Christopher Uyeda

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EDUCATION

2005–2011 **Harvard University, Cambridge, MA**
A.M. Chemistry, May 2008
Ph.D. Chemistry, March 2011

2001–2005 **Columbia University, New York, NY**
B.S. Biomedical Engineering, *summa cum laude*, May 2005

ACADEMIC EXPERIENCE

2013–present **Assistant Professor**
Purdue University, Department of Chemistry, West Lafayette, IN

2011–2013 **NSF Center for Chemical Innovation Postdoctoral Fellow**
California Institute of Technology, Department of Chemistry, Pasadena, CA
Research Advisor: Professor Jonas Peters

2005–2010 **Graduate Research Assistant**
Harvard University, Department of Chemistry and Chemical Biology, Cambridge, MA
Research Advisor: Professor Eric N. Jacobsen
Dissertation: Catalysis of the Claisen Rearrangement by Hydrogen-Bond Donors

2002–2005 **Undergraduate Research Assistant**
Columbia University, Chemistry Department, New York, NY
Research Advisor: Professor Ronald Breslow

AWARDS AND HONORS

2018 College of Science Faculty Award for Outstanding Contributions to Undergraduate Teaching
2018 Thieme Chemistry Journals Award
2017 ACS Division of Organic Chemistry Young Investigator Symposium
2017 NIH Maximizing Investigators' Research Award
2016 Alfred P. Sloan Foundation Research Fellowship
2016 NSF CAREER Award
2015 ACS PRF Doctoral New Investigator
2011–2013 NSF Center for Chemical Innovation Postdoctoral Fellowship
2010 Fieser Lecture in the Chemical Sciences

2008 Christensen Prize for Outstanding Research Achievement
2006 Robert B. Woodward Fellow
2005 Tau Beta Pi engineering honor society
2004 Pfizer Synthetic Organic Chemistry Summer Undergraduate Research Fellowship

PUBLICATIONS

Independent Publications:

(28) Powers, I. G.; Andjaba, J. M.; Luo, X.; Mei, J.; Uyeda, C.* "Catalytic Azoarene Synthesis by a Dinuclear Ni Complex" *J. Am. Chem. Soc.* **2018**, *140*, 4110–4118.

(27) Rounds, H. R.; Zeller, M.; Uyeda. C.* "Dinuclear Pathways for the Activation of Strained Three-Membered Rings" *Organometallics*, **2018**, *37*, 545–550.

(26) Werth, J.; Uyeda, C.* "Regioselective Simmons–Smith-Type Cyclopropanations of Polyalkenes Enabled by Transition Metal Catalysis" *Chem. Sci.* **2018**, *9*, 1604–1609.

(25) Hartline, D. R.; Zeller, M.; Uyeda, C.* "Catalytic Carbonylative Rearrangement of Norbornadiene via Dinuclear Carbon–Carbon Oxidative Addition" *J. Am. Chem. Soc.* **2017**, *139*, 13672–13675.

(24) Pal, S.; Zhou, Y.-Y.; Uyeda, C.* "Catalytic Reductive Vinylidene Transfer Reactions" *J. Am. Chem. Soc.* **2017**, *139*, 11686–11689.

(23) Kwon, D.-H.; Proctor, M.; Mendoza, S.; Uyeda, C.; Ess, D. H.* "Catalytic Dinuclear Nickel Spin Crossover Mechanism and Selectivity for Alkyne Cyclotrimerization" *ACS Catal.* **2017**, *7*, 4796-4804.

(22) Steiman, T. J.; Uyeda, C. "Dinickel, 1,1(-(1,8-Naphthyridine-2,7-diyl)bis[N-(2,6-diisopropylphenyl)ethan-1-imine](benzene)" *e-EROS* **2017**.

(21) Adolph, C. M.; Werth, J.; Selvaraj, R; Wegener, E. C.; Uyeda, C.* "Dehydrogenative Transformations of Imines Using a Heterogeneous Photocatalyst" *J. Org. Chem.* **2017**, *82*, 5959–5965.

