

Shauna M. Paradine, Ph.D.

Department of Chemistry and Chemical Biology
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Professional Experience

Postdoctoral Fellow, *Harvard University*, April 2015-present

NIH Ruth L. Kirschstein Postdoctoral Fellow, 2015-2018

Research Advisor: Prof. Eric N. Jacobsen

Topic: Chemoselective multicomponent synthesis of highly enantioenriched *N*-Boc homoallylic amines from acetals and aldehydes via anion-binding catalysis (*manuscript in preparation* - **attached**)

Graduate Research Assistant, *University of Illinois at Urbana-Champaign*, October 2008-February 2015

NSF Graduate Research Fellow, 2009-2012

UIUC Sylvia Stoesser Graduate Fellow, 2008-2009

Research Advisor: Prof. M. Christina White

Topic: Chemo- and site-selective intramolecular C(sp³)-H amination reactions catalyzed by iron and manganese phthalocyanines (*two publications, one patent*)

DAAD-RISE Summer Internship Program, *Universität Mainz, Germany*, May-August 2007

ACS-RISE Scholar

Research Advisor: Prof. Bernhard Witulski

Topic: Synthesis of mono- and bis-biaryliodonium salts using *m*-CPBA as a versatile oxidant

Visiting Scholar, *Cardiff University, Wales, UK*, May-August 2006

Albion College FURSCA Summer Fellow

Research Advisor: Prof. Thomas Wirth

Topic: Chiral hypervalent iodine-catalyzed enantioselective oxidation reactions (*two publications*)

Undergraduate Research Assistant, *Albion College*, August 2004-May 2008

Albion College Student Research Partners Program, 2004-2006

Albion College FURSCA Semester Research & Travel Grants, 2004-2008

Research Advisor: Prof. Andrew N. French

Topic: Development of hypervalent iodine reagents and chiral iodoarene catalysts

Education

University of Illinois at Urbana-Champaign, Urbana, IL

Ph.D. in Chemistry, 2015

Albion College, Albion, MI

B.A. in Chemistry (ACS certified) – Summa cum Laude, with Albion College Honors, 2008

Honors and Awards

- 2015-2018** Ruth L. Kirschstein NIH Postdoctoral Fellow (NIGMS)
2012 Seemon Pines Travel Award (UIUC Department of Chemistry)
2012 R.C. Fuson Memorial Travel Award (UIUC Department of Chemistry)
2012-2013 Philanthropic Educational Organization (P.E.O.) Scholar Award
2009-2012 NSF Graduate Research Fellow
2008-2009 Sylvia Stoesser Fellow (UIUC Department of Chemistry)
2008 David L. Randall Award for the Outstanding Senior Chemistry Major (Albion)
2008 The Phi Beta Kappa Society
2007-2008 Marvin F. Grostic Endowed Scholarship in Chemistry (Albion)

2007	DAAD ACS-RISE Scholar
2007	IUPAC Undergraduate International Summer Research ACS Poster Award
2006	Mark E. Putnam Memorial Outstanding Sophomore Chemistry Major Award (Albion)
2004-2008	Albion College Dean's List
2004-2008	Albion College Trustee Scholarship
2004-2008	William R. Steers Kalamazoo Community Foundation Scholarship
2004	ACS Kalamazoo Section Competitive Chemistry Exam, 2 nd Place scholarship winner

Publications

- 5) **Paradine, S.M.**; Jacobsen, E.N. "Enantioselective Multicomponent Synthesis of Homoallylic Amines Enabled by Anion-Binding Catalysis." *Manuscript in preparation*. [**manuscript enclosed**]
- 4) **Paradine, S.M.**; Griffin, J.R.; Zhao, J.; Petronico, A.L.; Miller, S.; White, M.C. "A Manganese Catalyst for Highly Reactive yet Selective Intramolecular C(sp³)-H Amination." *Nature Chemistry*, **2015**, 7, 987-994. [**cited 42 times**]
 - News of the Week, *Chemical & Engineering News*, 12 October 2015
 - Editors' Choice, *Science*, 30 October 2015 (350, pp. 525)
 - "White-Paradine Catalyst" available from Sigma-Aldrich: Product #799688
- 3) **Paradine, S.M.**; White, M.C. "Iron-Catalyzed Intramolecular Allylic C-H Amination." *Journal of the American Chemical Society*, **2012**, 134, 2036-2039. [**cited 160 times**]
- 2) Altermann, S.M.; Richardson, R.D.; Page, T.K.; Schmidt, R.K.; Holland, E.; Mohammed, U.; **Paradine, S.M.**; French, A.N.; Richter, C.; Bahar, A.M.; Witulski, B.; Wirth, T. "Catalytic Enantioselective α -Oxysulfonylation of Ketones Mediated by Iodoarenes." *European Journal of Organic Chemistry*, **2008**, 5315-5328. [**cited 80 times**]
- 1) Richardson, R.D.; Page, T.K.; Altermann, S.; **Paradine, S.M.**; French, A.N.; Wirth, T. "Enantioselective α -Oxytosylation of Ketones Catalysed by Iodoarenes." *Synlett*, **2007**, 538-542. [**cited 74 times**]

Patents

- 1) White, M.C.; **Paradine, S.M.**; Griffin, J.R.; Zhao, J.; Petronico, A.L. "General Catalyst for C-H Functionalization." U.S. Patent 9,770,711, **2017**.

