

CURRICULUM VITAE

Ryan J. Trovitch

Address: School of Molecular Sciences
Arizona State University
Bateman Physical Sciences Center, PSD-102
Tempe, AZ 87287-1604

E-mail: ryan.trovitch@asu.edu

Telephone: +1 (480) 727-8930

Web: <http://trovitch.lab.asu.edu/index.html>
https://sms.asu.edu/ryan_trovitch

PROFESSIONAL EXPERIENCE

- **Associate Professor** *Aug. 2019 – Present*
Assistant Professor *Aug. 2015 – Aug. 2019*
School of Molecular Sciences
Arizona State University, Tempe, AZ
 - **Assistant Professor** *Jan. 2012 – Aug. 2015*
Department of Chemistry & Biochemistry
Arizona State University, Tempe, AZ
 - **Postdoctoral Research Associate** *Sept. 2008 – Jan. 2012*
Glenn T. Seaborg Postdoctoral Fellow *June 2009 – May 2011*
Chemistry Division – Inorganic, Isotope, and Actinide Chemistry (C-IIAC)
Los Alamos National Laboratory, Los Alamos, NM
Advisor: Dr. Kevin D. John
Co-Advisor: Prof. R. Tom Baker (currently at the University of Ottawa)
-

EDUCATION

- **Ph.D. in Chemistry and Chemical Biology** *Jan. 2009*
M.S. in Chemistry and Chemical Biology *May 2006*
Cornell University, Ithaca, NY
Advisor: Prof. Paul J. Chirik (currently at Princeton University)
Dissertation: *Iron Complexes with Terdentate Ligands: Preparation, Electronic Structure Determination, and Utility as Catalyst Precursors.*
 - **B.S. in Chemistry; *summa cum laude*** *May 2004*
The Honors Program at King's College, Wilkes-Barre, PA
Advisor: Prof. Robert L. LaDuca (currently at Michigan State University)
-

PEER-REVIEWED PUBLICATIONS (*DENOTES PI – TRADITIONALLY AT END OF AUTHOR LIST, †DENOTES ASU GRADUATE STUDENT, ‡DENOTES ASU UNDERGRADUATE, H-INDEX = 19, CITATIONS = 1486)

Arizona State University

40. Pal, R.[†]; Kim, S.; Lee, W.; Mena, M. R.[†]; Khurshid, A.; Ghosh, C.[†]; Groy, T. L.; Chizmeshya, A. V. G.*; Baik, M.-H.*; Trovitch, R. J.* “Mechanism of Carbon Dioxide Disproportionation by a Molybdenum Bis(dinitrogen) Complex.” *Inorg. Chem.* (Submitted).

39. Oh, C.; Siewe, J.; Nguyen, T. T.[†]; Kawamura, A.; Flores, M.; Groy, T. L.; Anderson, J. S.; Trovitch, R. J.*; Baik, M.-H.* “The Electronic Structure of a β -Diketiminato Manganese Hydride Dimer.” *Dalton Trans.* **2020**, 49, 14463-14474. **2019 Impact Factor: 4.174**
38. Nguyen, T. T.[†]; Kim, J.-H.; Kim, S.; Oh, C.; Flores, M.; Groy, T. L.; Baik, M.-H.*; Trovitch, R. J.* “Scope and Mechanism of Nitrile Hydroboration Mediated by a β -Diketiminato Manganese Hydride Catalyst.” *Chem. Commun.* **2020**, 56, 3959-3962. **2019 Impact Factor: 5.996**
37. Vartak, P. B.[†]; Wang, Z.[†]; Groy, T. L.; Trovitch, R. J.; Wang, R. Y.* “Solution and Solid-State Characterization of PbSe Precursors.” *ACS Omega* **2020**, 5, 1949-1955. **2019 Impact Factor: 2.87**
36. Ghosh, C.[†]; Kim, S.; Mena, M. R.[†]; Kim, J.-H.; Pal, R.[†]; Rock, C. L.[†]; Groy, T. L.; Baik, M.-H.*; Trovitch, R. J.* “Efficient Cobalt Catalyst for Ambient-Temperature Nitrile Dihydroboration, the Elucidation of a Chelate-Assisted Borylation Mechanism, and a New Synthetic Route to Amides.” *J. Am. Chem. Soc.* **2019**, 141, 15327-15337. (Featured by ASU Now and SMS Connects) **2019 Impact Factor: 14.612**
35. Zhang, G.*; Wu, J.; Zhang, S.; Neary, M. C.; Mao, J.*; Flores, M.; Trovitch, R. J.; Dub, P. A.* “Redox Noninnocent Ligand-Supported Vanadium Catalysts for the Chemoselective Reduction of C=X (X = O, N) Functionalities.” *J. Am. Chem. Soc.* **2019**, 141, 15230-15239. **2019 Impact Factor: 14.612**
34. Rock, C. L.[†]; Trovitch, R. J.* “Anti-Markovnikov Terminal and *gem*-Olefin Hydrosilylation Using a κ^4 -Diimine Nickel Catalyst: Selectivity for Alkene Hydrosilylation over Ether C-O Bond Cleavage.” *Dalton Trans.* **2019**, 48, 461-467. (Invited for Special Issue on d-Block Chemistry) **2019 Impact Factor: 4.174**
33. Mukhopadhyay, T. K.[†]; Flores, M.; Groy, T. L.; Trovitch, R. J.* “A β -Diketiminato Manganese Catalyst for Alkene Hydrosilylation: Substrate Scope, Silicone Preparation, and Mechanistic Insight.” *Chem. Sci.* **2018**, 9, 7673-7680. **2018 Impact Factor: 9.556**
32. Rock, C. L.[†]; Groy, T. L.; Trovitch, R. J.* “Carbonyl and Ester C-O Bond Hydrosilylation Using κ^4 -Diimine Nickel Catalysts.” *Dalton Trans.* **2018**, 47, 8807-8816. **2018 Impact Factor: 4.052**
31. Mukhopadhyay, T. K.[†]; MacLean, N. L.[‡]; Flores, M.; Groy, T. L.; Trovitch, R. J.* “Isolation of Mn(I) Compounds Featuring a Reduced Bis(imino)pyridine Chelate and Their Relevance to Electrocatalytic Hydrogen Production.” *Inorg. Chem.* **2018**, 57, 6065-6075. **2018 Impact Factor: 4.85**
30. Trovitch, R. J.* “The Emergence of Manganese-Based Carbonyl Hydrosilylation Catalysts.” *Acc. Chem. Res.* **2017**, 50, 2842-2852. (Invited Article) **2017 Impact Factor: 20.955**
29. Mukhopadhyay, T. K.[†]; Ghosh, C.[†]; Flores, M.; Groy, T. L.; Trovitch, R. J.* “Hydrosilylation of Aldehydes and Formates Using a Dimeric Manganese Precatalyst.” *Organometallics* **2017**, 36, 3477-3483. (Top 20 Most Downloaded *Organometallics* Manuscripts in October 2017) **2017 Impact Factor: 4.051**
28. Ben-Daat, H.[†]; Rock, C. L.[†]; Flores, M.; Groy, T. L.; Bowman, A. C.; Trovitch, R. J.* “Hydroboration of Alkynes and Nitriles Using an α -Diimine Cobalt Hydride Catalyst.” *Chem. Commun.* **2017**, 53, 7333-7336. (Invited for Emerging Investigators Issue) **2017 Impact Factor: 6.290**
27. Mukhopadhyay, T. K.[†]; Rock, C. L.[†]; Hong, M.; Ashley, D. C.; Groy, T. L.; Baik, M.-H.*; Trovitch, R. J.* “Mechanistic Investigation of Bis(imino)pyridine Manganese Catalyzed Carbonyl and Carboxylate Hydrosilylation.” *J. Am. Chem. Soc.* **2017**, 139, 4901-4915. **2017 Impact Factor: 14.357**
26. Pal, R.[†]; Laureanti, J. A.[†]; Groy, T. L.; Jones, A. K.*; Trovitch, R. J.* “Hydrogen Production from Water Using a Bis(imino)pyridine Molybdenum Electrocatalyst.” *Chem. Commun.* **2016**, 52, 11555-11558. **2016 Impact Factor: 6.319**

