Jerome R. Robinson

Department of Chemistry
324 Brook St.
Brown University
Providence, RI 02912

phone: (401) 863-3249
https://www.brown.edu/academics/chemistry/jerome-r-robinson
https://www.robinsongroup.wixsite.com/brown
Jerome_Robinson@Brown.edu

Professional Experience

Manning Assistant Professor of Chemistry, Brown University, Providence RI — **July 2022 – Present**
Assistant Professor, Brown University, Providence RI — **2016 – 2022**
Research Chemist, Axalta Coating Systems, Wilmington DE — **2014 – 2016**
Visiting Assistant Professor, Haverford College, Haverford PA — **2016**
Visiting Assistant Professor, Widener University, Chester PA — **Fall 2015**
Visiting Research Scientist, Institut Català d'Investigació Química (ICIQ), Tarragona Spain — **Fall 2012**

Education

Ph.D. Chemistry, University of Pennsylvania, Philadelphia, PA — **April 2014**
Co-Advisors: Dr. Patrick J. Walsh and Dr. Eric J. Schelter
Thesis: *f*-Element BINOLate Complexes: Controlling Secondary Structure for Applications in Redox Chemistry, Complex Design, and Asymmetric Catalysis

B.S. Chemistry (ACS Certified, *Honors*) University of Wisconsin – La Crosse, La Crosse, WI — **May 2009**
Minor: Mathematics, Advisor: Dr. Rob W. McGaff

Selected Awards and Honors

Manning Assistant Professor (*Brown University*) — **2022**
CAREER Award (*National Science Foundation*) — **2022**
New Journal of Chemistry, *Emerging Investigator* — **2021**
Chemical Communications, *Emerging Investigator* — **2021**
ACS Petroleum Research Foundation, *Doctoral New Investigator Grant* — **2019**
Junior Faculty Teaching Fellow (*Brown University*) — **2017**
Salomon Faculty Research Award (*Brown University*) — **2017**
Dean's Scholar (*School of Arts & Sciences*; *University of Pennsylvania*) — **2014**
Penn Award for Excellence in Graduate Research (*University of Pennsylvania*) — **2013**
Moelis Access Science Fellow (*University of Pennsylvania*) — **2011-2013**
Penn Prize for Excellence in Teaching by Graduate Students (*University of Pennsylvania*) — **2010**
ACS Outstanding Student in Chemistry (*La Crosse / Winona Section*) — **2009**
Dean's Distinguished Fellowship (*UW–La Crosse*) — **2008**

Publications

(**Robinson group**: Graduate = †, Undergraduate = ‡, Corresponding = *)

Since Starting at Brown in July 2016 [22]

39. Brown, A. M.;† Butman, J. L.;‡ Lengacher, R.; Vargo, N. P.;† Martin, K. E.; Koller, A.; Śmiłowicz, D.; Boros, E.*; Robinson, J. R.* "*N*,*N*-Alkylation Clarifies the Role of N- and O-Protonated Intermediates in Cyclen-Based ^{64}Cu Radiopharmaceuticals" *Inorg. Chem.* **2022**, *Accepted*. DOI: 10.1021/acs.inorgchem.2c02907 **[Selected for front cover]**

38. Goodwin, M. D.; Costa, M. Q.; Robinson, J. R.; Kotyk C. M.* "Mechanochemical Synthesis of Thiolactams and Other Thioamides Using Lawesson's Reagent" *Results Chem.* **2022**, *4*, 100528. DOI: 10.1016/j.rechem.2022.100528

37. Lueckheide, M. J.;† Ertem, M. Z.;* Michon, M. A.; Chmielniak, P.; Robinson, J. R.* "Peroxide-Selective Reduction of O_2 at Redox-inactive Rare-Earth(III) Triflates Generates and Ambiphilic Peroxide" *J. Am. Chem. Soc.* **2022**, *144*, 17295-17306. DOI: 10.1021/jacs.2c08140

36. Hamsath, A.; Lederberg, O. L.; Cui, Q.; Shieh, M.; Lam, Y.; Brummett, B. J.; Xu, S.; Robinson, J. R.; Xian, M.* "Intramolecular Tetrazine-acryloyl Cycloaddition: Chemistry and Applications" *Chem. Sci.* **2022**, *13*, 10336-10341. DOI: 10.1039/d2sc04331a

35. Dong, J.; Robinson, J. R.; Gao, Z-H.; Wang, L-S. "Selective Semihydrogenation of Polarized Alkynes by a Gold Hydride Nanocluster" *J. Am. Chem. Soc.* **2022**, *144*, 12501-12509. DOI: 10.1021/jacs.2c05046

34. Chellali, J. E.;† Alverson, A.;‡ Robinson, J. R.* "Zinc Aryl/Alkyl β-diketiminates: Balancing Accessibility and Stability for High-Activity Ring-opening Polymerization of *rac*-Lactide" *ACS Catal.* **2022**, *12*, 5585-5594. DOI: 10.1021/acscatal.2c00858. [**Selected as *ACS Editor's Choice* articles**]

33. Koller, A. J.; Saini, S.; Chaple, I. F.; Joaqui-Joaqui, M. A.; Paterson, B. M.; Ma, M. T.; Blower, P. J.; Pierre, V. C.; Robinson, J. R.; Laipe, S. E.; Boros, E.*. "A General Design Strategy Enabling the Synthesis of Hydrolysis Resistant, Water-Stable, Titanium(IV) Complexes" *Angew. Chem. Int. Edit.* **2022**, *61*, e202201211. DOI: 10.1002/anie.202201211

32. Dong, X.;† Brown, A. M.;† Woodside, A. J.;† Robinson, J. R.* "*N*-Oxides Amplify Catalyst Reactivity and Isoselectivity in the Ring-Opening Polymerization of *rac*-β-Butyrolactone" *Chem. Commun.* **2022**, *58*, 2854-2857. DOI: 10.1039/D1CC05127J **[Emerging Investigators Issue, 2021]**

