

Curriculum Vitae

Prof. Wesley H. Bernskoetter

Brown University
Department of Chemistry
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EDUCATION & ACADEMIC HISTORY

- 2012-Present** Manning Assistant Professor of Chemistry, Brown University, Providence, RI
- 2009-Present** Assistant Professor, Brown University, Providence, RI
- 2007-2009** Postdoctoral Research Associate, University of North Carolina-Chapel Hill, Chapel Hill, NC
Advisor: Maurice S. Brookhart
- 2002- 2006** Ph.D., Chemistry, Cornell University, Ithaca, NY
Thesis Research: Dinitrogen Activation and Functionlization Promoted by Early Transition Metal Metallocenes; Iridium β -Diiminates as Platforms for C-H Bond Activation.
Advisor: Paul J. Chirik
Thesis Committee: Paul J. Chirik; Peter T. Wolczanski; Bruce Ganem
- 1998-2002** B.S., Chemistry, Benedictine College, Atchison, KS.

RESEARCH BACKGROUND

- 2009-Present** Assistant Professor of Chemistry, Brown University, Providence, RI
- Discovered new metal complexes for CO₂-ethylene coupling to acrylates
 - Developed experimentally derived mechanistic model for reductive carbon dioxide functionalization
 - Investigated the mechanism C-C bond coupling at base-metal species.
- 2007-2009** Postdoctoral Research Associate, University of North Carolina-Chapel Hill, Chapel Hill, NC.
Advisor: Maurice S. Brookhart
- Characterized the first modestly stable transition metal methane complex.
 - Investigated the mechanism of organometallic reactions relevant to methane activation.
 - Analyzed the kinetics and mechanism of catalytic iridium mediated transfer dehydrogenation of primary amines to nitriles.

- 2002-2006** Graduate Research Assistant, Cornell University, Ithaca, NY.
Advisor: Paul J. Chirik
- Synthesized a family of hafnocene and zirconocene N₂ complexes to understand the origins and mechanism of dinitrogen hydrogenation under mild conditions.
 - Functionalized dinitrogen via 1,2 addition and protonolysis, providing pathways to transition metal diazenido compounds.
 - Prepared low-valent, diiminate iridium hydride complexes competent for C-H bond activation, and studied ligand substitution effects on a series of intramolecular alkane dehydrogenations.
- 2001** Lando Summer Research Fellow, University of Minnesota, Minneapolis, MN.
Advisor: Wayland E. Noland
- Synthesized a range of tetrahydrocarbazoles for screening as anti-tumor agents at the NIH.
- 1998-2002** Undergraduate Research Assistant, Benedictine College, Atchison, KS.
Advisor: Aileen T. Beard
- Investigated preparation and degradation pathways of di- and tricyclic strained organic molecules.

PROFESSIONAL MEMBERSHIPS AND AWARDS

- 2014** Alfred P. Sloan Research Fellow in Chemistry
Alfred P. Sloan Foundation, New York, NY
- 2014** National Science Foundation Early Career Award
NSF, Arlington, VA
- 2012** Awarded Manning Assistant Professor of Chemistry chair
Brown University, Providence, RI
- 2010** Air Force Office of Scientific Research Young Investigator Award
AFOSR, Arlington, VA
- 2009** Richard B. Salomon Faculty Research Award
Brown University, Providence, RI
- 2006** Tunis Wentink Thesis of the Year Award
Cornell University, Ithaca, NY
- 2002** Senior Departmental Service Award
Benedictine College, Atchison, KS
- 1999** *CRC* Freshman Chemistry Award
CRC Press, Inc. Boca Raton, FL
- 1999-Present** American Chemical Society
Member of the Division of Inorganic Chemistry

RESEARCH GRANTS

Brown University, Richard B. Salomon Faculty Research Award, *Hydrocarbon Transformation by Transition Metals*. 1/19/2010- 6/30/2011, Principal Investigator \$15,000.