25. Mukhopadhyay, T. K.[†]; Groy, T. L.; Smythe, N. C.; Gordon, J. C.; Trovitch, R. J.* “Reactivity of (Triphos)FeBr₂(CO) towards Sodium Borohydrides.” *J. Coord. Chem.* **2016**, *69*, 2083-2046. (Invited for Emerging Leaders Issue) **2016 Impact Factor: 1.795**
24. Pal, R.[†]; Cherry, B. R.; Flores, M.; Groy, T. L.; Trovitch, R. J.* “Isolation of a Bis(imino)pyridine Molybdenum(I) Iodide Complex through Controlled Reduction and Interconversion of its Reaction Products.” *Dalton Trans.* **2016**, *45*, 10024-10033. (Invited for New Talent: Americas Issue) **2016 Impact Factor: 4.029**
23. Ghosh, C.[†]; Groy, T. L.; Bowman, A. C.; Trovitch, R. J.* “Two-step C-H, C-P Bond Activation at an α -Diimine Iron Dinitrogen Complex.” *Chem. Commun.* **2016**, *52*, 4553-4556. **2016 Impact Factor: 6.319**
22. Ghosh, C.[†]; Mukhopadhyay, T. K.[†]; Flores, M.; Groy, T. L.; Trovitch, R. J.* “A Pentacoordinate Mn(II) Precatalyst that Exhibits Notable Aldehyde and Ketone Hydrosilylation Turnover Frequencies.” *Inorg. Chem.* **2015**, *54*, 10398-10406. **2015 Impact Factor: 4.82**
21. Pal, R.[†]; Groy, T. L.; Trovitch, R. J.* “Conversion of Carbon Dioxide to Methanol Using a C-H Activated Bis(imino)pyridine Molybdenum Hydroboration Catalyst.” *Inorg. Chem.* **2015**, *54*, 7506-7515. **2015 Impact Factor: 4.82**
20. Mukhopadhyay, T. K.[†]; MacLean, N. L.[‡]; Gan, L.; Ashley, D. C.; Groy, T. L.; Baik, M.-H.*; Jones, A. K.*; Trovitch, R. J.* “Carbon Dioxide Promoted H⁺ Reduction Using a Bis(imino)pyridine Manganese Electrocatalyst.” *Inorg. Chem.* **2015**, *54*, 4475-4482. **2015 Impact Factor: 4.82**
19. Mukhopadhyay, T. K.[†]; Flores, M.; Feller, R. K.; Scott, B. L.; Taylor, R. D.; Paz-Pasternak, M.; Henson, N. J.; Rein, F. N.; Smythe, N. C.*; Trovitch, R. J.*; Gordon, J. C.* “A New Spin on Cyclooctatetraene (COT) Redox-Activity: Low-Spin Fe(I) Complexes that Exhibit Antiferromagnetic Coupling to a Singly Reduced η^4 -COT Ligand.” *Organometallics* **2014**, *33*, 7101-7112. (Top 20 Most Downloaded *Organometallics* Manuscripts in December 2014) **2014 Impact Factor: 4.126**
18. Pal, R.[†]; Groy, T. L.; Bowman, A. C.; Trovitch, R. J.* “Preparation and Hydrosilylation Activity of a Molybdenum Carbonyl Complex That Features a Pentadentate Bis(imino)pyridine Ligand.” *Inorg. Chem.* **2014**, *53*, 9357-9365. **2014 Impact Factor: 4.762**
17. Trovitch, R. J.* “Comparing Well-Defined Manganese, Iron, Cobalt, and Nickel Ketone Hydrosilylation Catalysts.” *Synlett* **2014**, *25*, 1638-1642. (Invited Synfacts Article) **2014 Impact Factor: 2.419**
16. Mukhopadhyay, T. K.[†]; Flores, M.; Groy, T. L.; Trovitch, R. J.* “A Highly Active Manganese Precatalyst for the Hydrosilylation of Ketones and Esters.” *J. Am. Chem. Soc.* **2014**, *136*, 882-885. (Cited more than 100 times) **2014 Impact Factor: 12.113**
15. Porter, T. M.[‡]; Hall, G. B.; Groy, T. L.; Trovitch, R. J.* “Importance of Co-Donor Field Strength in the Preparation of Tetradentate α -Diimine Nickel Hydrosilylation Catalysts.” *Dalton Trans.* **2013**, *42*, 14689-14692. **2013 Impact Factor: 4.097**
14. Ben-Daat, H.[†]; Hall, G. B.; Groy, T. L.; Trovitch, R. J.* “Rational Design of Rhodium Complexes Featuring κ^4 -N,N,N,N- and κ^5 -N,N,N,P,P-Bis(imino)pyridine Ligands.” *Eur. J. Inorg. Chem.* **2013**, 4430-4442. **2013 Impact Factor: 2.965**
13. Mukhopadhyay, T. K.[†]; Feller, R. K.; Rein, F. N.; Henson, N. J.; Smythe, N. C.; Trovitch, R. J.*; Gordon, J. C.* “Investigation of Formally Zerovalent Triphos Iron Complexes.” *Chem. Commun.* **2012**, *48*, 8670-8672. **2012 Impact Factor: 6.378**

Los Alamos National Laboratory

12. Trovitch, R. J.; Guo, N.; Janicke, M. T.; Li, H.; Marshall, C. L.; Miller, J. T.; Sattelberger, A. P.*; John, K. D.*; Baker, R. T.* “Spectroscopic Characterization of Alumina-Supported Bis(allyl)iridium Complexes: Site-isolation, Reactivity, and Decomposition Studies.” *Inorg. Chem.* **2010**, *49*, 2247-2258.