Invited Lectures

Albion College

Albion, MI, October 2017

Title: "Oh, the molecules you'll make! Selective catalysis for organic synthesis"

Albion College (Seemon Pines Award Lecture)

Albion, MI, October 2012

Title: "Introducing nitrogen through C-H bond activation with iron catalysts"

Alma College

Alma, MI, October 2012

Title: "Introducing nitrogen through C-H bond activation with iron catalysts"

Conference Participation

Gordon Research Conferences (Natural Products & Bioactive Compounds)

Andover, NH, July 2017

Poster: "Enantioselective multicomponent synthesis of homoallylic amines from aldehydes and acetals enabled by anion-binding catalysis"

Boston Symposium on Organic and Bioorganic Chemistry

Boston, MA, October 2016

Poster: "Enantioselective aza-Sakurai cyclization via dual hydrogen bond donor catalysis"

Gordon Research Conferences (Stereochemistry)

Newport, RI, July 2016

Poster: "Enantioselective aza-Sakurai cyclization via dual hydrogen bond donor catalysis"

UIUC Department of Chemistry OCB 27th Pines-Beak Allerton Conference

Monticello, IL, November 2013

Poster: "Iron-catalyzed intramolecular allylic C–H amination"

6th CaRLa Winter School

Heidelberg, Germany, February 2013

Poster: "Iron-catalyzed intramolecular allylic C–H amination"

UIUC Department of Chemistry OCB 26th Pines-Beak Allerton Conference

Monticello, IL, November 2012

Seminar: "Iron-catalyzed intramolecular allylic C–H amination"

ACS 244th National Meeting

Philadelphia, PA, August 2012

Seminar: "Iron-catalyzed intramolecular allylic C–H amination"

ACS 235th National Meeting

New Orleans, LA, April 2008

Poster: "Study of the mechanism of formation of symmetric bis-dibenziodolium salts: substituent effects"

ACS 234th National Meeting

Boston, MA, August 2007

Poster: "Novel and straightforward synthesis of biaryliodolium salts using *m*CPBA as a versatile oxidant"

ACS 233rd National Meeting

Chicago, IL, March 2007

Poster: "Catalytic enantioselective α -oxytosylation of propiophenone using chiral hypervalent iodine reagents" *IUPAC Undergraduate ACS Poster Award*

ACS 231st National Meeting

Atlanta, GA, March 2006

Poster: "Synthesis of a chiral hypervalent iodine reagent starting from (S)-propylene oxide"

ACS 229th National Meeting

San Diego, CA, March 2005

Poster: "Progress toward the synthesis of a new class of hypervalent iodine reagents"

Teaching Experience

Organotransition Metal Chemistry (CHEM 538), University of Illinois at Urbana-Champaign

Spring 2014 (Head TA)

Duties: Guided class discussions on current literature; wrote lecture notes for C–H activation-related topics; wrote exam questions, composed answer key, and graded student exams

Organic Chemistry for Majors Laboratory (CHEM 237), University of Illinois at Urbana-Champaign

Fall 2008, Spring 2009 (Head TA)

Duties: Led two laboratory sections with a fellow TA; gave short introductory lectures at beginning of each laboratory section; instructed proper laboratory techniques for 20+ students per laboratory section; gave weekly pre-laboratory lectures when faculty instructor absent; graded student exams and laboratory reports

Introductory Organic Chemistry Laboratory (CHEM 211 & 212), Albion College

Fall 2006, Fall 2007, Spring 2008

Duties: Assisted faculty instructor during laboratory sections; answered student questions and instructed them in proper laboratory technique; graded laboratory reports

General Chemistry Laboratory (CHEM 121), Albion College

Spring 2007

Duties: Assisted faculty instructor during laboratory sections; answered student questions and instructed them in proper laboratory technique; graded laboratory reports

Peer Tutor, Chemistry, for the Quantitative Skills Center, Albion College

October 2006 – December 2007

Duties: Provided weekly individual instruction for students in general and organic chemistry; developed individualized problem sets to supplement course material

Service and Affiliations

January-November 2013

Allerton Conference Student Committee Chair

December 2008-January 2013

Chemistry Outreach Classroom Volunteer

September-December 2008

Tutor at Urbana Middle School

2005-present

American Chemical Society member