US Department of Energy-National Energy Technology Laboratory, *Chemical Fixation of CO₂ to Acrylates Using Low-Valent Molybdenum Sources*. 9/1/2010-8/31/2012, Principal Investigator \$417,155. Renewed for 10/1/2012- 9/30/2013, Principal Investigator \$200,000.

Air Force Office of Scientific Research-Young Investigator Program, *Acrylate Formation from CO₂ and Ethylene by Tandem Molybdenum and Palladium Catalysis*. 4/16/2011- 4/15/2014, Principal Investigator \$360,000.

American Chemical Society, Petroleum Research Fund, *Cobalt Mediated C-C Bond Transformations toward Small Molecule Synthesis*. 7/1/2012- 8/31/2014, Principal Investigator \$100,000.

National Science Foundation. Centers for Chemical Innovation. *CO₂ as a Sustainable Feedstock for Chemical Commodities*. Phase I. . 9/15/2012 – 8/31/2015. Co-Principal Investigator. \$1,750,000.

Chevron-Phillips Chemical Co. *Methods for Acrylate Production from CO₂*. 8/1/2013-12/31/2014. \$153,499.

National Science Foundation. Faculty Early Career Development Program (CAREER). *Developing Cobalt Catalysts for C-C Bond Transformations from Mechanism to Application*. 4/1/2014- 3/31/2019. Principal Investigator. \$650,000. Award agreement processing.

Alfred P. Sloan Foundation, 2014 Sloan Research Fellowship. 9/15/2014-9/14/2016 Principal Investigator. \$50,000.

RESEARCH HIGHLIGHTS

March 2013 Our research on the conversion of carbon dioxide to acrylates was featured in magazines including *ICIS*, *Fibre2Fashion* and *Materials Research Society*.

April 2012 *Inorganic Chemistry* highlights research on pincer dihydrogen complexes on the cover.

October 2009 *Chemical and Engineering News* features research on the characterization of a rare transition metal sigma-methane complex in the Science and Technology Concentrates.

October, 2007 An article highlighting, in part, our recent successes in hafnium mediated N₂ activation published in the science and technology section of *Chemical and Engineering News*.

April, 2007 Research into N-C bond formation with dinitrogen and carbon dioxide featured on the cover of *Angewandte Chemie* and highlighted as a *VIP* article.

January, 2007 A review describing our recent advances in N₂ functionalization highlighted on the cover of *Dalton Transactions*.

January, 2007 *Chemical and Engineering News* describes research into dinitrogen functionalization in the Science and Technology Concentrates.

March, 2004 *Chemical Communications* highlights the synthesis of an iridium tetrahydride complex as a Hot Paper.

TEACHING (only Brown University Listed)

2009 Fall Chemistry 2310 Advanced Inorganic Chemistry: Organometallics (12 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2010 Spring Chemistry 2980 S25 Research (2 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2010 Fall Chemistry 2310 Advanced Inorganic Chemistry: Organometallics (18 students)
Chemistry 2980 S25 Research (2 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2011 Spring Chemistry 0500 Introductory Inorganic Chemistry (33 students)
Chemistry 2980 S25 Research (4 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2011 Fall Chemistry 2310 Advanced Inorganic Chemistry: Organometallics (4 students)
Chemistry 2980 S25 Research (4 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2012 Spring Chemistry 0500 Introductory Inorganic Chemistry (27 students)
Chemistry 2980 S25 Research (4 students)
Chemistry 0970 S09 Undergraduate Research (2 students)

2012 Fall Chemistry 0330 S02 Equilibrium, Rate, Structure (236 students)
Chemistry 2980 S25 Research (4 students)
Chemistry 0970 S09 Undergraduate Research (4 students)

2013 Spring Chemistry 0500 Introductory Inorganic Chemistry (31 students)
Chemistry 2980 S25 Research (4 students)
Chemistry 0970 S09 Undergraduate Research (3 students)