11. Trovitch, R. J.; John, K. D.*; Martin, R. L.; Obrey, S. J.; Scott, B. L.; Sattelberger, A. P.*; Baker, R. T.* “Interplay of Metal-Allyl and Metal-Metal Bonding in Dimolybdenum Allyl Complexes.” *Chem. Commun.* **2009**, 4206-4208.

Cornell University

10. Wile, B. M.; Trovitch, R. J.; Bart, S. C.; Tondreau, A. M.; Lobkovsky, E.; Milsmann, C.; Bill, E.; Wieghardt, K.; Chirik, P. J.* “Reduction Chemistry of Aryl- and Alkyl-Substituted Bis(imino)pyridine Iron Dihalide Compounds: Molecular and Electronic Structures of [(PDI)₂Fe] Derivatives.” *Inorg. Chem.* **2009**, *48*, 4190-4200.
9. Trovitch, R. J.; Lobkovsky, E.; Bouwkamp, M. W.; Chirik, P. J.* “Carbon-Oxygen Bond Cleavage by Bis(imino)pyridine Iron Compounds: Catalyst Deactivation Pathways and Observation of Acyl C-O Bond Cleavage in Esters.” *Organometallics* **2008**, *27*, 6264-6278.
8. Trovitch, R. J.; Lobkovsky, E.; Chirik, P. J.* “Bis(imino)pyridine Iron Alkyls Containing β -Hydrogens: Synthesis, Evaluation of Kinetic Stability, and Decomposition Pathways Involving Chelate Participation.” *J. Am. Chem. Soc.* **2008**, *130*, 11631-11640.
7. Trovitch, R. J.; Lobkovsky, E.; Bill, E.; Chirik, P. J.* “Functional Group Tolerance and Substrate Scope in Bis(imino)pyridine Iron Catalyzed Alkene Hydrogenation.” *Organometallics* **2008**, *27*, 1470-1478. (Cited more than 100 times, featured in *Chem. Eng. News* **2008**, *86*, 53-57.)
6. Fernández, I.; Trovitch, R. J.; Lobkovsky, E.; Chirik, P. J.* “Synthesis of Bis(imino)pyridine Iron Di- and Monoalkyl Complexes: Stability Differences between FeCH₂SiMe₃ and FeCH₂CMe₃ Derivatives.” *Organometallics* **2008**, *27*, 109-118.
5. Trovitch, R. J.; Lobkovsky, E.; Chirik, P. J.* “Bis(diisopropylphosphino)pyridine Iron Dicarbonyl, Dihydride and Silyl Hydride Complexes.” *Inorg. Chem.* **2006**, *45*, 7252-7260. (Cited more than 100 times)
4. Bouwkamp, M. W.; Bart, S. C.; Hawrelak, E. J.; Trovitch, R. J.; Lobkovsky, E.; Chirik, P. J.* “Square Planar Bis(imino)pyridine Iron Halide and Alkyl Complexes.” *Chem. Commun.* **2005**, 3406-3408.

King’s College

3. Montney, M. R.; Thomas, J. G.; Supkowski, R. M.; Trovitch, R. J.; Zubieta, J.; LaDuca, R. L.* “Synthesis, Structure and Magnetic Properties of a Copper Molybdate Hybrid Inorganic/Organic Solid with a Novel 10-Connected Three-Dimensional Network Topology.” *Inorg. Chem. Commun.* **2009**, *12*, 534-539.
2. Knapp, W. R.; Thomas, J. G.; Martin, D. P.; Braverman, M. A.; Trovitch, R. J.; LaDuca, R. L.* “Divalent Nickel and Monovalent Copper Pseudohalide Coordination Polymers Incorporating the Kinked Organodiimine 4,4’-Dipyridylamine: From a (4,4)-Type Lamellar Motif to an Unprecedented Staircase Morphology.” *Z. Anorg. Allg. Chem.* **2007**, *633*, 575-581.
1. Trovitch, R. J.; Rarig, R. S.; Zubieta, J. A.; LaDuca, R. L.* “A Coordination Polymer with Conformationally Distinct Layers: Poly[(μ -1,3-di-4-pyridylpropane- κ^2N,N')]bis(μ_3 -thiocyanato- $\kappa^3N,S:S$)dicopper(I)].” *Acta Cryst.* **2007**, *E63*, m339-m341.

BOOK CHAPTERS (*DENOTES PI, †DENOTES ASU GRADUATE STUDENT)

Arizona State University

1. Nguyen, T. T.†; Trovitch, R. J.* “Manganese-catalyzed Hydrosilylation and Hydroboration Reactions.” In *Manganese Catalysis in Organic Synthesis*; Sortais, J.-B., Ed.; Wiley-VCH (Submitted).

PATENTS AND DISCLOSURES (*DENOTES PI, †DENOTES ASU GRADUATE STUDENT, ‡DENOTES ASU UNDERGRADUATE)

Arizona State University – Patents

2. Trovitch, R. J.*; Mukhopadhyay, T. K.†; Pal, R.†; Ben-Daat, H.†; Porter, T. M.‡; Ghosh, C.† “First-Row Transition Metal Hydrogenation and Hydrosilylation Catalysts,” U.S. Patent 10,407,451, **2019**.
1. Trovitch, R. J.*; Mukhopadhyay, T. K.†; Pal, R.†; Ben-Daat, H.†; Porter, T. M.‡; Ghosh, C.† “First-Row Transition Metal Hydrogenation and Hydrosilylation Catalysts,” U.S. Patent 9,708,355, **2017**. Licensed by Sigma-Aldrich Corporation for the distribution of (^{Ph₂PPr}PDI)Mn and (^{Ph₂PPr}DI)Ni.

Arizona State University – Provisional Applications

4. Trovitch, R. J.*; Nguyen, T. T.†; Mukhopadhyay, T. K.†; Glazier, B. M.† “Beta-Diketimate Manganese Catalysts for Hydrosilylation, Hydroboration, and Dehydrogenative Pnictogen-Silicon and Pnictogen-Boron Bond Formation,” U.S. Patent Application No. 16/407,317 (*Filed – May 2019*).
3. Trovitch, R. J.*; Mukhopadhyay, T. K.† “Manganese Hydrofunctionalization Catalysts Featuring Beta-Diiminate Ligands,” U.S. Patent Application No. 62/678,624 (*Filed – May 2018*).
2. Trovitch, R. J.*; Mukhopadhyay, T. K.†; Ghosh, C.†; Ben-Daat, H.†; Pal, R.† “Hydride-Containing and Hydride-Derived First Row Transition Metal Hydrogenation and Hydrosilylation Catalysts,” U.S. Patent Application No. 61/916,448 (*Filed – Dec. 2013*).
1. Trovitch, R. J.*; Mukhopadhyay, T. K.†; Pal, R.†; Ben-Daat, H.†; Porter, T. M.‡ “Late First-Row Transition Metal Hydrogenation and Hydrosilylation Catalysts,” U.S. Patent Application No. 61/834,220 (*Filed – June 2013*).