31. Dong, X.;† Robinson, J. R.* "The Versatile Roles of Neutral Donor Ligands in Tuning Catalyst Performance for the Ring-Opening Polymerization of Cyclic Esters" *New J. Chem.* **2022**, *46*, 444-453. DOI: 10.1039/D1NJ02694A **[Emerging Investigators Issue, 2021]**

30. Zuckerman, L; Vargo, N. P.;† May, C.; Crockett, M.; Hyre, A.; McNeely, J.; Elinburg, J.; Brown, A. M.;† Robinson, J. R.; Rheingold, A.; Doerrer, L. H.* "Thiolate-thione Redox-Active Ligand with a Six-membered Chelate Ring via Template Condensation and its Pt(II) Complexes" *Inorg. Chem.* **2021**, *60*, 13376-13387. DOI: 10.1021/acs.inorgchem.1c01693

29. Vargo, N. P.;† Harland, J. B.; Musselman, B. W.; Lenert, N.*; Ertem, M. Z.*; Robinson, J. R.* "Calcium-ion Binding Mediates the Reversible Interconversion of Cis and Trans Peroxido Dicopper Cores" *Angew. Chem. Int. Edit.* **2021**. *60*, 19836-19842. DOI: 10.1002/anie.202105421

28. Panetti, G. B.; Robinson, J. R.*; Schelter, E. J.*; Walsh, P. J.* "Expanding the Rare-Earth Metal BINOLate Catalytic Multitool beyond Enantioselective Organic Synthesis" *Acc. Chem. Res.* **2021**. *54*, 2637-2648. DOI: 10.1021/acs.accounts.1c00148

27. Shen, M.; Yu, C.; Guan, H.; Dong, X.;† Harris, C.; Xiao, Z.; Yin, Z.; Muzzio, M.; Lin, H.; Robinson, J. R.; Colvin, V. L.; Sun, S.* "Nanoparticle-Catalyzed Green Chemistry Synthesis of Polybenzoxazole" *J. Am. Chem. Soc.* **2021**, *143*, 2115-2122. DOI: 10.1021/jacs.0c12488

26. Casey, K. C.;† Brown, A. M.;† Robinson, J. R.* "Yttrium and lanthanum bis(phosphine-oxide)methanides: structurally diverse, dynamic, and reactive" *Inorg. Chem. Front.* **2021**, *8*, 1539-1552. DOI: 10.1039/D0QI01438A **[Part of the themed collection: *Rare Earth Chemistry – In memory of Professor Xu Guangxian at his centenary*]**

25. Vaughn, B. A.; Brown, A. M.;† Ahn, S. H.; Robinson, J. R.;* Boros, E.* "Is Less More? Influence of the Coordination Geometry of Copper(II) Picolinate Chelate Complexes on Metabolic Stability" *Inorg. Chem.* **2020**, *59*, 16095-16108. DOI: 10.1021/acs.inorgchem.0c02314 [**Selected as a Featured Article, included as a virtual issue of "Featured Articles of 2020". One of 18 articles selected for 2020.**]

24. Casey, K. C.;† Appiah, J. K.;‡ Robinson, J. R.* "Low-symmetry β-diketimine Aryloxide Rare-Earth Complexes: Flexible, Reactive, and Selective" *Inorg. Chem.* **2020**, *59*, 14827-14837. DOI: 10.1021/acs.inorgchem.0c02170 [**Selected as a Featured Article, included as a virtual issue of "Featured Articles of 2020". One of 18 articles selected for 2020.**]

23. Dong, X.;† Robinson, J. R.* "The Role of Neutral Donor Ligands in the Isoselective Ring-Opening Polymerization of *rac*-β-Butyrolactone." *Chem. Sci.* **2020**, *11*, 8184-8195. DOI: 10.1039/D0SC03507F

22. Zabula, A. V.; Dey, S.; Robinson, J. R.; Cheisson, T.; Higgins, R. F.; Bhargava, G.; Nahas, R. C.; Cinoman, D.; Schelter, E. J. "Screening of Molecular Lanthanide Corrosion Inhibitors by a High-Throughput Method" *Corrosion Science* **2019**, 108377. DOI: 10.1016/j.corsci.2019.108377

21. Yu, C.; Guo, X.; Yin, Z.; Zhao, Z.; Li, X.; Robinson, J. R., Muzzio, M.; Barbosa, C.; Shen, M.; Yuan, Y.; Wang, J.; Antolik, J.; Lu, G.; Su, D.; Chen, O.; Guduru, P.; Seto C.; Sun S. "Highly Efficient AuPd Nanoparticle Catalyst for Synthesizing Polybenzoxazole with Controlled Polymerization" *Matter* **2019**, *1*, 1-13. DOI: 10.1016/j.matt.2019.09.001

20. Panetti, G. B.; Robinson, J. R.; Carroll, P. J.; Gau, M. R.; Manor, B. C.; Walsh, P. J.; Schelter, E. J. "Synthesis of Novel Copper-Lanthanide BINOLate Frameworks From a Hydrogen Bonding DBU-H^+ Lanthanide BINOLate Complex" *Dalton Trans.*, **2018**, *47*, 14408-14410. DOI: 10.1039/C8DT03335H

19. Suarez-Martinez, P. C.; Robinson, J. R.; An, H.; Nahas, R. C.; Cinoman, D.; Lutkenhaus, J. L. "Polymer-clay nanocomposite coatings as efficient, environment-friendly surface pretreatments for aluminum alloy 2024-T3" *Electrochim. Acta* **2018**, *260*, 73-81. DOI: 10.1016/j.electacta.2017.11.046

18. Suarez-Martinez, P. C.; Robinson, J. R.; An, H.; Nahas, R. C.; Cinoman, D.; Lutkenhaus, J. L. "Spray-on Polymer-Clay Multilayers as a Superior Anticorrosion Metal Pretreatment" *Macromol. Mater. Eng.* **2017**, 1600552. DOI: 10.1002/mame.201600552

17. Robinson, J. R.; Qiao, Y.; Gu, J.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "The Impact of Dynamic Ligand Exchange Processes on the Oxidation Chemistry of Cerium(III)" *Chem. Sci.* **2016**, *7* 4537-4547. DOI: 10.1039/c5sc04897d