Undergraduate Research Students

Richard Mosesso 2012-2013 (including one summer UTRA)
Craig Miller 2011-2012
Alex Cevallos 2012-2013
John "Woody" Rosenberg 2012-2013
Grace Parker 2012-2013
Nadia Leonard 2009-2012 (including one summer UTRA)

Justin Wolfe	2009-2012 (including one summer UTRA)
Zoe Greenburg	2013-
Ariana Spentzos	2013-

Graduate Student Advisees

Brian Tyler	2010-2012 (M.Sc)
Hongwei Xu	2010-
Dong Jin	2011-
Yuanyuan Zhang	2011-
Alex McIntosh	2012-
Elizabeth Lane	2014-
Ryan Lehane	2014-

Postdoctoral Research Advisee

Brian Hanna (MIT 2011)	2011-
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SERVICE

To the University

2009-	Chemistry Department Inorganic Seminar Committee
2009-	Chemistry Department Graduate Student Recruiting Committee
2009	Chemistry Departmental Self Study-Graduate Program Focus Group
2010-	Chemistry Department Instrument Committee
2010-	Chemistry Department Admissions Committee
2010	Chemistry Department Nanoscience Faculty Search Committee
2011-	Brown Rep for Combustion Efficiency Working Group, Brown-URI-Draper Energy Collaboration
2012-	Speaker for Brown Summer Research and Career Development Program
2012-	Chemistry Department Safety Committee
2012-	Chemistry Departmental Undergraduate Group (DUG) co-advisor
2012-	First-Year Advisor
2013	CareerLAB Panelist: Academic Job Search
2013	Chemistry Department Inorganic Faculty Search Committee

To the Profession

2008-	<i>Organometallics</i> , journal referee
2010-	National Science Foundation, proposal referee
2010-	<i>Inorganic Chemistry</i> , journal referee
2011-	Air Force Office of Scientific Research, proposal referee
2011-	<i>Catalysis Science and Technology</i> , journal referee
2011-	<i>Chemical Communications</i> , journal referee
2011	Boston Region Inorganic Colloquium, Conference Organizer and Host
2011	American Chemical Society, ACS National Meeting-Fall, Session Chair
2011	External Examiner of Student Propositions, Brandies University
2011-	<i>Journal of the American Chemical Society</i> , journal referee
2011-	Department of Energy, proposal referee
2012-	ACS-PRF, proposal referee

SYNERGISTIC ACTIVITIES

- Brown University Team Enhanced Advising and Mentoring (TEAM): a faculty initiative aimed at improving support for underserved first-year students sponsored by the Christian A. Johnson Endeavor Foundation. Regular training for mentoring economically vulnerable and underrepresented minority students includes monthly seminars and discussion sections with select readings.
- Brown GK-12 Summer Workshop faculty associate: present seminar on broad impacts of transition metal chemistry on society and provide advice on careers and education in science to the programs group of high school students and K-12 teachers, host visits to laboratories of K-12 students.
- Founder and organizer of the Brown University Molecular Inorganic Chemistry Literature Review club: started and maintain a literature review study group, established constructs for enhancing critical evaluation of the primary literature by students and created rubric for peer evaluation of the student and faculty presentations.
- Organizer and Host for the 24th Boston Regional Inorganic Chemistry Colloquium (BRIC): held a bi-annual meeting of inorganic chemistry faculty, graduates students and undergraduates to share and discuss science across the broad interests of inorganic chemists.