INVITED LECTURES (PRESENTATIONS AT ASU ARE UNDERLINED)

Arizona State University

32. “Recent Advances in Manganese Catalysis and Molybdenum-Based Carbon Dioxide Capture.” Southern Illinois University, Department of Chemistry and Biochemistry, Carbondale, IL (*Nov. 2020*).
31. “Making Materials with Manganese.” Russian Science Technology and Education Conference (RUSTEC2020), Minneapolis, MN and Phoenix, AZ (*Oct. 2020*).
30. “Preparing Organic Compounds and Polymers Using Manganese Catalysts.” International Webinar on Recent Advances in Chemistry, Vivekananda Mahavidyalaya, Burdwan, India (*Distinguished Speaker - July 2020*).
29. “The Advancement of Base Metal Hydrofunctionalization Catalysis.” KAIST, Department of Chemistry, Daejeon, Korea (*Dec. 2019*).
28. “Catalysis with Earth-Abundant Metals at Arizona State University.” Ithaca College, Department of Chemistry & Chemical Biology, Ithaca, NY (*Oct. 2019*).
27. “Recent Advances in Base Metal Catalyzed Hydrofunctionalization.” Cornell University, Department of Chemistry & Biochemistry, Ithaca, NY (*Oct. 2019*).
26. “Preparing Small Molecules and Polymers with Manganese Hydrosilylation Catalysts.” POSTECH, Department of Chemistry, Pohang, Korea (*May 2019*).
25. “Tuning Ligand Denticity to Enhance Base Metal and Molybdenum Catalysis.” KAIST, IBS Center for Hydrocarbon Functionalizations, Daejeon, Korea (*May 2019*).
24. “Preparing Small Molecules and Polymers with Manganese Hydrosilylation Catalysts.” KAIST, IBS Center for Hydrocarbon Functionalizations, Daejeon, Korea (*May 2019*).

23. "Design of Manganese Catalysts for Alkene Hydrosilylation." 50th Annual North American Silicon Symposium, Columbia, SC. Served as judge for graduate student oral presentation awards. (*May 2019*).
22. "Base Metal Catalysis at Arizona State University." Vietnam National University – Ho Chi Minh City, Faculty of Chemistry, Ho Chi Minh City, Vietnam (*Dec. 2018*).
21. "Manganese Catalysis at Arizona State University." Vietnam National University – Hanoi, Faculty of Chemistry, Hanoi, Vietnam (*Dec. 2018*).
20. "Manganese Catalysts for Organic Transformations." Hanoi National University of Education, Faculty of Chemistry, Hanoi, Vietnam (*Dec. 2018*).
19. "Utilization of Donor-Functionalized Redox Non-Innocent Ligands to Promote Manganese- and Molybdenum-Based Catalysis." Arizona State University, School of Molecular Sciences, Tempe, AZ (*Aug. 2018*).
18. "Pentadentate Ligands for Manganese- and Molybdenum-Based Catalysis." North Carolina State University, Department of Chemistry Inorganic Seminar, Raleigh, NC (*Sept. 2017*).
17. "Donor-Functionalized Bis(imino)pyridine Ligands for Manganese- and Molybdenum-Based Catalysis." University of Missouri – Columbia, Department of Chemistry Colloquium, Columbia, MO (*Sept. 2017*).
16. "Donor-Functionalized Schiff Base Ligands in Homogeneous Catalysis." Iowa State University, Department of Chemistry Seminar Series, Ames, IA (*Sept. 2017*).
15. "Phosphine-Functionalized Redox Non-Innocent Ligands for Homogeneous Manganese and Molybdenum Catalysis." University of Texas at San Antonio, Department of Chemistry Seminar Program, San Antonio, TX (*Sept. 2017*).
14. "Preparation and Reactivity of Phosphine-Substituted Bis(imino)pyridine and Diimine Molybdenum Compounds." Organometallic Chemistry Gordon Research Conference, Salve Regina University, Newport, RI. (*July 2017*).
13. "Donor-Functionalized Redox Non-Innocent Ligands in Homogeneous Catalysis." Southern Methodist University, Department of Chemistry Seminar Series, Dallas, TX. (*Mar. 2017*).
12. "Phosphine-Functionalized Redox Non-Innocent Ligands in Homogeneous Catalysis." Brown University, Chemistry Colloquium, Providence, RI. (*Feb. 2017*).
11. "Mechanism of Bis(imino)pyridine Manganese-Catalyzed Carbonyl Hydrosilylation." Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in Honor of Eric J. Schelter, 251st American Chemical Society National Meeting & Exposition, San Diego, CA. Presided over Session 2 (*Mar. 2016*).
10. "The Development and Application of Manganese Hydrosilylation Catalysts." 46th Annual North American Silicon Symposium, Davis, CA. Served as discussion moderator for Session 2A (*June 2015*).
9. "A Bis(imino)pyridine Manganese Electrocatalyst for Carbon Dioxide Reduction." 5th Annual Scialog Conference on Solar Energy Conversion, Tucson, AZ (*Oct. 2014*).
8. "The Application of Redox-Active Ligands in Homogeneous Catalysis," Russian American Workshop – Design of Advanced Functional Materials: Education, Research & Innovations in Engineering, Kazan, Russia (*Oct. 2013*).
7. "How Guiding Chelate Denticity Leads to Improved Redox-Active Ligand Supported Transition Metal Catalysts," Arizona State University, Center for Bio-Inspired Solar Fuel Production, Tempe, AZ (*Sept. 2013*).

Los Alamos National Laboratory

6. "Bis(imino)pyridine Iron Catalyzed Olefin Hydrogenation: Substrate Scope, Functional Group Tolerance, and Catalyst Decomposition Pathways," Arizona State University, Department of Chemistry & Biochemistry, Tempe, AZ (*Jan. 2011*).