16. Robinson, J. R.; Gu, J.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "Exchange Processes in Shibasaki's Rare Earth Alkali Metal BINOLate (REMB) Frameworks and their Relevance in Multifunctional Asymmetric Catalysis" *J. Am. Chem. Soc.* **2015**, *137*, 7135-7144. DOI: 10.1021/jacs.5b02201

15. Robinson, J. R.; Fan, X.; Yadav, J.; Carroll, P. J.; Wooten, A. J.; Pericàs, M. A.; Schelter, E. J.; Walsh, P.J. "Air- and Water-Tolerant Rare Earth Guanidinium BINOLate Complexes as Practical Precatalysts in Multifunctional Asymmetric Catalysis" *J. Am. Chem. Soc.* **2014**, *136*, 8034-8041. DOI: 10.1021/ja502568g

14. Yadav, J.; Stanton, G. R.; Fan, X.; Robinson, J. R.; Schelter, E. J.; Walsh, P. J.; Pericàs, M. A. "Asymmetric Allylation of Ketones and Subsequent Tandem Reactions Catalyzed by a Novel Polymer-Supported Titanium-BINOLate Complex" *Chem. Eur. J.* **2014**, *20*, 7122-7127. DOI: 10.1002/chem.201400204

13. Zhang, J.; Bellomo, A.; Trongsiriwat, N.; Jia, T.; Carroll, P. J.; Dreher, S. D.; Tudge, M. T.; Yin, H.; Robinson, J. R.; Schelter, E. J.; Walsh, P. J. "NiXantphos: A Deprotonatable Ligand for Room Temperature Palladium-Catalyzed Cross-Couplings of Aryl Chlorides" *J. Am. Chem. Soc.* **2014**,*136*, 6276–6287. DOI: 10.1021/ja411855d

12. Robinson, J. R.; Yadav, J.; Fan, X.; Stanton, G. R.; Schelter, E. J.; Pericàs, M. A.; Walsh, P. J. "Non-Covalent Immobilization of Rare Earth Heterobimetallic Frameworks and their Reactivity in an Asymmetric Michael Addition" *Adv. Synth. Catal.* **2014**, *356*, 1243–1254. DOI: 10.1002/adsc.201400087 [***Selected for the issue's back cover*** *Adv. Synth. Catal.* **2014**, *356*, 1380]

11. Yin, H.; Robinson, J. R.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "κ^2-coordination of 18-crown-6 to Ce(III) cations: Solution dynamics and reactivity" *Chem. Commun.* **2014**, *50*, 3470-3472. DOI: 10.1039/c4cc00448e

10. Piro, N. A.; Robinson, J. R.; Walsh, P. J.; Schelter, E. J. "The Electrochemical Behavior of Cerium(III/IV) Complexes: Thermodynamics, Kinetics, and Applications in Synthesis" *Coord. Chem. Rev.* **2014**, *260*, 21–36. DOI: 10.1016/j.ccr.2013.08.034

9. Robinson, J. R.; Gordon, Z.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Tuning Reactivity and Electronic Properties through Ligand Reorganization within a Cerium Heterobimetallic Framework." *J. Am. Chem. Soc*. **2013**, *135*, 19016–19024. DOI: 10.1021/ja410688w

8. Williams, U. J.; Robinson, J. R.; Lewis, A. J.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Synthesis, Bonding, and Reactivity of a Cerium(IV)-Fluoride Complex" *Inorg. Chem.* **2013**. *53*, 27–29. DOI: 10.1021/ic402769u

7. Nieto, I.; Wooten, A. J.; Robinson, J. R.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "Synthesis and Catalytic Activity of Heterobimetallic Rare Earth-Zinc Ethyl BINOLate Analogues of Shibasaki's Catalysts" *Organometallics* **2013**, *32*, 7431–7439. DOI: 10.1021/om4009444

6. Robinson, J. R.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Dimeric Rare Earth BINOLate Complexes: Activation of 1,4-Benzoquinone through Lewis-Acid Promoted Potential Shifts" *Chem. Eur. J.* **2013,** *19*, 5996-6004. DOI: 10.1002/chem.201300026

5. Robinson, J. R.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Uranium(IV) BINOLate Heterobimetallics: Synthesis and Reactivity in an Asymmetric Diels-Alder Reaction" *Organometallics.* **2013,** *32,* 1493–1499. DOI: 10.1021/om3011849 [***Invited for a special issue on f–elements in Organometallic Chemistry***]

4. Robinson, J. R.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "The Impact of Ligand Reorganization on Cerium(III) Oxidation Chemistry" *Angew. Chem., Int. Ed.* **2012,** *51*, 10159-10162. DOI: 10.1002/anie.201203481 [***Selected for the issue's back cover***: *Angew. Chem., Int. Ed.* **2012**, *51*, 10196.]

3. Robinson, J. R.; Bahr, K. A.; Bierman, M. J.; Guzei, I. A.; Kieler-Ferguson; H. M.; McCoy A. M.; McGaff R.W. "Resolution of Enantiomers of a Series of Chiral Alkoxy-Modified Phthalocyaninato Nickel(II) Complexes by Enantioselective HPLC" *Dalton Trans.* **2011,** *40*, 11809-11814. DOI: 10.1039/c1dt11302j

2. Brown, E. S.; Robinson, J. R.; McCoy A. M.; McGaff R.W. "Efficient Catalytic Cycloalkane Oxidation Employing a "Helmet" Phthalocyaninato Iron(III) Complex" *Dalton Trans.* **2011**, *40*, 5921-5925. DOI: 10.1039/c1dt10147a

1. Guzei, I; Spencer, L; McGaff, R; Kieler, H;* Robinson, J.R.* *Acta Crystallographica C*. **2007**.63, (4), 255-258. DOI: 10.1107/s0108270107009146

Under Review **[2]**

Woodside, A. J.;† Colvin, V. L.; Morton, C. I.; Williard, P. G.; Weber, P. M.; Robinson, J. R.* "Infographics and Interactive Peer/Near-Peer Review as Tools to Improve Chemistry Communication Skills with General Audiences" *Submitted*.

