereoselective Synthesis of *anti* -1,2-Hydroxyboronates,”
Angew. Chem. Int. Ed. **2015**, 54, 14141–14145.
<http://onlinelibrary.wiley.com/doi/10.1002/anie.201507171/epdf>

- For a highlight of this paper, see: *Synfacts* **2015**, 11, 1314.

17. Roberts, C. C.; Matias, D. M.; **Meek, S. J.** *
 “Lewis Acid Activation of Carbodicarbene Catalysts for Rh-Catalyzed Hydroarylation of Dienes.”
J. Am. Chem. Soc. **2015**, 137, 6488–6491.
<http://pubs.acs.org/doi/pdf/10.1021/jacs.5b03510>
16. Joannou, M. V.; Moyer, B. S.; **Meek, S. J.** *
 “Enantio- and Diastereoselective Synthesis of 1,2-Hydroxyboronates through Cu-catalyzed Additions of Alkylboronates to Aldehydes.”
J. Am. Chem. Soc. **2015**, 137, 6176–6179.
<http://pubs.acs.org/doi/pdf/10.1021/jacs.5b03477>
15. Goldfogel, M, J.;[‡] Roberts, C. C.;[‡] **Meek, S. J.***
 “Tridentate Carbodicarbene-Based Ligands for Efficient Rh-catalyzed Intermolecular Hydroaminations of Dienes.”
J. Am. Chem. Soc. **2014**, 136, 6227–6230.
<http://pubs.acs.org/doi/pdf/10.1021/ja502275w>

Refereed Articles – Undergraduate, Graduate, and Postdoctoral Research

14. Kiesewetter, E. T.; O’Brien, R. V.; Yu, E. C.; **Meek, S. J.**; Schrock, R. R.; Hoveyda, A. H.
 Synthesis of Z-(Pinacolato)allylboron and Z-(Pinacolato)alkenylboron Compounds through Stereoselective Catalytic Cross-Metathesis.”
J. Am. Chem. Soc. **2013**, 135, 6026–6029.
13. Lichtscheidl, A. G.; Ng, V. W. L.; Müller, P.; Takase, M.K.; Malcolmson, S. J.; **Meek, S. J.**; Li, B.; Kiesewetter, E. T.; Hoveyda, A. H.; Schrock, R. R.
 “Bipyridine Adducts of Molybdenum Imido Alkylidene and Molybdenum Imido Alkylidyne Complexes.”
Organometallics **2012**, 31, 4558–4564.
12. **Meek, S. J.**; O’Brien, R. V.; Llaveria, J.; Schrock, R. R.; Hoveyda, A. H.
 “Catalytic Z-selective Olefin Cross-Metathesis for Natural Product Synthesis.”
Nature **2011**, 471, 461–466.
- For a highlight of this paper in Chemistry and Engineering News, see: “Rigging Cross-Metathesis” Halford, B. *Chem. & Eng. News* **2011**, 89, 9.
 - For a News and Views commentary on this paper, see: “Organic Chemistry: Overcoming Catalytic Bias” Lee, D. *Nature*, **2011**, 471, 452–453.
 - For a highlight of this paper, see: *Synfacts* **2011**, 6, 623.
11. Hoveyda, A. H.; Malcolmson, S. J.; **Meek, S. J.**; Zhugralin, A. R.
 “Catalytic Enantioselective Olefin Metathesis in Natural Product Synthesis. Chiral Metal-Based Complexes that Deliver High Enantioselectivity and More.”
Angew. Chem., Int. Ed. **2010**, 49, 34–44.
10. **Meek, S. J.**; Malcolmson, S. J.; Li, B.; Schrock, R. R.; Hoveyda, A. H.
 “Significance of Degenerate Metathesis Processes to Enantioselective Olefin Metathesis Promoted by Stereogenic-at-Mo Complexes.”
J. Am. Chem. Soc. **2009**, 131, 16407–16409.
9. Harvey, J. S.; Malcolmson, S. J.; Dunne, K. S.; **Meek, S. J.**; Thompson, A. L.; Schrock, R. R.; Hoveyda, A. H.; Gouverneur, V.
 “Enantioselective Synthesis of P-Stereogenic Phosphinates and Phosphine Oxides by Mo-Catalyzed Asymmetric

Ring-Closing Metathesis.”