5. “The Intricacies of Bis(imino)pyridine Iron Catalyzed Olefin Hydrogenation,” The University of Sydney, School of Chemistry, Sydney, NSW, Australia (*Oct. 2010*).
4. “Bis(imino)pyridine Iron Catalyzed Olefin Hydrogenation: Substrate Scope, Functional Group Tolerance, and Catalyst Decomposition Pathways,” The Dow Chemical Company, Dispersants and Additives Polymer Group, Spring House, PA (*Sept. 2010*).
3. “Ligand Development for Lanthanide/Actinide Separations,” Glenn T. Seaborg Institute Actinide Science Lecture, Los Alamos National Laboratory, Los Alamos, NM (*Aug. 2010*).
2. “Substrate Scope and Functional Group Tolerance of Bis(imino)pyridine Iron Catalyzed Olefin Hydrogenation,” Pacific Northwest National Laboratory, Physical Sciences Division, Richland, WA (*Sept. 2009*).

Cornell University

1. “Functional Group Tolerance in Bis(imino)pyridine Iron Mediated Olefin Hydrogenation,” Los Alamos National Laboratory, Chemistry Division, Los Alamos, NM (*Jan. 2008*).

CONTRIBUTED CONFERENCE ABSTRACTS (UNDERLINE DENOTES PRESENTER, †DENOTES ASU GRADUATE STUDENT, ‡DENOTES ASU UNDERGRADUATE)

Arizona State University

29. Mukhopadhyay, T. K.†; Rock, C. L.†; Hong, M.; Ashley, D. C.; Flores, M.; Groy, T. L.; Baik, M.-H.; Trovitch, R. J. “Efficient Manganese Catalysts for Carbonyl and Alkene Hydrosilylation.” Beilstein Organic Chemistry Symposium on Earth-Abundant 3d Metal Catalysis, Frankfurt, Germany (*Poster – Sept. 2020*).
28. Mukhopadhyay, T. K.†; Nguyen, T. T.†; Flores, M.; Groy, T. L.; Trovitch, R. J. “Design of Manganese Catalysts for Alkene Hydrosilylation.” Gordon Research Conference: Organometallic Chemistry, Newport, RI (*Poster – July 2019*).
27. Ghosh, C.†; Pal, R.†; Groy, T. L.; Trovitch, R. J. “A Highly Efficient Cobalt Catalyst for Nitrile and Imine Hydroboration: Mechanistic Study and Substrate Scope.” Gordon Research Conference: Inorganic Chemistry, Biddeford, ME (*Poster – June 2018*).
26. Rock, C. L.†; Mukhopadhyay, T. K.†; Groy, T. L.; Trovitch, R. J. “Carbonyl and Alkene Hydrosilylation via Base Metal Catalysis.” 48th Annual North American Silicon Symposium, Philadelphia, PA (*Poster – June 2017*).
25. Balderas, D.‡; Pal, R.†; Trovitch, R. J. “Carbon Dioxide Activation by Diimine Molybdenum Compounds.” 12th Annual WAESO Student Research Conference, Tempe, AZ (*Poster – Mar. 2017*).
24. Mukhopadhyay, T. K.†; Groy, T. L.; Trovitch, R. J. “Redox Non-Innocent Ligand Supported Manganese Complexes for Solar-Fuel Generation.” 251st American Chemical Society National Meeting & Exposition, San Diego, CA (*Talk – Mar. 2016*).
23. Ghosh, C.†; Groy, T. L.; Bowman, A. C.; Trovitch, R. J. “C-H and C-P Activation by a Redox Non-Innocent Ligand Supported Iron Dinitrogen Complex.” 251st American Chemical Society National Meeting & Exposition, San Diego, CA (*Poster – Mar. 2016*).
22. Levin, H.†; Groy, T. L.; Trovitch, R. J. “Introducing a κ^4 -Diazadiene Co(I) Hydride Catalyst for Alkyne Hydroboration.” 251st American Chemical Society National Meeting & Exposition, San Diego, CA (*Poster – Mar. 2016*).
21. Pal, R.†; Flores, M.; Groy, T. L.; Trovitch, R. J. “Molybdenum(I) Oxidation State: Preparation, Characterization, and Reactivity of Bis(imino)pyridine Mo Complexes.” 251st American Chemical Society National Meeting & Exposition, San Diego, CA (*Talk – Mar. 2016*).

20. Pal, R.[†]; Groy, T. L.; Trovitch, R. J. “Selective Conversion of Carbon Dioxide to Methanol Using a Homogeneous Molybdenum Catalyst,” Gordon Research Conference: Inorganic Reaction Mechanisms, Galveston, TX (*Poster – Mar. 2015*).
19. Trovitch, R. J. “A New Ligand Platform for Manganese-Catalyzed Carbon Dioxide Reduction.” 5th Annual Scialog Conference on Solar Energy Conversion, Tucson, AZ (*Poster – Oct. 2014*).
18. Trovitch, R. J. “Exploring the Mechanism of (^{Ph₂PPPr}PDI)Mn-Catalyzed Hydrosilylation,” Gordon Research Conference: Organometallic Chemistry, Newport, RI (*Poster – July 2014*).
17. Trovitch, R. J. “Exploring the Mechanism of (^{Ph₂PPPr}PDI)Mn-Catalyzed Hydrosilylation,” Gordon Research Conference: Inorganic Chemistry, Biddeford, ME (*Poster – June 2014*).
16. Trovitch, R. J. “Designing Well-Defined Catalysts for Solar-Driven Fuels Production,” 4th Annual Scialog Conference on Solar Energy Conversion, Tucson, AZ (*Poster – Oct. 2013*).
15. Mukhopadhyay, T. K.[†]; Groy, T. L.; Trovitch, R. J. “Development of Redox-Active Ligand Supported Manganese Catalysts,” 246th American Chemical Society National Meeting & Exposition, Indianapolis, IN (*Poster – Sept. 2013*).
14. Porter, T. M.[‡]; Groy, T. L.; Trovitch, R. J. “Synthesis and Characterization of Formally Zerovalent α -Diimine Supported Nickel Complexes,” 246th American Chemical Society National Meeting & Exposition, Indianapolis, IN (*Poster – Sept. 2013*).
13. Mukhopadhyay, T. K.[†]; Porter, T. M.[‡]; Flores, M.; Feller, R. K.; Scott, B. L.; Taylor, R. D.; Paz-Pasternak, M.; Henson, N. J.; Rein, F. R.; Smythe, N. C.; Gordon, J. C.; Trovitch, R. J. “Preparation of Low-Valent Iron Complexes for Dinitrogen Activation,” 246th American Chemical Society National Meeting & Exposition, Indianapolis, IN (*Poster – Sept. 2013*).
12. Smythe, N. C.; Duque, J.; Feller, R. K.; Gordon, J. C.; Henson, N. J.; Paz-Pasternak, M.; Rein, F. R.; Scott, B. L.; Taylor, R. D.; Trovitch, R. J. “Fe-based Dinitrogen Chemistry at Los Alamos,” 245th American Chemical Society National Meeting & Exposition, New Orleans, LA (*Talk – Sept. 2013*).
11. Mukhopadhyay, T. K.[†]; Feller, R. K.; Rein, F. N.; Henson, N. J.; Smythe, N. C.; Trovitch, R. J.; Gordon, J. C. “Electronic Structure Determination of Low-valent Iron Complexes,” 244th American Chemical Society National Meeting & Exposition, Philadelphia, PA (*Talk – Aug. 2012*).