(20) Powers, I. G.; Kiattisewee, C.; Mullane, K. C.; Schelter, E. J.; Uyeda, C.* "A 1,2-Addition Pathway for C(sp^2)–H Activation at a Dinickel Imide" *Chem. Eur. J.* **2017**, *23*, 7694–7697.

(19) Powers, I. G.; Uyeda, C.* "Metal–Metal Bonds in Catalysis." *ACS Catal.* **2017**, *7*, 936–958.
[Invited Perspective]

(18) Behlen, M. J.; Zhou, Y.-Y.; Steiman, T. J.; Pal, S.; Hartline, D. R.; Zeller, M.; Uyeda, C.* "Dinuclear Oxidative Addition Reactions Using an Isostructural Series of Ni_2, Co_2, and Fe_2 Complexes." *Dalton Trans.* **2017**, *46*, 5493–5497.
[Invited contribution to a themed issue "Multimetallic Complexes: Synthesis and Applications"]

(17) Hartline, D. R.; Uyeda, C.* "Well-Defined Models for the Elusive Dinuclear Intermediates of the Pauson–Khand Reaction." *Angew. Chem., Int. Ed.* **2016**, *55*, 6084–6087.

(16) Zhou, Y.-Y.; Uyeda, C.* "Reductive Cyclopropanations Catalyzed by Dinuclear Nickel Complexes." *Angew. Chem., Int. Ed.* **2016**, *55*, 3171–3175.

(15) Uyeda, C.*; Steiman, T. J.; Pal, S.. "Catalytically Active Nickel–Nickel Bonds Using Redox-Active Ligands." *Synlett* **2015**.
[Invited Synpacts account]

(14) Pal, S.; Uyeda, C.* "Evaluating the Effect of Catalyst Nuclearity in Ni-Catalyzed Alkyne Cyclotrimerizations." *J. Am. Chem. Soc.* **2015**, *137*, 8042–8045.

(13) Steiman, T. J.; Uyeda, C.* "Reversible Substrate Activation and Catalysis at an Intact Metal–Metal Bond Using a Redox-Active Supporting Ligand." *J. Am. Chem. Soc.* **2015**, *137*, 6104–6110.

(12) Zhou, Y.-Y.; Hartline, D. R.; Steiman, T. J.; Fanwick, P. E.; Uyeda, C.* "Dinuclear Nickel Complexes in Five States of Oxidation Using a Redox-Active Ligand." *Inorg. Chem.* **2014**, *53*, 11770–11777.

Publications from Postdoctoral, Graduate, and Undergraduate Research:

(11) Huo, P.; Uyeda, C.; Goodpaster, J. D.; Peters, J. C.; Miller III, T. F. "Breaking the Correlation between Energy Costs and Kinetic Barriers in Hydrogen Evolution via a Cobalt Pyridine-Diimine-Dioxime Catalyst." *ACS Catal.* **2016**, *6*, 6114–6123.

(10) Uyeda, C.; Peters, J. C.* "Selective Nitrite Reduction at Heterobimetallic CoMg Complexes." *J. Am. Chem. Soc.* **2013**, *135*, 12023–12031.

(9) Uyeda, C.; Tan, Y.; Fu, G. C.*; Peters, J. C.* "A New Family of Nucleophiles for Photoinduced, Copper-Catalyzed Cross-Couplings via Single-Electron Transfer: Reactions of Thiols with Aryl Halides under Mild Conditions (0 °C)." *J. Am. Chem. Soc.* **2013**, *135*, 9548–9552.

(8) Brown, A. R.; Uyeda, C.; Brotherton, C. A.; Jacobsen, E. N.* "Enantioselective Thiourea-Catalyzed Intramolecular Cope-Type Hydroamination." *J. Am. Chem. Soc.* **2013**, *135*, 6747–6749.

(7) Uyeda, C.; Peters, J. C.* "Access to Formally Ni(I) States in a Heterobimetallic NiZn System." *Chem. Sci.* **2013**, *4*, 157–163.