List of Publications

(Patents/applications not listed)

PUBLICATIONS (* denotes Principal Investigator; underline denotes undergraduate co-author)

32. Koehne, I.; Schmeier, T. J.; Bielinski, E. A.; Pan, C. J.; **Bernskoetter, W.H.**; Takase, M. K.; Wurtele, C.; Hazari, N.*; Schneider, S.* “Synthesis and Structure of Six Coordinate Iron Borohydride Complexes Supported by PNP Ligands.” *Inorg. Chem.* **2014** ASAP.
31. Dong, J.; Williard, P. G.; Hazari, N.; **Bernskoetter, W. H.*** “The Effect of Sodium Cation on Metallacycle β -Hydride Elimination in CO₂-Ethylene Coupling to Acrylates.” *Chem. Eur. J.* **2014**, *Early View* DOI: 10.1002/chem.201304196.
30. Leonard, N. G.; Parker, G. V.; Williard, P. G.; **Bernskoetter, W. H.*** “Coordination Chemistry of Iridium Phosphine-Sulfonate Complexes.” (Invited contribution to Dwight Sweigart Memorial Issue) *J. Inorg. Organomet. Poly. Mat.* **2014**, *24*, 157-163.
29. Zhang, Y.; Hanna, B. S.; Dineen, A.; Williard, P. G.; **Bernskoetter, W. H.*** “Functionalization of Carbon Dioxide with Ethylene at Molybdenum Hydride Complexes.” *Organometallics*, **2013**, *32*, 3969-3979.
28. **Bernskoetter, W. H.**; Hazari, N.* “Computational Investigation of the Insertion of Carbon Dioxide into Four and Five Coordinate Iridium Hydrides.” (Invited contribution to special issue: Small Molecule Activation by Reactive Metal Complexes) *Eur. J. Inorg. Chem.* **2013**, 4032-4041.
27. Dong, J.; Schmeier, T. J.; Williard, P. G.; Hazari, N.; **Bernskoetter, W. H.*** “Lewis Acid Induced β -Elimination from a Nickelalactone: Efforts toward Acrylate Production from CO₂ and Ethylene.” *Organometallics*, **2013**, *32*, 2152-2159.

26. Xu, H.; Williard, P.G.; **Bernskoetter, W.H.*** "Intermolecular Methyl Group Exchange and Reversible P-Me Bond Cleavage at Cobalt(III) Dimethyl Halide Species." *Organometallics*, **2013**, *32*, 798-806.
25. Wolfe, J.M.; **Bernskoetter, W.H.*** "Reductive Functionalization of Carbon Dioxide to Methyl Acrylate at Zerovalent Tungsten." *Dalton Trans.* **2012**, *41*, 10763-10768.
24. Xu, H.; Williard, P.G.; **Bernskoetter, W.H.*** "C-CN Bond Activation of Acetonitrile using Cobalt(I)" *Organometallics*, **2012**, *31*, 1588-1590
23. Xu, H. **Bernskoetter, W.H.*** "Mechanistic Considerations for C-C Bond Reductive Coupling at a Cobalt(III) Center" *J. Am. Chem. Soc.* **2011**, *133*, 14956-14959.
22. Leonard, N.G.; Williard, P.G.; **Bernskoetter, W.H.*** "Synthesis and Coordination Chemistry of Organoiridium Complexes Supported by an Anionic Tridentate Ligand." *Dalton Trans.*, **2011**, *40*, 4300-4306.
21. **Bernskoetter, W.H.***; Tyler, B.T. "Kinetics and Mechanism of Molybdenum Mediated Acrylate Formation from Carbon Dioxide and Ethylene. *Organometallics*, **2011**, *30*, 520-527.