Saghy, P.;† Brown, A. M.;† Robinson, J. R.;* Chen, O.* "Low-Toxicity Lanthanide Double Perovskite Nanocrystals with Emissions covering the UV-C to NIR Spectral Range" *Submitted*.

In Preparation **[8]**

Chellali, J. E.;† Woodside, A. J.;† Kualots, I.; Robinson, J. R.* "Cooperative Stereoblock Formation Via Zinc/Yttrium Transmetallative Chain-Transfer Ring-Opening Polymerization (TCT-ROP)" *In Preparation*

Casey, K. C.;† Brown, A. M.;† Pilvelait, T.; Woodside, A. J.; Kualots, I.; Guduru, P. R.; Robinson, J. R.* "Divergent Initiation Mechanisms and Ultra-high Molecular Weight Polylactide via Multifunctional Rare-Earth Bis(phosphine-oxide) Methanide Catalysts" *In Preparation*

Woodside, A. J.;† Kualots, I.; Maron, L.;* Robinson, J. R.* "Isoselective Ring-opening Polymerization of β-lactones via Donor-Amplified Approaches" *In Preparation*

Woodside, A. J.;† Montoliu, L. T.;‡ Kualots, I.; Robinson, J. R.* "Structures and Thermal Properties of Mixed-Tacticity Iso- and Syndiotactic Polyhydroxyalkanoates (PHAs)" *In Preparation*

Lueckheide, M. J.;† Brown, A. M.;† Saghy, P.;† Magpantay, S. V.;‡ Ertem, M. Z.;* Robinson, J. R.* "Europium-Catalyzed Peroxide-Selective Reduction of Oxygen" *In Preparation*

Vargo, N. P.;† Ertem, M. Z.;* Michon, M. A.; Robinson, J. R.* "The Role of Redox-Inactive Metal-ions and Metal-Coupled Electron Transfer in the Peroxide-Selective Reduction of Oxygen Catalyzed by Copper Tris(2-pyridylmethyl)amine" *In Preparation*

Lueckheide, M. J.;† Magpantay, S. V.;‡ Robinson, J. R.* "Reactive Oxygen Species of the Rare-Earth Elements: Synthesis, Characterization, and Reactivity" *In Preparation*

Vargo, N. P.;† Ertem, M. Z.;* Robinson, J. R.* "Lewis-acid Promoted Electrocatalytic Peroxide-selective Oxygen Reduction Catalyzed by Copper Tris(2-pyridylmethyl)amine" *In Preparation*

Patents

6. Saghy, P.;† Robinson, J. R.; Chen, O. "Lanthanide Double Perovskite Nanocrystals" U.S. Provisional Application, Filed: August 12, 2022.

5. Casey, K. C.;† Robinson, J. R. "Catalyst for Polylactide Preparation" U.S. Provisional Application, Filed: January 21, 2022.

4. Dong, X.;† Robinson, J. R. "Catalyst and process for ring opening polymerization" U.S. Patent US 2021/0188878 A1, June 24, 2021.

3. Zabula, A. V.; Robinson, J. R.; Kerins, M.; Houze, E. C.; Bhargava, G.; Nahas, R. C.; Cinoman, D.; Schelter, E. J. "Coatings and Methods for Using and Producing the Same" U.S. Patent US 10,934,438 B2, March 2, 2018.

2. Lutkenhaus, J. L.; Suarez-Martinez, P.; Nahas, R. C.; Robinson, J. R. "Clay Based Anticorrosion Coatings and Methods for Applying Same to Metal Substrates" U.S. Patent US 2019/0211213 A1, July 11, 2019.

1. Robinson, J. R.; Walsh, P. J.; Schelter, E. J. "Precatalyst for Shibasaki's Rare Earth Metal BINOLate Catalysts" U.S. Patent WO 2014/205437, December 12, 2014.

Selected Invited Seminars [Since Starting in July 2016]

40. 11th International Conference on *f*-Elements (ICFE -11). **Invited Keynote**. Strasborg, FR. August 2023.
39. *Inorganic Materials: Contributions to Sustainability*, NERM 2023, **Invited Talk**. June 2023.
38. University of California – Los Angeles, Chemistry Department Seminar, May 2023.
37. University of California – San Diego, Chemistry Department Seminar, May 2023.
36. Iowa State University, Chemistry Department Seminar, May 2023.
35. Fairfield University, Chemistry Department Seminar, February, 2023.
34. The Ohio State University, Chemistry Deparment Seminar, February 2023.
33. University of Missouri, Chemistry Department Seminar, October 2022.
32. University of Massachusetts, Lowell, Chemistry Department Seminar, September 2022.
31. University of Michigan, Chemistry Department Seminar, September 2022.
30. *Emerging Areas in Inorganic Chemistry*. 264th ACS National Meeting. Chicago, IL. August 2022.
29. *Organometallic Chemistry Gordon Research Conference*. **Poster Talk**. Newport, RI, July 2022.
28. Rare-Earths Research Conference (RERC 29). **Invited Talk**. Philadelphia, PA. June 2022.
27. *Inorganic Chemistry Gordon Research Conference*. **Invited Talk**. Newport, RI. May 2022.
26. Providence College, Chemistry Department Seminar. March 2022.
25. *New Horizons in Molecular f-Element Chemistry*. January 2022.
24. University of Pennsylvania, Chemistry Department Seminar. November 2021.
24. Colby College, Chemistry Department Seminar. October 2021.
23. Terrae Rarae 30. **Opening Keynote**. Montepelier, France. September 2021.
22. Ecole Polytechnique, Chemistry Department Seminar. Paris, France. September 2021.
21. University of Buffalo, **Student-Invited Speaker**, Chemistry Department Seminar. September 2021
20. Symposium for *Inorganic Chemistry* Lectureship (*in honor of Eric Schelter*). ACS National Meeting. San Antonio, TX. April 2021.