Angew. Chem., Int. Ed. **2009**, *48*, 762–766.

- For a highlight of this paper, see: *Synfacts* **2009**, *4*, 397.

8. Sattely, E. S.; **Meek, S. J.**; Malcolmson, S. J.; Schrock, R. R.; Hoveyda, A. H.
“Design and Stereoselective Preparation of a New Class of Chiral Olefin Metathesis Catalysts and Application to Enantioselective Synthesis of Quebrachamine. Catalyst Development Inspired by Natural Product Synthesis.”
J. Am. Chem. Soc. **2009**, *131*, 943–953.

- For a highlight of this paper, see: *Synfacts* **2009**, *8*, 817.

7. Malcolmson, S. J.;[‡] **Meek, S. J.**;[‡] Sattely, E. S.; Schrock, R. R.; Hoveyda, A. H.
“Highly Efficient Molybdenum-based Catalysts for Enantioselective Alkene Metathesis.”
Nature **2008**, *456*, 933–937.

- For a News and Views commentary on this paper, see: “Organometallic Chemistry: Catalyst takes control to Heart” Diver, S. T. *Nature*, **2008**, *456*, 883–885.

- For a highlight of this paper in Chemistry World, see: “Catalyst Flexes for Extra Control” Hadlington, S. *Chemistry World*, **2009**, *6*, 22.

- For a highlight of this paper in Chemistry and Engineering News, see “A Catalyst With Fluxionality” Halford, B. *Chem. & Eng. News* **2008**, *86*, 11.

- For a highlight of this paper, see: *Synfacts* **2009**, *3*, 293.

- For a Research Highlight of this paper in Nature Chemistry, see: “Alkene metathesis: Monodentate magic” Davey, S. *Nature Chemistry*, **2008**; published online (<http://www.nature.com/nchem/reshigh/2008/1108/full/nchem.91.html>).

- For a Research Highlight on this paper, see: “Asymmetric Ring-Closing Metathesis with a Twist” Klare, H. F. T.; Oestreich, M. *Angew. Chem., Int. Ed.* **2009**, *48*, 2085–2089.

6. **Meek, S. J.**; Harrity, J. P. A.
“O→C Rearrangements: A Powerful Strategy for the Synthesis of Functionalized Carbocycles.”
Tetrahedron **2007**, *63*, 3081–3092.

5. **Meek, S. J.**; Demont, E. H.; Harrity, J. P. A.
“Investigation of the Scope of an Enantioselective O→C Co-Mediated Rearrangement Reaction.”
Tetrahedron Lett. **2007**, *48*, 4165–4168.

4. **Meek, S. J.**; Pradaux, F.; Carbery, D. R.; Demont, E. H.; Harrity, J. P. A.
“Investigation of the Scope of a Co-Mediated O→C Ring-Contraction.”
J. Org. Chem. **2007**, *72*, 3467–3477.

3. **Meek, S. J.**; Pradaux, F.; Carbery, D. R.; Demont, E. H.; Harrity, J. P. A.
“Development of a Stereoselective Co-Mediated Dihydropyran Ring Contraction.”
Org. Lett. **2006**, *8*, 5597–5600.

2. **Meek, S. J.**; Pradaux, F.; Carbery, D. R.; Demont, E. H.; Harrity, J. P. A.
“Development of the Scope of a Co-Mediated O→C Rearrangement Reaction.”
J. Org. Chem. **2005**, *70*, 10046–10056.

1. Magdziak, D.; **Meek, S. J.**; Pettus, T. R. R.
“Cyclohexadienone Ketals and Quinols: Four Building Blocks Potentially Useful for Enantioselective Synthesis.”
Chem. Rev. **2004**, *104*, 1383–1429.

Book Chapters

2. Hoveyda, A. H.; Malcolmson, S. J.; **Meek, S. J.**; Zhugralin, A. R.
“Catalytic Enantioselective Olefin Metathesis and Natural Product Synthesis.”