(above publications from independent career)

20. Findlater; M. Schultz, K. M.; **Bernskoetter, W. H.**; Cartwright-Sykes, A.; Heinikey, D. M.*; Brookhart, M. S.* "Dihydrogen Complexes of Iridium and Rhodium" *Inorganic Chemistry*, **2012**, *51*, 4672- 4678.
19. Findlater, M.; **Bernskoetter, W.H.**; Brookhart, M*. Proton-Catalyzed Hydrogenation of a d⁸ Ir(I) Complex Yields a *trans* Ir(III) Dihydride. *J. Am. Chem. Soc.* **2010**, *132*, 4534-4535.
18. **Bernskoetter, W.H.**; Schauer, C.K.; Goldberg, K.I.; Brookhart, M.S.* "Characterization of a Rhodium(I) σ -Methane Complex in Solution." *Science* (Washington DC), **2009**, *326*, 553-556.
17. Knobloch, D.J.; Benito-Garagorri, D.; **Bernskoetter, W.H.**; Keresztes, I.; Toomey, H.; Lobkovsky, E.; Chirik, P.J.* "Addition of Methyl Triflate to a Side-On Bound Hafnocene Dinitrogen Complex: Stepwise N₂ Methylation and Conversion to a Hafnocene Hydrazonato Compound." *J. Am. Chem. Soc.* **2009**, *131*, 14903-14912.
16. Benito-Garagorri, D.; **Bernskoetter, W.H.**; *Lobkovsky, E.; Chirik, P.J. "1,4-Addition of Alkyl Halides to a Hafnocene Dinitrogen Complex." *Organometallics* **2009**, *28*, 4807-4813.
15. **Bernskoetter, W.H.**; Hanson, S.K.; Buzak, S.K.; Davis, Z.; White, P.S.; Swartz, R.; Goldberg, K.I.*; Brookhart, M.* "Investigations of Iridium Mediated Reversible C-H Bond Cleavage: Characterization of a 16-Electron Iridium(III) Methyl Hydride Complex." *J. Am. Chem. Soc.* **2009**, *131*, 8603-8613.
14. **Bernskoetter, W.H.**; Brookhart, M.* "Kinetic and Mechanism of Iridium Catalyzed Dehydrogenation of Primary Amines to Nitriles." *Organometallics* **2008**, *27*, 2036-2045.