19. Wesleyan University, Chemistry Department Seminar. April 2021.
18. University of Memphis, Chemistry Department Seminar. March 2021
17. Stony Brook University, Chemistry Department Seminar. March 2021
16. *Global Inorganic Discussion Weekdays* (GIDW; Canadian Society of Chemistry). March 2021
15. *Boston Regional Inorganic Colloquium* (BRIC 52). University of New Hampshire. February 2021
14. *Angular Momentum*. September 2020
13. University of Houston, Chemistry Department Seminar. June 2020.
12. University of Connecticut, Chemistry Department Seminar. February 2020.
11. Iona College, Chemistry Department Seminar. November 2019.
10. Colgate College, Chemistry Department Seminar. October 2019.
9. Juniata College, **Student-Invited Speaker**, Chemistry Department Seminar. September 2019.
8. University of New Hampshire, Chemistry Department Seminar. April 2019.
7. University of Rhode Island, Chemistry Department Seminar. Decemer 2018
6. University of Massachusetts – Dartmouth, Chemistry Department Seminar. October 2018.
5. Rhode Island College, Chemistry Department Seminar. October 2017.
4. Bridgewater State University, Chemistry Department Seminar. September 2017.
3. University of Wisconsin – La Crosse, Chemistry Department Seminar. September 2017.
2. Skidmore College, Chemsitry Department Seminar. April 2017.
1. Boston Regional Inorganic Colloquium (BRIC 41). MIT. October 2016.

Selected Contributed Presentations [Since Starting in July 2016]

11. *Inorganic Reaction Mechanisms Gordon Research Conference*. Poster. Galveston, TX. March, 2023
10. *ACS National Meeting*. Symposium: *Sustainable Green Chemistry in Polymer Science and Technology*. Talk. Chicago, IL. August 2022.
9. *IUPAC Macro*. Talk. Winnipeg, ON, Canada. July 2022.
8. *Organometallic Gordon Research Conference*. Poster. Newport, RI. July 2022.
7. *ACS National Meeting*. Talk. San Diego, CA. March 2022.
6. *New England Energy Research Forum*. Talk. Worcester, MA. July 2019.
5. *Organometallic Gordon Research Conference*. Poster. Newport, RI. July 2019.
4. *Inorganic Reaction Mechanisms Gordon Research Conference*. Poster. Galveston, TX. March, 2019.
3. *Organometallic Gordon Research Conference*. Poster. Newport, RI. July 2018.
2. *Biennial Conference on Chemical Education*. Poster. South Bend, IN. July 2018.
1. *ACS National Meeting*. Talk. Boston, MA. August 2018.

Selected Guest Lectures [Since Starting in July 2016]

6. "Rare-Earth Elements – Introduction, History, and Applications" Rare-Earths Research Conference Summer School (RERCSS), Philadelphia, PA. June 18th, 2022.

5. "Catalyst RE-design: Amplifying Catalyst Performance in the Synthesis of Biodegradable Polymers" CHEM 116 – Topics in Organometallic Chemistry, Swarthmore College, Swarthmore, PA. November 3, 2021.

4. "How I Approach Hybrid Teaching" [Panelist]. Sheridan Center; Brown University Providence, RI. June 30, 2021.

3. "RE-Thinking Catalyst Design – New Strategies for Controlling Oxygenated Polymer Synthesis" CH 543 – Organometallic Chemistry and Catalysis, Worcester Polytechnic Institute, Worcester, MA. July 7, 2020.

2. "[Making Sense of] Science Writing or a Chemist's Take on Technical Writing" Writing Center Professional Development Series. Brown University Providence, RI. November 17, 2017.

1. "Chemistry's Role in Enabling Renewable Energy" Guest Lecture in CHEM 0008E. Brown University. Providence, RI. October 5, 2017.

Courses Taught

Primary Instructor

Inorganic Chemistry (CHEM 0500, Brown University)	**Spring 2021 – 2022**
Organometallic Chemistry (CHEM 2310 / 1560 N, Brown University)	**Fall 2017 – 2022**
Mentoring in Science (IMSD Module, Brown University)	**Summer 2018, 2019**
Modern Applications of Physical Methods to Synthesis (CHEM 1560 P, Brown University)	**Spring 2018, 2019**
Graduate Research (CHEM 2980, Brown University)	**2017 – Present**
Organometallic Chemistry (CHEM 2310, Brown University)	**Fall 2016**

Undergraduate Research (CHEM 0970 & 0980, Brown University) **2016 – Present**
Topics in Materials Chemistry: Chemistry of the f-Block Elements (CHEM 353H, Haverford College) **Spring 2016**
Topics in Advanced Organic Chemistry: Green Chemistry (CHEM 355G, Haverford College) **Spring 2016**
General Chemistry I Laboratory (CHEM 147; Widener University) **Fall 2015**
Introduction to Triathlon (ESS-100, UW – La Crosse) **Spring 2007, 2008**

Honors Examiner
Organometallic Chemistry (Swarthmore College) **Spring 2022**

Professional Affiliations

Member, American Chemical Society (INOR, ORG, POLY, PMSE) **2008 – Present**
Member, Electrochemical Society **2013 – 2016**
Member, National Association of Corrosion Engineers (NACE) **2014 – 2016**

Leadership / Service / Outreach

To the Larger Community:

Organizer / Session Chair

Lanthanide & Actinide Chemistry – ***Organizer*** **Fall 2022 – Present**
ACS National Meetings, Division of Inorganic Chemistry

Rare-Earth Research Conference Summer School – ***Co-Organizer & Lecturer*** **June 2022**
Co-organizer of a 2-day undergraduate summer school preceding the *Rare Earths Research Conference* in Philadelphia, PA (June 2022) which introduced the fundamental chemistry and applications of the rare-earth elements and quantum science. Over 22 undergraduates attended nationwide. **[Press Release]**: https://ps.uci.edu/news/2747

Angular Momentum – ***Co-organizer*** **2020 – Present**
Co-organizer of a free, global *f*-element seminar series showcasing diverse scientists and research related to the *f*-elements (lanthanides and actinides). Over 900 registrants worldwide, with 60 – 160 real-time participants. Featured over 50 speakers to date. https://twitter.com/felementangular

Frontiers and New Horizons in Molecular f-Element Chemistry, Pacifichem 2021 – ***Organizer*** **2018 – 2021**
Corresponding (and sole US) co-organizer for Pacifichem 2021 symposium. Withdrawn, but reorganized as a free, 26-speaker global symposium. 850 registrants with 170 – 275 real-time attendees.