(6) McCrory, C. C. L.§; Uyeda, C.§; Peters, J. C.* "Electrocatalytic Hydrogen Evolution in Acidic Water with Molecular Cobalt Tetraazamacrocycles." *J. Am. Chem. Soc.* **2012**, *134*, 3164–3170. (§Equal Contributions)

(5) Uyeda, C.; Jacobsen, E. N.* "Transition State Charge Stabilization through Multiple Non-Covalent Interactions in the Guanidinium-Catalyzed Enantioselective Claisen Rearrangement." *J. Am. Chem. Soc.* **2011**, *133*, 5062–5075.

(4) Uyeda, C.; Rötheli, A. R.; Jacobsen, E. N.* "Catalytic Enantioselective Claisen Rearrangements of *O*-Allyl β-Ketoesters." *Angew. Chem. Int. Ed.* **2010**, *122*, 9947–9950.

(3) Uyeda, C.; Jacobsen, E. N.* "Enantioselective Claisen Rearrangements with a Hydrogen-Bond Donor Catalyst." *J. Am. Chem. Soc.* **2008**, *130*, 9228–9229.

(2) Uyeda, C.; Biscoe, M. R.; LePlae, P.; Breslow, R.* "Hydrophobically Directed Selective Reduction of Ketones using Amine Boranes." *Tetrahedron Lett.* **2005**, *47*, 127–130.

(1) Biscoe, M. R.; Uyeda, C.; Breslow, R.* "Requirements for Selective Hydrophobic Acceleration in the Reduction of Ketones." *Org. Lett.* **2004**, *6*, 4331–4334.

INVITED PRESENTATIONS

May 2018	University of Chicago, IL
May 2018	Stanford University
April 2018	Notre Dame, IN
April 2018	Indiana University, IN
April 2018	University of North Carolina–Chapel Hill
March 2018	Ohio State University, OH
March 2018	University at Buffalo, NY
March 2018	University of Illinois–Urbana Champagne, IL
Feb. 2018	University of California–Santa Barbara, CA
Feb. 2018	University of California–Irvine, CA
Feb. 2018	University of Southern California, CA
Feb. 2018	Michigan State University, MI
Jan. 2018	University of Minnesota, MN
Jan. 2018	Brigham Young University, UT
Dec. 2017	Indo–US Bilaterial Meeting on Organometallic Chemistry, India
Dec. 2017	IIT Bombay, India
Nov. 2017	International Seminar for Young Chemists on Precisely Designed Catalysts, Japan
Nov. 2017	Osaka University, Japan
Nov. 2017	Kyoto University, Japan
Nov. 2017	University of Tokyo, Japan
Oct. 2017	University of Rochester, NY
Oct. 2017	New York University, NY
Sept. 2017	Princeton University, NJ
Aug. 2017	ACS Division of Organic Chemistry Young Investigator Symposium, Washington, D.C.
July 2017	Gordon Research Conference (Organic Reactions and Processes) Stonehill College, MA
June 2017	ACS Green Chemistry and Engineering Conference; Washington, DC
April 2017	University of California–Riverside, CA
March 2017	Gordon Research Conference (Inorganic Reaction Mechanisms) Short Talk, Galveston, TX
Feb. 2017	Emory University, GA
July 2016	Gordon Research Conference (Organometallics) Short Talk, Salve Regina, RI
May 2016	Dow AgroSciences, IN
May 2016	ACS Central Regional Meeting (Frontiers in Organometallic Chemistry); Covington, KY
March 2016	ACS National Meeting (Alpha Olefins Symposium); San Diego, CA
Nov. 2015	Eastern Illinois University, IL
Feb. 2015	Ball State University, IN
Oct. 2014	University of Texas at El Paso, TX

TEACHING ACTIVITIES

Semester and Year	Course Number, Credit Hours, and Type	Title of Course	Students	Student Classification
Fall 2013	CHM 255, 3 cr, lecture	Organic Chemistry	361	Undergraduate