Los Alamos National Laboratory

10. Smythe, N. C.; Gordon, J. C.; Henson, N. J.; Rein, F. N.; Scott, B. L.; Trovitch, R. J. “Dinitrogen Functionalization Chemistry at Los Alamos,” 243rd American Chemical Society National Meeting & Exposition, San Diego, CA (*Poster Contribution – Mar. 2012*).
9. Gordon, J. C.; Henson, N. J.; Rein, F. N.; Scott, B. L.; Smythe, N. C.; Trovitch, R. J. “Some Recent Results in N₂ Functionalization Chemistry from Los Alamos,” 243rd American Chemical Society National Meeting and Exposition, San Diego, CA (*Talk – Mar. 2012*).
8. Dupont, V.; Kuiper, D.; Rollin, B.; Baca, J.; Sekhar, P.; Page, K.; Dayeh, S.; Singh, R.; Trovitch, R.; With, M. A. “Los Alamos Postdoc Association Annual Career Fair,” 2011 National Postdoctoral Association Annual Meeting, Bethesda, MD (*Poster – Mar. 2011*).
7. Trovitch, R. J.; John, K. D. “Redox-Active Ligand Archetypes for *f*-Element Chemistry: The Utilization of π -Stacking in Separation Science and Platforms for Lanthanide-Based Catalysis.” 2010 Los Alamos National Laboratory Glenn T. Seaborg Postdoctoral Program Capability Review, Los Alamos, NM (*Poster – June 2010*).
6. Trovitch, R. J.; Janicke, M. T.; Guo, N.; Baker, R. T.; John, K. D. “An Approach to Upgrading Low Molecular Weight Hydrocarbon Fuels: Alkane Dehydrogenation Mediated by Supported Iridium Catalysts,” 2010 Los Alamos National Laboratory Chemical Science Capability Review – Energy Production, Conversion, Storage, and Utilization (*Poster - May 2010*) and the 1st Annual Los Alamos Postdoc Research Day, Los Alamos, NM (*Poster – June 2010*).

5. Trovitch, R. J.; Guo, N.; Li, H.; Sattelberger, A. P.; John, K. D.; Baker, R. T. "Characterization, Reactivity, and Decomposition of Solid-Supported Organoiridium Complexes," 238th American Chemical Society National Meeting, Washington, DC (*Poster – Aug. 2009*).

Cornell University

4. Trovitch, R. J.; Lobkovsky, E. B.; Chirik, P. J. "Oxidative Addition with Bis(imino)pyridine Iron: Ligand vs. Metal Based Oxidation," 236th American Chemical Society National Meeting, Philadelphia, PA (*Talk – Aug. 2008*).
3. Trovitch, R. J.; Lobkovsky, E. B.; Chirik, P. J. "Functional Group Tolerance in Bis(imino)pyridine Iron Mediated Olefin Hydrogenation," Gordon Graduate Research Seminar: Organometallic Chemistry, Newport, RI (*Poster – July 2007*) and 234th American Chemical Society National Meeting, Boston, MA (*Poster – Aug. 2007*).

University of Michigan – NSF REU Fellowship

2. Trovitch, R.; Gottfried, A.; Bartolin, J.; Banaszak Holl, M. M. "The Preparation of a Stable Silylene for C-H Activation Studies," Michigan State University, Department of Chemistry, East Lansing, MI (*Poster – Aug. 2003*).

King's College

1. Trovitch, R. J.; LaDuca, R. L. "Copper and Nickel Halide/Pseudohalide Coordination Polymers with Functionalized Pyridines via Hydrothermal Synthesis," the 13th Annual Saint Joseph's University Sigma Xi Student Research Symposium, Philadelphia, PA (*Poster – Apr. 2002*).

SPONSORED RESEARCH GRANTS

Arizona State University - Current

- ASU Lightworks: Fossil Free Future Sustainable Fuels and Products Accelerator "Enhanced Carbon Dioxide Hydrogenation to Methanol in a Membrane Reactor" Award Amount: \$30,000 (*Nov. 2020 – June 2021*, 50% to R. J. Trovitch) Co-PI: S. Deng, R. J. Trovitch
- National Science Foundation Faculty Early Career Development Program (CAREER) "SusChEM: Development of Manganese Hydrosilylation Catalysts for Silicone Curing." Award Amount: \$650,000 (*June 2017 – May 2022*) PI: R. J. Trovitch

Arizona State University - Completed

- Dignity Health and Arizona State University 2018 Collaborative Strategic Initiatives Program "One Shot Morphologic, Hemodynamic and Metabolic MR Imaging of Brain Tumors" Award Amount: \$250,000 (*Sept. 2018 – Mar. 2020*) PI: V. D. Kodibagkar, C. Quarles; Co-I: R. J. Trovitch
- American Chemical Society Petroleum Research Fund Doctoral New Investigator Award "Mechanism and Scope of Bis(imino)pyridine Manganese-Catalyzed Hydrosilylation." Award Amount: \$110,000 (*Sept. 2015 – Aug. 2018*) PI: R. J. Trovitch
- Research Corporation for Science Advancement Scialog Collaborative Innovation Award "Targeting a New Product for Electrocatalytic CO₂ Reduction: Formaldehyde."

Award Amount: \$100,000 / \$50,000 to ASU (*Jan. 2014 – Dec. 2016*)

Co-PI: R. J. Trovitch, M.-H. Baik

- LANL Directed Research & Development Program - Exploratory Research
“Developing a Mild Catalytic Route for the Reduction of N₂ to NH₃.”
Award Amount: \$1,050,000 (*Oct. 2010 – Sept. 2013*) / \$20,000 to ASU (*Mar. 2013 – Sept. 2013*)
PI: J. C. Gordon, co-PI: R. J. Trovitch, N. C. Smythe, N. J. Henson

Los Alamos National Laboratory - Completed

- U.S. Department of Energy, Office of Basic Energy Sciences Catalysis Research Program “Site-Isolated Catalysts for Tandem Reactions.”
Award Amount: \$120,000 (*July 2009 – June 2010*)
PI: K. D. John, co-PI: R. J. Trovitch

PROFESSIONAL AWARDS, FELLOWSHIPS, AND ACCOLADES

Arizona State University

- Top 5% of Highly Cited Authors in Royal Society of Chemistry Journals (*2019*)
- Thieme Chemistry Journal Award (*2015*)