Lanthanide & Actinide Chemistry – ***Session Chair*** **Spring 2022**
ACS National Meeting (San Diego)

Organometallic Chemistry: Applications to Materials and Polymer Science – ***Session Chair*** **Spring 2021**
ACS National Meeting (San Antonio)

Organometallic Chemistry: Applications to Materials and Polymer Science – ***Session Chair*** **Fall 2018**
ACS National Meeting (Boston)

Organometallic Chemistry: Applications to Materials and Polymer Science – ***Session Chair*** **Fall 2017**
ACS National Meeting (Washington D.C.)

Boston Regional Inorganic Colloquium 46, Brown University – ***Co-Organizer*** **May 2018**

Coordinator

ACS Science Coach (Providence Central High School) **2021 – Present**
Mentor to two Chemistry teachers at Providence Central High School. Provide teacher and classroom support through teacher professional development and integration of current chemistry research into high school curriculum (e.g., demonstrations, seminars, lab activities).

ACS Project SEED RI Chapter – ***Chapter Co-coordinator & Mentor*** **2017 – Present**
Co-coordinator of the inaugural RI Chapter of ACS Project SEED. This has involved mentor and student recruitment, funding acquisition, educational programming, site visits, and mentoring of research students.

STEM Day, Providence RI – ***Co-Organizer, Coordinator, & Presenter*** **2016 – Present**
Co-organized STEM Day, a cross-departmental outreach event engaging high school students interested in STEM from the greater Providence region. The event brings student on campus for a half-day workshop focusing on interactive science demonstrations/activities, discussions on college applications and STEM careers, and a panel on *Pathways in*

STEM. Program expanded to host ~400 students over the five years from six public or charter high schools with many STEM departments represented (CHEM, CS, DEEPS, ENG, MATH).

Big Bang Science Fair at Waterfire, Providence RI – ***Chemistry Co-coordinator*** **Fall 2018, 2019**

Co-organized Chemistry demonstration booth for the *Big Bang Science Fair* hosted at *Waterfire* (>3,000 people).

Leadership Alliance, Brown University – ***Mentor / Chemistry Co-coordinator*** **2018, 2021–Present**

Reviewer

Journal Reviewer (Total reviews / year: 25+) – *Nature Catalysis*, *Journal of the American Chemical Society*, *Inorganic Chemistry*, *ACS Omega*, *Angewandte Chemie International Edition*, *Chemical Communications*, *Inorganic Chemistry Frontiers*, *Dalton Transactions*, *New Journal of Chemistry*, *Chemistry – A European Journal*, *iScience*, *Inorganic Chimica Acta*, *Journal of Luminescence*, *Journal of Alloys and Compounds*, *Membranes*, *Polymer*, *Journal of Polymer Science*.

Funding Agency – Proposal Review (Ad Hoc and Panelist)

Department of Energy

- BES, Chemical Catalysis (2018, 2019, 2020, 2021, 2022)
- BES, Science Graduate Student Research Program (2019, 2020)

National Science Foundation

- CHE (2019, 2020, 2021)
- GRFP (2021, 2022)

American Chemical Society, Petroleum Research Fund (2019, 2020, 2021, 2022)
Department of Defense, National Defense Science and Engineering Graduate Fellowship Program (2020, 2021)
Oakridge Associated Universities, Powe Awards (2022)

Volunteer / Panelist / Judge

Rare Earths Research Conference, Student Poster Prize – ***Judge*** **2022**
Terrae Rarae, Student Speaker Prize – ***Judge*** **2021**
Rhode Island Science and Engineering Fair – ***Judge*** **2017 – Present**
New England Energy Research Forum – ***Judge*** **Summer 2019**
Womxn in STEM Symposium – ***Judge*** **Spring 2019**
Seekonk STEM Fair – ***Panelist*** **2017, 2018**
Science Olympiad – ***Volunteer / Faculty Contact*** **2019**

To Brown:

Brown Undergraduate and Teaching Research Awards – ***Reviewer*** **2022 – Present**
Brown OVPR Research Seed Awards – ***Reviewer*** **2022 – Present**
Initiative to Maximize Student Development (IMSD) Fellowship Selection Committee – ***Member*** **2020 – Present**
First and Second Year Advising – ***Adviser*** **2018 – Present**
University Safety Committee – ***Member*** **2017 – Present**
IMSD Module, *Research Mentoring in Science* – ***Co-Developer and Presenter*** **2018, 2019**
Team Enhanced Advising and Mentoring (TEAM) – ***Member*** **2018 – 2019**
HHMI-Sheridan Research Initiative Advisory Group – ***Member*** **2018**
Salomon Research Award – ***Reviewer*** **2018**

To the Department:

Single-Crystal X-ray Diffraction Facility Director – ***Facility Director*** **2016 – Present**

Established the *RI SC-XRD Supergroup*, bringing together over 100 researchers across 14 institutions (R01 & PUI) in southern New England. Successful NSF MRI for a state-of-the-art, dual microfocus source single crystal X-ray diffractometer.

Instrumentation Committee – ***Member*** **2019 – Present**

Prepared NSF-MRI pre-proposal(s) (two, 2019 & 2020), and PI'd a successful proposal to acquire a new single-crystal X-ray diffractometer. Designated faculty associated with department single crystal X-ray diffractometer.

Brown Chemistry Career Series; *Alumni Speaker Series* – ***Founder*** **2017 – Present**

Founded the Brown Chemistry Alumni Speaker Series, specifically focused on bringing back Brown Chemistry Ph.D. alumnus (~3–6 / year; 20+ to date) from varied professional careers and backgrounds to enhance professional development, career preparedness, and networking.