In *Metathesis in Natural Product Synthesis: Strategies, Substrates and Catalysts*; Cossy, Arseniyadis, Meyer, Eds.; VCH-Wiley, Weinheim, Germany; 2010.

- Hoveyda, A. H.; Malcolmson, S. J.; **Meek, S. J.**; Zhugralin, A. R.
“Catalytic Enantioselective Olefin Metathesis Reactions.”
In *Catalytic Asymmetric Synthesis, Third Edition*; Ojima, I. Ed.; VCH-Wiley, Weinheim, Germany; 2010.

Patents

- Meek, S. J.; Roberts, C. C.; Goldfogel, M. J.; Joannou, M.
“Bis(Phosphine)-Carbodicarbene Catalyst Complexes and Methods of Using the Same.”
U.S. Provisional Patent Application; Filing Date: 4-15-2014
- Hoveyda, A. H.; Schrock, R. R.; Meek, S. J.; Malcolmson, S. J.; Kieswetter, L.T.
“Complexes for Use in Metathesis Reactions.”
Filing Date: 05-25-2012; Publication Date: 10/01/2013; US Patent **8546500**
- Hoveyda, A. H.; Meek, S. J.; O’Brien, R. V.; Llaveria, J.; Schrock, R. R.
“Efficient Method for Z- or Cis-Selective Cross-Metathesis of Enol Ethers and Allylic Amines.”
Filing Date: 08-02-2011; Publication Date: 03/12/2013; US Patent **8598400**
- Hoveyda, A. H.; Malcolmson, S. J.; Meek, S. J.; Schrock, R. R.
“Catalysts for Metathesis Reactions Including Enantioselective Olefin Metathesis, and Related Methods,”
Filing Date: 23-01-2009; Publication Date: 27/06/2017; US Patent **9687834**; European Patent **EP2242578**

Invited Seminars

- University of Vermont, Burlington VT (Scheduled for March 2018)
- Princeton University, Princeton NJ, Sept. 2017
- AbbVie, Worcester MA, Aug. 2017
- North Carolina State, Raleigh NC, May 2017
- University of Texas – Austin, Austin TX, May 2017
- University of Texas Southwestern Medical Center, Dallas TX, May 2017
- Bristol-Myers Squibb, Wallingford, CT, Apr. 2017
- Bristol-Myers Squibb, New Brunswick, NJ, Apr. 2017
- Bristol-Myers Squibb, Lawrenceville, NJ, Apr. 2017
- University of Michigan, Ann Arbor MI, Apr. 2017
- Duke University, Durham NC, Apr. 2017
- University of Wisconsin at Madison, Madison WI, Mar. 2017
- University of California at San Diego, San Diego CA, Mar. 2017
- The Scripps Research Institute, La Jolla CA, Mar. 2017
- University of Delaware, Newark DE, Mar. 2017
- Temple University, Philadelphia PA, Mar. 2017
- University of Pennsylvania, Philadelphia PA, Mar. 2017
- Brigham Young University, Provo UT, Feb. 2017
- University of Utah, Salt Lake City UT, Feb. 2017
- Yale University, New Haven CT, Feb. 2017
- Northwestern University, Evanston IL, Feb. 2017
- Colorado State University, Fort Collins CO, Nov. 2016
- Indiana University, Bloomington IN, Nov. 2016
- Purdue University, West Lafayette IN, Nov. 2016
- University of Illinois Urbana-Champaign, Urbana IL, Oct. 2016
- University of California at Berkeley, Berkeley CA, Oct. 2016
- Wake Forrester University, Winston Salem NC, Nov. 2014
- University of North Carolina at Greensboro, Greensboro NC, Sep. 2014

Invited Conference Presentations

5. FloHet 2018, Invited Speaker (Scheduled for March 2018)
4. Organic Reactions and Processes Gordon Research Conference, Easton MA, July 2017
3. Southeastern Regional ACS Meeting, Columbia SC, Oct. 2016
2. EuCheMS Young Investigator Workshop, Huelva, Spain, Sept. 2016
1. 252nd ACS National Meeting, Young Academic Investigators Symposium, Philadelphia PA, Aug. 2016