Los Alamos National Laboratory

- LANL Los Alamos Award (*2010, 2009*)

Cornell University

- Cornell University Graduate Fellowship (*Aug. 2005 – May 2006*)

King’s College

- Susquehanna Valley Regional American Chemical Society Award (*May 2004*)

TEACHING EXPERIENCE

Arizona State University

- CHM 452 – Inorganic Chemistry Laboratory *Spring 2020, 2019, 2018, 2017, 2014*
1 unit course with total enrollment of 24 (2020), 22 (2019), 21 (2018), 9 (2017), 13 (2014)
- CHM 494/598 – Organometallic Chemistry *Fall 2019*
3 unit course with an enrollment of 8
- CHM 501 – Inorganic Chemistry Seminar *Spring 2019, 2013; Fall 2014*
1 unit course with an enrollment of 10 (2019), 7 (2014), 7 (2013)
- CHM 453 – Inorganic Chemistry *Fall 2018, 2016, 2015, 2014*
3 unit course with an enrollment of 45 (2018), 28 (2016), 38 (2015), 39 (2014)
- CHM 553 – Advanced Inorganic Chemistry *Fall 2018; Spring 2015, 2013*
3 unit course with an enrollment of 13 (2018), 4 (2015), 3 (2013)
- CHM 113 – General Chemistry I *Spring 2016*
4 unit course with an enrollment of 163
- CHM 598 – Organometallic Chemistry *Fall 2013, Spring 2012*
3 unit course with an enrollment of 6 (2013) and 9 (2012)

RESEARCH MENTORING

Arizona State University – Current Graduate Students

- Matthew Mena *July 2018 – present*
Evaluation of (PDI)Co Catalysts
- Thu Thao Nguyen *Aug. 2018 – present*
Utilization of Bulky Ligands for Manganese Catalysis
- Anuja Sharma *Aug. 2019 – present*
First-Row Metal Catalysts Featuring High-Coordinate Monoanionic Ligands

Arizona State University – Former Graduate Students

- A K M Fazlul Karim Rasel *Aug. 2019 – June 2020*
Vanadium Catalysts for Reductive Transformations
Currently a Graduate Student in the Hayes Group (Arizona State University)
- Brian M. Glazier *July 2017 – May 2019*
Evaluation of Manganese Catalysts for Dehydrogenative Amine Silylation
- Christopher L. Rock *Aug. 2013 – Dec. 2018*
Ph.D. Dissertation: *Evaluation of κ^4 -Diimine Nickel and Cobalt Hydrofunctionalization Catalysts*
Postdoctoral Research Assistant at Arizona State University (Kodibagkar Group, 2019)
Currently a Scientist I at KBI Biopharma (Durham, NC)
- Chandrani Ghosh *Oct. 2012 – Aug. 2018*
Ph.D. Dissertation: *Development of Homogeneous First Row Metal Catalysts (Fe, Mn, Co) for Organic Transformations and Bond Activation*
Currently a Postdoctoral Research Assistant at New York University (Buccella Group)
- Sthitadhi Maiti *Aug. 2016 – May 2018*
Chelate Effects on Molybdenum Catalyzed Small Molecule Activation
Currently a Graduate Student in the Heyden Group (Arizona State University)
- Raja Pal *Jan. 2012 – Mar. 2017*
Ph.D. Dissertation: *Development of Homogeneous Molybdenum Catalysts for the Activation of Small Molecules*
Currently a PTD Senior Process Engineer at Intel Corporation (Hillsboro, OR)
- Tufan K. Mukhopadhyay *Jan. 2012 – May 2016*
Ph.D. Dissertation: *Development of Homogeneous Manganese and Iron Catalysts for Organic Transformations and Renewable Fuel Production*
Postdoctoral Research Assistant at University of Michigan (Szymczak Group, 2016 – 2017)
Postdoctoral Research Assistant at University of Zurich (Čorić Group, 2018 – 2020)
- Hagit Ben-Daat Levin *Jan. 2012 – May 2016*
M.S. Thesis: *Synthesis and Reactivity of Group 9 Complexes Featuring Redox Non-Innocent Ligands*
Currently an R&D Chemist at Wacker Chemie AG (Ann Arbor, MI)

Arizona State University – Current Undergraduate Students

- Brock Leland (*Barrett, The Honors College at ASU*) *Jan. 2020 – Present*
Preparation of Phosphine-Substituted Amino Acids

Arizona State University – Former Undergraduate Students

- Yubeen Kim (*Seoul National University*) *Jan. 2020 – March 2020*
Catalytic Defluorination of Environmental Contaminants
- Eric W. Trinh (*ASU*) *Feb. 2018 – Aug. 2018*
Preparation of β -Diketimate Molybdenum Complexes
- Yvonne Manjarrez (*Barrett, The Honors College at ASU*) *Jan. 2017 – May 2018*
Honors Thesis: *Synthesis of Enzyme-Mimetic Catalysts*
Currently a Graduate Student at the University of Southern California (Fieser Group)

- Nicholas L. MacLean (*ASU*) *Apr. 2013 – Sept. 2017*
Development of Manganese CO₂ Reduction Catalysts
Currently a Product Specialist at Kaiser Optical Systems
- Daniela Balderas (*ASU*) *Jan. 2016 – Aug. 2017*
Development of Molybdenum Catalysts for CO₂ Reduction
- Corbin G. Parker (*ASU*) *May 2015 – Dec. 2016*
Development of Nickel Electrocatalysts for C-O Cleavage
Currently a Laboratory Manager at Grand Canyon University
- Joe Rosser (*University of Manchester, UK*) *Jan. 2015 – June 2015*
Development of Bimetallic Electrocatalysts
- Lin E. Wang (*Barrett, The Honors College at ASU*) *Jan. 2015 – May 2015*
Ligand Development for CO₂ Reduction Catalysis
Formerly a Fulbright U.S. Student Scholar in Taiwan
- Piper S. Boyll (*Barrett, The Honors College at ASU*) *Mar. 2014 – Dec. 2014*
Substrate Scope of Iron Hydrosilylation Catalysis
Formerly in Medical School at the University of Arizona
- Tyler M. Porter (*Barrett, The Honors College at ASU*) *July 2012 – June 2014*
Honors Thesis: *Synthesis and Characterization of Low-valent Nickel Hydrosilylation Catalysts*
Ph.D. at University of California, San Diego (Kubiak Group, 2014 – 2019)
Currently a Postdoctoral Research Assistant at Stanford University (Kanan Group)

Arizona State University – Former Visiting Scholars

- Afshan Khurshid (*IRSIP Scholar, Quaid-I-Azam University*) *Oct. 2019 – Apr. 2020*
Carbon Dioxide Coupling at Molybdenum

Arizona State University – Current Member of Doctoral Dissertation Advisory Committee