Chemistry Fundraising Committee – ***Member*** **2022 – Present**

Chemistry Graduate Studies Committee – ***Member*** **2022 – Present**

Chemistry Safety Committee – ***Chair*** (2019–Present), ***Member*** (2016–Present) **2016 – Present**

Graduate Recruiting Committee – ***Co-Chair*** (2016–2022), ***Member*** (2016–Present) **2016 – Present**

Department Undergraduate Group – ***Co-Adviser*** **2016 – Present**

Graduate Course Advising (Inorganic) – ***Adviser*** **2016 – Present**

Curriculum Review Committee – ***Member*** **2018 – Present**

Graduate Admissions Committee – ***Member*** **2016 – Present**

Department Research Ramp-up Committee – ***Chair and Organizer*** **2020 – 2021**

Prepared department and building(s) response to enable a safe and timely return to research after closure due to COVID-19. This involved a multi-tiered effort to coordinate with Chemistry and DEEPS (staff, faculty, and students), EHS, Facilities, and OVPR, and allowed for a smooth and safe return of our research operations. Responsible for critical maintenance of NMR and X-ray facilities and regular building check-ins throughout the duration of COVID closures.

Chemistry Career Planning Workshop – ***Co-organizer*** **2018, 2019**

Chemistry Alumni Weekend – ***Co-organizer*** **2017 – 2019**

Research Grant Support

Current (External)

CAREER: CAS: Donor-Amplified Catalytic Approaches to Stereocontrolled Biodegradable Polymers (**PI**) **NSF-CHE** $700,000; May 2022 – April 2027

Acquisition of a Dual Source Single Crystal X-ray Diffractometer to Advance Research in Rhode Island and the Southern New England Region (**PI**) **NSF-MRI** $290,046; July 2021 – June 2024

Development of Catalytic Metal-Coupled Electron-Transfer (MCET) for Sustainable Chemical and Electrochemical Oxygen Reduction (**PI**) **NSF-CHE** $420,000; Sep 2019 – Aug 2023

Completed (Internal)

MRSEC-IRG Seed Award (PI – Sun, **Co-PIs**: *Robinson*, Chen, Seto, Peterson, Palmer, Guduru; $40,000; September 2018 – May 2019) – *Structure and Interface Controlled Catalysts for Programmable Synthesis of Robust Organic Polymers*

Salomon Award (**PI**; $15,000; April 2017 – June 2018) – *Water- and Acid- Tolerant Lanthanide/Transition-Metal Bimetallic Systems as Catalysts for Oxygen Reduction*

Completed (External/Other)

Cation-responsive Catalysis for Sequence-Controlled Oxygenated Copolymers (**PI**) **ACS-PRF** $100,000; Sep 2019 – Aug 2022

Rhode Island ACS Project SEED Grant (**Co-PI**; *Robinson* & Rubenstein; $6,400; June 2022 – August 2022) – Funding for high school student stipends

Rhode Island ACS Project SEED Grant (**Co-PI**; *Robinson* & Rubenstein; $12,228; June 2020 – August 2020) – Funding for high school student stipends

Rhode Island ACS Project SEED Grant (**Co-PI**; *Robinson* & Rubenstein; $21,000; June 2019 – August 2019) – Funding for high school student stipends

Rhode Island ACS Project SEED Grant (**Co-PI**; *Robinson* & Rubenstein; $17,500; June 2018 – August 2018) – Funding for high school student stipends

Mentoring

Brown University, Thesis Committees:

Current	**Previous**
Swar Dakein (Kim Group, Ph.D. 2025)	Luke Wilczek (Zimmt Group, Ph.D. 2022)
Yuliang Chen (Sun Group, Ph.D. 2025)	Zhen Xiao (Covlin Group, Ph.D. 2022)
John Pham (Kim Group, Ph.D. 2024)	Shui Ling Chen (Kim, Ph.D. 2022)
Lacie Connelli (Chen Group, Ph.D. 2024)	Kadey Oakley (Kim, Ph.D. 2021)
Ziyi Zhao (Kim Group, Ph.D. 2023)	Caitlin Masterson (Colvin, Ph.D. 2021)
Jia Dong (Wang Group, Ph.D. 2023)	Mengke Zhang (Suuberg Group, Ph.D. Chem. Eng. 2021)
Huanqin Wang (Sun Group, Ph.D. 2023)	Mengjie Lyu (Rose-Petruck Group, Ph.D. 2021)
Kaitlin Rioux (Delaney Group, Ph.D. 2023)	Honghong Lin (Sun Group, Ph.D. 2021)
Zehua Gau (Wang Group, Ph.D. 2023)	Mengqi Shen (Sun Group, Ph.D. 2021)
Danielle Blum (Hastings Group, 2022)	Ji Ma (Kim Group, M.A. 2021)
Xiaoting Guo (Colvin Group, 2022)	Adam Garlow (Basu Group, M.A. 2020)
	Yucheng Yuan (Chen Group, Ph.D. 2020)
	Zhouyang Yin (Sun Group, Ph.D. 2020)
	Yuyang Li (Sun Group, M.A., 2019)
	Adam Thibodeaux (Kim Group, M.A., 2019)
	Lee Taylor Elrod (Kim Group, Ph.D. 2018)

Current Group Members

Graduate

Jonathan Chellali, B.A. Chemistry (Minor: Music), 2018, Clark University (Graduate Researcher, Ph.D. Chemistry, 2019-present)

Audra Woodside, B.A. Chemistry, B.A. Religion, 2019, Swarthmore College (Graduate Researcher, Ph.D. Chemistry, 2020-present)

Alexander Brown, B.S. Chemistry (ACS, honors), 2019, Bridgewater State University (Graduate Researcher, Ph.D. Chemistry, 2020-present)

Peter Saghy, M.S. Chemistry, 2020, University of Edinburgh (Graduate Researcher, Ph.D. Chemistry, 2021-present)

Ziyan Yu, B.S. Pharmaceutical Sciences, 2021, Fudan University (Graduate Researcher, Ph.D. Chemistry, 2022-present).