13. Hanna, T.E.; **Bernskoetter, W.H.**; Bouwkamp, M.W.; Lobkovsky, E.; Chirik, P.J.* “Bis(cyclopentadienyl) Titanium Dinitrogen Chemistry: Synthesis and Characterization of a Side-on Bound Haptomer.” *Organometallics* **2007**, *26*, 2431-2438.
12. **Bernskoetter, W.H.**; Lobkovsky, E.; Chirik, P.J.* “Nitrogen–Carbon Bond Formation from N₂ and CO₂ Promoted by a Hafnocene Dinitrogen Complex Yields a Substituted Hydrazine.” *Angewandte Chemie International Edition* **2007**, *46*, 2858-2861.
11. **Bernskoetter, W.H.**; Olmos, A.V.; Pool, J.A.; Lobkovsky, E.; Chirik, P.J.* “N-C Bond Formation Promoted by a Hafnocene Dinitrogen Complex: Comparison of Zirconium and Hafnium Congeners.” *J. Am. Chem. Soc.* **2006**, *128*, 10696-10697.
10. **Bernskoetter, W.H.**; Pool, J.A.; Lobkovsky, E.; Chirik, P.J.* “Carbon-Hydrogen Bond Activation with a Cyclometalated Zirconocene Hydride: Mechanistic Differences Between Arene and Alkane Reductive Elimination.” *Organometallics* **2006**, *25*, 1092-1100.
9. **Bernskoetter, W.H.**; Olmos, A.V.; Lobkovsky, E.; Chirik, P.J.* “N₂ Hydrogenation Promoted by a Side-On Bound Hafnocene Dinitrogen Complex.” *Organometallics* **2006**, *25*, 1021-1027.
8. **Bernskoetter, W.H.**; Lobkovsky, E.; Chirik, P.J.* “Ancillary Ligand Effects of C-H Bond Activation Reactions Promoted by β -Diiminate Iridium Complexes.” *Organometallics* **2005**, *24*, 6205-6259.
7. **Bernskoetter, W.H.**; Lobkovsky, E.; Chirik, P.J.* “Kinetics and Mechanism of N₂ Hydrogenation in Bis(cyclopentadienyl) Zirconium Complexes and Dinitrogen Functionalization by 1,2-Addition of a Saturated C-H Bond.” *J. Am. Chem. Soc.* **2005**, *127*, 14051-14061.
6. **Bernskoetter, W.H.**; Lobkovsky, E.; Chirik, P.J.* “C-H Bond Activation Reactions with Ligand Adducts of a β -Diiminate Iridium Dihydride.” *Organometallics* **2005**, *24*, 4367-4373.
5. **Bernskoetter, W.H.**; Pool, J.A.; Lobkovsky, E.; Chirik, P.J.* “Dinitrogen Functionalization with Terminal Alkynes, Amines, and Hydrazines Promoted by $[(\eta^5\text{-C}_5\text{Me}_4\text{H})_2\text{Zr}]_2(\mu^2, \eta^2, \eta^2\text{-N}_2)$: Observation of Side-On and End-On Diazenido Complexes in the Reduction of N₂ to Hydrazine.” *J. Am. Chem. Soc.* **2005**, *127*, 7901-7911.
4. Hawrelak, E.J.; **Bernskoetter, W.H.**; Lobkovsky, E.; Yee, G.T.; Bill, E.; Chirik, P.J.* “Square Planar versus Tetrahedral Geometry in Four Coordinate Iron(II) Complexes.” *Inorg. Chem.* **2005**, *44*, 3103-3111.
3. Pool, J.A.; **Bernskoetter, W.H.**; Chirik, P.J.* “On the Origin of Dinitrogen Hydrogenation Promoted by $[(\eta^5\text{-C}_5\text{Me}_4\text{H})_2\text{Zr}]_2(\mu^2, \eta^2, \eta^2\text{-N}_2)$.” *J. Am. Chem. Soc.* **2004**, *126*, 14326-14327.
2. Hanna, T.E.; Keresztes, I.; Lobkovsky, E.; **Bernskoetter, W.H.**; Chirik, P.J.* “Synthesis of a Base-Free Titanium Imido and a Transient Alkylidene from a Titanocene Dinitrogen

Complex. Studies on Ti=NR Hydrogenation, Nitrene Group Transfer, and Comparison of 1,2-Addition Rates.” *Organometallics* **2004**, 23, 3448-3458.

1. **Bernskoetter, W.H.**; Lobkovsky, E.; Chirik, P.J.* “Synthesis of a β -Diiminate Iridium Tetrahydride for Arene C-H Bond Activation.” *Chem. Commun.* **2004**, 7, 764-765.

ABSTRACTS

8. Xu, H.; Bernskoetter, W.H. “Mechanistic Studies of C-C bond Formation and Scission at Strong Field Cobalt(III).” National Meeting of the American Chemical Society, Philadelphia, PA. 2012.
7. Bernskoetter, W.H. “Carbon dioxide Reduction Toward Acrylate Formation at Group VI Metal Complexes.” National Meeting of the American Chemical Society, Denver, CO. 2011.
6. Brookhart, M.; Bernskoetter, W.H.; Findlater, M.; Schauer, C.; Walter, M.D. “Synthesis and Chemistry of Electrophilic Iridium and Rhodium Pincer Complexes.” National Meeting of the American Chemical Society, Boston, MA. 2010.
5. Bernskoetter, W.H.; Tyler, B.T. “Carbon Dioxide Reduction by Low-Valent Molybdenum Complexes. National Meeting of the American Chemical Society, Boston, MA. 2010.
4. Bernskoetter, W.H.; Brookhart, M.S. “Mechanistic Studies Relevant to Small Molecule Activation by Iridium Bis(phosphinite) Pincer Complexes.” National Meeting of the American Chemical Society, New Orleans, LA. 2008.
3. Chirik, P.J.; Bernskoetter, W.H. “Dinitrogen Activation and Reactivity of Early Transition Metal Metallocene Complexes.” National Meeting of the American Chemical Society, Atlanta, GA. 2006.
2. Chirik, P.J.; Bernskoetter, W.H. “Iridium hydride complexes for C-H activation.” National Meeting of the American Chemical Society, Washington, D.C. 2005.
1. Noland, W.E.; Bernskoetter, W.H. “Synthesis of indole based tetrahydrocarbazoles as potential anti-tumor agents.” National Meeting of the American Chemical Society, Orlando, FL. 2002.