Fall 2014	CHM 255, 3 cr, lecture	Organic Chemistry	351	Undergraduate
Spring 2015	CHM 696, 3 cr, lecture	Catalytic Methods and Mechanisms in Organic Synthesis	12	Graduate
Fall 2015	CHM 255, 3 cr, lecture	Organic Chemistry	331	Undergraduate
Spring 2016	CHM 696, 3 cr, lecture	Catalytic Methods and Mechanisms in Organic Synthesis	25	Graduate
Fall 2016	CHM 255, 3 cr, lecture	Organic Chemistry	262	Undergraduate
Spring 2017	CHM 696, 3 cr, lecture	Catalytic Methods and Mechanisms in Organic Synthesis	20	Graduate
Fall 2017	CHM 255, 3 cr, lecture	Organic Chemistry	297	Undergraduate
Spring 2018	CHM 696, 3 cr, lecture	Catalytic Methods and Mechanisms in Organic Synthesis	24	Graduate

FUNDING SOURCES

Active Grants:

NSF CAREER Award (CHE-1554787)
"CAREER: SusChEM: Metal–Metal Bonds as Active Sites in Catalysis"
Funding period: June 1 2016 to May 31 2021
Total Cost: $650,000
Role: PI

Purdue Research Foundation Grant
"Catalytic Activations of Strained Bicyclic Ring Systems"
Funding period: June 1 2017 to May 31 2018
Total Cost: $17,645

NIH R35 GM124791 (MIRA)
"Transition Metal Catalyzed Reductive Carbene Transfer Reactions"
Funding period: July 1 2017 to June 30 2022
Direct Cost: $1,250,000
Role: PI

Completed Grants

Purdue Research Foundation Grant
"Catalytic Reductive Transformations of Carbenes"
Funding period: June 1 2016 to May 31 2017
Total Amount: $17,215

Sloan Foundation Fellowship
Funding period: Sept. 1 2015 to Sept. 1 2017
Total Cost: $55,000

American Chemical Society Petroleum Research Fund (Doctoral New Investigator)
"Light-Driven Dehydrogenative Carbon–Carbon Coupling Reactions"
Funding period: Sept. 1 2015 to Sept. 1 2017
Total Amount: $110,000
Role: PI

MENTORING ACTIVITIES

Current Graduate Students:

From Aug. 2017 **Sourish Biswas**
M.Sc. National Institute of Science Education, India

From Aug. 2017 **Annah Kalb**
B.A. Indiana Weslyan University

From Aug. 2017 **Seul Ah Lee**
M.S. Seoul National University of Science and Technology, Korea

From Aug. 2016 **Shawn Montag**
B.A. University of Minnesota

From Aug. 2016 **John Andjaba**
B.A. Mount St. Mary's University

From Aug. 2015 **Conner Farley**, *Arthur Kelley Teaching Award*
B.A. University of Idaho

From Aug. 2014 **Mike Behlen**
B.A. University of Oklahoma

From Aug. 2014 **Jake Werth**
B.A. University of Minnesota

From Aug. 2013 **Colby Adolph**, *Teaching Academy Award*
B.S. Schreiner University

From Aug. 2013 **Douglas Hartline**, *Purdue Research Foundation Fellow*
B.S. Penn State University

From Aug. 2013 **Sudipta Pal**, *Purdue Research Foundation Fellow; H.C. Brown Graduate Student Research Award*
B.Sc. Indian Institute of Technology–Bombay, India

From Aug. 2013 **Ian Powers**, *NSF Graduate Research Fellow*
B.S. George Fox University

From Aug. 2013 **Heather Schoonover**
M.S. Eastern Illinois University, B.S. Millikin University

From Aug. 2013 **Talia Steiman**, *Bilsland Fellowship*
B.S. Hamilton College

Current Postdoctoral Researchers:

From April 2016 **Arnab Maity**
Ph.D. Indian Institute of Technology, Kharagpur
Advisor: Prof. Sujit Roy

From Nov. 2013 **You-Yun Zhou**
Ph.D. Shanghai Institute of Organic Chemistry
Advisor: Prof. Yong Tang