Savannah Rheingold, B.S. Chemistry, 2022, Stetson University (Graduate Researcher, Ph.D. Chemistry, 2023-present)

Nicole Danielle Avila, B.S. Chemistry, 2022, California State Polytechnic University – Pomona (Graduate Researcher, Ph.D. Chemistry, 2023-present)

Undergraduate

Casey Chan, B.Sc. Biochemistry 2023 (Undergraduate Researcher, 2020-present)

Luis Tsatsos Montoliu, B.Sc. Chemistry 2023 (Undergraduate Researcher, 2021-present)

Renee White, B.Sc. Chemistry 2024 (Undergraduate Researcher, 2021-present)

Kayden Obsitnik, B.Sc. Chemistry 2024 (Undergraduate Researcher, 2022-present)

Jessiel Castillo Espinal, B.Sc. Biochemistry 2024 (Undergraduate Researcher, 2022-present)

Ian Bartlett, B.Sc. Chemistry 2024 (Undergraduate Researcher, 2022-present)

Former Group Members

Visiting Researcher

Yanyan Li, Ph.D. Chemistry, 2015, Nanjing University (Visiting Researcher, 2017-2018)

Graduate

Xiang Dong; Ph.D. Chemistry 2022, Brown University. B.S. Chemical Physics, 2011, University of Science and Technology, China. *Current*: Research Chemist, Xuzhou B&C Chemical Co.

Matthew Lueckheide; Ph.D. Chemistry 2022, Brown University. B.S. Chemistry, 2017, Skidmore College. *Current*: Deans Faculty Fellow, Brown University.

Kerry Casey; Ph.D. Chemistry 2022, Brown University; B.S. Chemistry, 2017, Juniata College. *Current*: Research Chemist, Axalta Coating Systems

Natasha Vargo; Ph.D. Chemistry 2022, Brown University; B.S. Chemistry (ACS Certification), B.S. Geography, 2017, Vassar College. *Current*: Reviewer (Center for Veterinary Medicine, Division of Manufacturing Technologies) , Food & Drug Administration

Joshua Nott; B.S. Chemistry, 2016, University of Hartford. (Graduate Researcher, 2016-2017). *Current*: Project Manager, Jordi Labs.

Undergraduate

Brown

Dominic Covelli, B.Sc. Biochemistry 2022 (Undergraduate Researcher, 2019-2022). *Current*: Ph.D. Student (Chemistry), California Institute of Technology.

Samantha Magpantay, B.Sc. Chemistry 2022 (Undergraduate Researcher, 2019-2022). *Current*: Ph.D. Student (Chemistry), Yale University.

Elizabeth Rogan, B.Sc. Chemistry, 2021 (Undergraduate Researcher, 2019-2021). *Current*: Ph.D. Student (Chemistry), University of Minnesota

Celine Chen, B.Sc. Chemistry, B.Sc. Chemical Engineering, 2021 (Undergraduate Researcher, 2018-2021). *Current*: Ph.D. Student (Chemical Engineering), UC-Irvine

Zoe Phillips, A.B. STS, 2020 (Undergraduate Researcher, 2019-present; UTRA – Summer 2019). *Current*: Research Assistant, NYU

Alex Alverson, B.Sc. Geology/Chemistry, 2020 (Undergraduate Researcher, 2018-present; UTRA – Summer 2019). *Current*: Gradient Corporation

Ekaterina Tsotsos, B.Sc. Materials Engineering, 2019 (Undergraduate Researcher, 2016-2019, UTRA – Summer 2017, REU @ MIT – Summer 2018). *Current*: Kairos Power

Kim Pham, B.Sc. Chemistry, 2019 (Undergraduate Researcher, 2016-2019, SULI (Argonne) – Summer 2017, Wave Fellow (Caltech) – Summer 2018). *Current*: Ph.D. Student (Chemistry), California Institute of Technology

Natalie Feinstein, B.Sc. Chemistry, 2020 (Undergraduate Researcher, 2017-2018, UTRA – Summer 2018). *Current*: Senior Operations Associate, Brevite

Jana Butman, B.Sc. Chemistry / B.F.A. Furniture Design, 2018 (Undergraduate Researcher, 2016-2018, Library of Congress Junior Fellows – Summer 2017). *Current*: Ph.D. Student (Chemistry), Northwestern University

Jessica Tennis, A.B. Chemistry and B.Sc. Astrophysics, 2017, Brown University (Undergraduate Researcher, 2016-2017; Thesis Advisor). *Current*: Ph.D. Student (Physical Chemistry), University of Virginia

Jude Appiah, M.D. 2021, NYU; B.Sc. Chemistry, 2017, Brown University (Undergraduate Researcher, 2016-2017). *Current*: Resident, SUNY Downstate Health Sciences (Department of Urology).

Dylan Garcia, B.Sc. Chemistry, 2020 (Undergraduate Researcher, 2017-2018) *Current*: M.S. Computer Science ’22, University College London)

External

Niklas Baumert, B.S. Chemistry, 2020, Universität Freiburg (DAAD Rise, Summer 2021) *Current*: Medical Student

Rayal Smith, B.S. Chemistry, 2024, University of Maryland – Baltimore County (Leadership Alliance, Summer 2021)

Oliver Hagger, B.S./M.S. Chemistry, 2020, University of Southampton (Summer 2019). *Current*: Ph.D. Student (Chemistry), University College London

Ben Peeples, B.S. Biochemistry, 2021, Washington & Lea University (Johnson Scholarship , Summer 2019)

Maria Vargas-Rivera, B.S. Chemistry, 2020, University of Puerto-Rico Mayaguez (Leadership Alliance, Summer 2018). *Current*: Ph.D. Student (Chemistry), Yale University

Alex Brown, B.S. Chemistry, 2019, Bridgewater State University (Bridgewater State University Internship Program, Summer 2018; Start-up, Summer 2019). *Current*: Ph.D. Student (Chemistry), Brown University

Alison Hands, B.S. Chemistry, 2019, Skidmore College (Skidmore College Summer Funded Experience Fund, Summer 2018). *Current*: Ph.D. Student, University of California – Los Angeles.

W.S. Chase Penhallurick, B.S. Chemistry, 2020, Dartmouth College (Undergraduate Researcher, Summer 2017). *Current*: Emergency Medical Technician.

High School

Robin Fidel, Johnston High School 2019 (ACS Project SEED, Summer 2018). *Current*: Undergrad (Biochemistry), University of Rhode Island