INVITED LECTURES

24. University of Louisville. “Coupling of Ethylene and Carbon Dioxide at Low Valent Metals.” December 2013.
23. Yale University, “Reductive Functionalization of Carbon Dioxide with Ethylene at Low-Valent Transition Metals.” November 2013.
22. NERM, New Haven, CT. “Mechanistic considerations of C-C bond formation at strong field cobalt complexes” October 2013.

21. Texas A&M, "Carbon Dioxide-Ethylene Coupling Toward Acrylates at Low-Valent Transition Metals." September 2013.
20. DOE-NETL: Carbon Storage Review. "Carbon Dioxide-Ethylene Coupling to Acrylates Using LowValent Molybdenum." August 2013.
19. Truman State University. "Organometallic Mechanisms Toward Enhanced Sustainability in Organic Synthesis." March 2013.
18. Chevron Phillips Chemical. "Deriving Acrylates from Carbon Dioxide-Ethylene Coupling." March 2013.
17. Inorganic Reaction Mechanisms Gordon Research Conference, "Mechanistic Considerations of C-C Bond Elimination at Strong Field Cobalt." March, 2013.
16. Harvard University, Boston Region Inorganic Colloquium. "Reductive Carbon Dioxide-Ethylene Coupling by Zerovalent Transition Metals." March 2013.
15. Boston University, "Carbon Dioxide-Ethylene Coupling Toward Commodity Chemical Synthesis." February 2013.
14. AFOSR Synthesis Review, "Carbon Dioxide-Ethylene Coupling." December 2012.
13. DOE-NETL: Developing the Technologies and Building the Infrastructure for CO₂ Storage. "Carbon Dioxide Conversion to Acrylates Using LowValent Molybdenum." August 2012.
12. Brandies University, "Reductive Carbon Dioxide Functionalization at Zerovalent Molybdenum Complexes." February 2012.
11. Texas Tech University, "Organometallic Mechanisms Toward Enhanced Sustainability in Organic Synthesis." February 2012.
10. Sixteenth Mesilla Chemistry Workshop (on Ligand-Based Control of Spin and Reactivity in Metal Complexes), "Mechanistic Considerations of C-C Bond Elimination at Strong Field Cobalt." February 2012.
9. University of North Carolina-Wilmington, "Organometallic Mechanisms Toward Enhanced Sustainability in Organic Synthesis." January 2012.
8. College of New Jersey, "Mechanistic Studies for Sustainable Processes in Organometallic Chemistry." November 2011.
7. University of Rhode Island, "Mechanistic Studies for Sustainable Processes in Organometallic Chemistry." November 2011.
6. Organometallics Gordon Research Conference, "Mechanistic Studies of CO₂ Functionalization." July, 2011 (poster selected for oral presentation of research results)
5. Colgate University, "Carbon Dioxide and Other Small Molecule Activations in Organometallic Chemistry." February, 2011.

4. Villanova University, "Carbon Dioxide and Ethylene Coupling to Acrylates." January 2011.
3. Bloomsburg University, "Carbon Dioxide and Other Small Molecule Activations in Organometallic Chemistry." November, 2010.
2. Union College, "Small Molecule Activation: Organometallic Chemistry for Energy & Environment." September, 2010.
1. Wheaton College, "Small Molecule Activation: Organometallic Chemistry for Energy & Environment." April, 2010.