Contributed Oral and Poster Presentations

8. Organic Reactions and Processes Gordon Research Conference, Easton MA, July 2016 (Poster)
7. Stereochemistry Gordon Research Conference, Newport RI, July 2016 (Poster)
6. Organic Reactions and Processes Gordon Research Conference, Lewiston ME, July 2015 (Poster)
5. Organometallics Gordon Research Conference, Newport RI, July 2015 (Poster)
4. Organometallics Gordon Research Conference, Newport RI, July 2014 (Poster)
3. Stereochemistry Gordon Research Conference, Newport RI, July 2014. (Poster & Invited poster talk)
2. Organic Reactions and Processes Gordon Research Conference, Smithfield RI, July 2013. (Poster)
1. NIH/NIGMS Workshop 2012, Dallas TX, (June 2012), (Short talk)

RESEARCH SUPPORTCurrent Support

Project Title: Development of New Stereoselective Metal-Catalyzed Organic Reactions (1R01GM116987-01)
 Source of Support: NIH, National Institute General Medical Sciences
 Total award period: 01/01/2016–12/31/2020

Project Title: Stereoselective Hydrofunctionalization Reactions of Olefins (CHE 1665125)
 Source of Support: National Science Foundation
 Total award period: 7/1/2017–6/30/2020

Project Title: 16-F-1 Tunable Modular Ligand Platforms for Catalytic Industrial Reactions
 Source of Support: Eastman Chemical Co.
 Total award period: 7/1/2017–6/30/2018

Past Support

Project Title: Development of New Stereoselective Metal-Catalyzed Organic Reactions (Supplement; 3 R01 GM116987-01S1)
 Source of Support: NIH, National Institute General Medical Sciences
 Total award period: 01/01/2016–12/31/2016

Project Title: Metal Catalyzed C–H bond Activation/Allyl Addition: Development of New Transition Metal Catalysts for Practical and Uniquely Efficient C–C Bond Forming Reactions (ACS PRF 52447-DNI1)
 Source of Support: American Chemical Society Petroleum Research Fund
 Total award period: 9/01/2012–9/01/2015

Project Title: Junior Faculty Development Award
 Source of Support: UNC Chapel Hill
 Award period: 1/01/2012–1/01/2013

Project Title: Eli Lilly New Faculty Award
 Source of Support: Eli Lilly
 Total award period: 5/15/2013–5/15/2014

PROFESSIONAL SERVICE

- Departmental Committees
 - Member, Graduate Recruiting Committee (2012–present)
 - Member, Graduate Studies Committee (2015–present)
 - Member, Facilities Committee (2016–2017)
 - Member, Undergraduate Studies Committee (2012–2014)
 - Member, Facilities Committee (2012–2015)
 - Member, Graduate Studies Committee (2011–2012)
 - Member, Bio-Organic Search Committee (2016, 2017)
- Symposium Organization
 - Co-Organizer with Prof. Mitch Croatt (UNC Greensboro), “Advances in Organic Synthesis” symposium at the Southeast Regional Meeting of the American Chemical Society (SERMACS) (2017). Invited twelve speakers that are from both academia and industry at a variety of career stages.
- Educational Activities
 - Co-authored a publication that provides a framework for students and teachers interested in reaction mechanism analysis. “Deducing Reaction Mechanism: A Guide for Students, Researchers, and Instructors,” *J. Chem. Ed.* **2016**, *93*, 275–286. (pub #19)
- Professional Society Membership:
 - American Chemical Society (2011–present)
- Consulting
 - Scientific Consultant, *XiMo Inc.*, Switzerland (2011–2012)

UNC Outreach

- Research group partnered with Women in Science and Engineering (WISE) to run a booth at UNC Science Expo as part of NC Science Festival (4/2013, 4/2014, 4/2015, 4/2016, 4/2017).
- Science Representative for the UNC First Look Program (Fall 2015). Provided lab tours to middle school students from minority serving schools.
- Lab tour and science demonstration for 12 underrepresented high school students from Durham school district (March 2013).