- Narges Masoumi (Wolf and Chizmeshya Groups – School of Molecular Sciences)
- Edgar Reyes (G. Moore Group – School of Molecular Sciences)
- Genevieve Hall (Bertoni Group – School of Electrical, Computer and Energy Engineering)
- David Ciota (Seo Group – School of Molecular Sciences)
- Kelsea Evraets (Jones Group – School of Molecular Sciences)
- Rose Snyder (Birkel Group – School of Molecular Sciences)
- Guarav Galiyan (Jones Group – School of Molecular Sciences)
- Ren Bean (Long Group – School of Molecular Sciences)

Arizona State University – Former Dissertation Committee Member

- Samuel Williams (Jones Group – School of Molecular Sciences, 2020)
- Brian Wadsworth (G. Moore Group – School of Molecular Sciences, 2020)
- Prathamesh Vartak (Wang Group – School for Engineering of Matter, Transport and Energy, 2020)
- Ting Hu (Kouvetakis Group – School of Molecular Sciences, 2019)
- Shaojiang Chen (Seo Group – School of Molecular Sciences, 2019)
- Apar Prasad (Shock Group – School of Molecular Sciences, 2019)
- Indrajit Bandyopadhyay (Hecht Group – School of Molecular Sciences, 2019)
- Patrick Wallace (Kouvetakis Group – School of Molecular Sciences, 2018)
- Sijie Yang (Tongay Group – School for Engineering of Matter, Transport and Energy, 2017)
- Shanika Abeysooriya (Seo Group – School of Molecular Sciences, 2016)
- Joseph Rheinhardt (Buttry Group – Department of Chemistry & Biochemistry, 2015)

- Abhishek Debnath (Green Group – Department of Chemistry & Biochemistry, 2015)
- Souvik Roy (Jones Group – Department of Chemistry & Biochemistry, 2013)

Arizona State University – Chair of Oral Examination Committee

- John Jamboretz (Birkel Group – School of Molecular Sciences, 2021)
- Lan Zhu (Liu Group – School of Molecular Sciences, 2017)
- Miyuki Thirumurthy (Jones Group – School of Molecular Sciences, 2015)

Arizona State University – Member of Oral Examination Committee

- Joshua Nye (Hartnett Group – Department of Chemistry & Biochemistry, 2015)
 - Charutha Senaratne (Kouvetakis Group – Department of Chemistry & Biochemistry, 2014)
 - Patrick Sims (Kouvetakis Group – Department of Chemistry & Biochemistry, 2014)
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PROFESSIONAL ACTIVITIES AND SERVICE

Service to Profession

- Green Chemistry Commitment Advisory Board Member (Dec. 2014 – Present)
- Reviewer for *ACS Catalysis* (2020x3, 2018, 2017), *Chemical Science* (2020x2, 2015x2), *Chemical Communications* (2020x3, 2019x2, 2018x3), *Inorganic Chemistry* (2020, 2019x2, 2017x2, 2016, 2015x2, 2014x2), *Science Advances* (2019, 2018), *Angewandte Chemie* (2019, 2017), *Organometallics* (2019, 2017x4, 2016, 2015x7, 2012), *Dalton Transactions* (2019x3, 2018x3, 2017, 2016x2, 2015), *Journal of the American Chemical Society* (2018x3, 2016), *ACS Sustainable Chemistry & Engineering* (2018x2), *ChemCatChem* (2018, 2017), *Journal of Organic Chemistry* (2018x2), *Nature Catalysis* (2017), *European Journal of Organic Chemistry* (2017), *Nature Communications* (2016x2), *The Chemical Record* (2016), *Journal of Coordination Chemistry* (2016), *Journal of Physical Chemistry* (2015), *Catalysis Science & Technology* (2014), *Journal of Molecular Structure* (2014), and *Advanced Synthesis & Catalysis* (2013)
- Reviewer for the National Science Foundation (Panel – 2020, 2019, 2018; Ad Hoc – 2018, 2017, 2015)
- Reviewer for the ACS Petroleum Research Fund (Ad Hoc – 2020, 2017, 2016, 2015, 2014)
- Reviewer for the Department of Energy, Office of Basic Energy Sciences (Ad Hoc – 2019x3, 2018, 2017x2, 2016)
- Reviewer for the Research Corporation for Science Advancement (Ad Hoc – 2019, 2017)
- Academic Contributor to “A Guide to Green Chemistry Experiments for Undergraduate Organic Chemistry Labs,” a first of its kind manual for greener laboratory experiments developed in collaboration with Beyond Benign, MilliporeSigma, and My Green Lab.
- Presenter for Phoenix Public Library Science Café Series (Cholla Branch, 2018)
- Reviewer for the ETH Zurich Research Commission (Ad Hoc – 2017)
- Reviewed the 7th Edition of *Inorganic Chemistry*, by Weller and Shriver (2016) and the 3rd Edition of *Organometallic Chemistry*, by Spessard and Miessler (2014)
- Grand Awards Judge for the Intel International Science and Engineering Fair (2016, 2013)
- Host for ASU’s AECF teacher training program with Sichuan University (2014)

Service to ASU – University

- Elected Member of Chemical and Environmental Characterization Core Governance Board (Aug. 2019 – present)

Service to ASU – College of Liberal Arts and Sciences

- Limited submission reviewer for William T. Grant Scholars Program (*Apr. 2019*)
- Member of RTS EPR Facility Advisory Committee (*Apr. 2014 – Aug. 2016*)
- Member of RTS X-Ray Diffraction Facility Advisory Committee (*June 2012 – Aug. 2016*)

Service to ASU – School of Molecular Sciences

- Chair of Graduate Recruitment (*Aug. 2019 – July 2020*)
- Member of Committee on Undergraduate Programs and Awards (*Aug. 2018 – July 2019*)
- Member of Junior Faculty Search Committee (*2018 – 2019*)
- Member of Ad Hoc Committee on Seminars (*Aug. 2018 – June 2019*)
- Member of Committee on Graduate Recruitment (*Aug. 2015 – Aug. 2018*)
- Member of Computational Interfacial Analysis Faculty Search Committee (*2016 – 2017*)
- Member of Committee on Departmental Instruction (*Aug. 2015 – June 2016*)
- Member of Bioenergy Faculty Search Committee (*2015 – 2016*)

Service to ASU – Department of Chemistry & Biochemistry (*Jan. 2012 – Aug. 2015*)

- Member of Instrumentation & Facilities Committee (*Aug. 2014 – Aug. 2015*)
- Member of Committee on Graduate Recruitment (*Oct. 2012 – Aug. 2015*)
- Member of Upper Division Laboratory Manager Hiring Committee (*2014*)

Society Membership

- Member of the American Chemical Society, Inorganic Division (*May 2004 – Present*)
-