

Demyan E. Prokopchuk

CURRENT POSITION

Assistant Professor
Department of Chemistry
Rutgers University - Newark
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Newark, NJ, 07102
United States

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EDUCATION AND EMPLOYMENT

Assistant Professor, Rutgers University, Newark, NJ **2019–**

Postdoctoral Fellow, University of Calgary, AB, Canada **2017–2018**
Mentor: Warren E. Piers
Electrocatalytic CO₂ reduction research as part of the Canada First Research Excellence Fund (CFREF)

Postdoctoral Fellow, Pacific Northwest National Laboratory, Richland, WA **2015–2017**
Mentors: R. Morris Bullock, Michael Mock
N₂ reduction, H₂ oxidation in the DOE Center for Molecular Electrocatalysis EFRC

PhD, Chemistry, University of Toronto, Toronto, ON, Canada **2009–2015**
Advisor: Robert H. Morris
Thesis Title: “Synthetic and Computational Studies of Metal-Ligand Cooperation with Iron Group Complexes for Water Splitting and Ketone Hydrogenation”

BSc, Chemistry, University of Saskatchewan, Saskatoon, SK, Canada **2004–2009**
Chemistry (Major, High Honors) and Computer Science (Minor)
Mentors: Stephen Foley, Heinz-Bernhard Kraatz

OTHER RESEARCH POSITIONS

Visiting PhD Student, ETH Zürich, Switzerland **Jun–Oct 2014**
Advisor: Hansjörg Grützmacher

Inorganic Chemistry Exchange (ICE) Student, Western University, London, ON **May–Aug 2008**
Advisor: John Corrigan

ALL PUBLICATIONS

40. S. Luhach, T. Schramm, J. Kachnowicz, A. Hansen, D. E. Prokopchuk. “Rapid and Selective Metal-free O₂ Reduction to H₂O₂ Using a Molecular Cp^{N3} Electrocatalyst”, *in preparation*.
39. V. Maxwell, A. Karagiannis, T. K. Schramm, V. Kotelnikow, Rupal Gupta, R. A. Lalancette, A. M. Appel, A. Hansen, E. S. Wiedner, **D. E. Prokopchuk** “Redox Robust Mn^{I/O/-1} Dicarbenes: Electrochemistry, Steric Mapping, and Borate-directed C-C Bond Formation”, *in preparation*.
38. L. Lin, T. Schramm, P. Kucheryavy, R. A. Lalancette, A. Hansen, **D. E. Prokopchuk** “A 100,000-fold Increase in C-H Bond Acidity Gives Palladium a Key Advantage in C(sp³)-H Activation Compared to Nickel” *J Am. Chem. Soc.*, **2025**, *147*, 34395. [10.1021/jacs.5c07649](https://doi.org/10.1021/jacs.5c07649)
Nature Synthesis Research Highlight: “Palladium makes agostic C-H bonds more acidic”
C&E News Online: “Chemists finally know why palladium beats nickel at C-H activation”
C&E News Magazine, October 2025: “How palladium beats nickel at C-H activation”
C&E News Article: “Fascinating findings of 2025”

37. D. Song, **D. E. Prokopchuk** “Pioneers and Influencers in Organometallic Chemistry: Bob Morris, a Career of Curiosity with Metal Hydrides and Dihydrogen” *Organometallics*, **2025**, *44*, 2125. [10.1021/acs.organomet.5c00302](https://doi.org/10.1021/acs.organomet.5c00302) (invited contribution)
University of Toronto News: “Bob Morris honoured in article by former chemistry students”
36. D. S. Tresp, S. Luhach, T. Schramm, T. Li, A. Turtz, A. Rosendo, A. Houn, J. V. Lockard, A. Hansen, **D. E. Prokopchuk** “Expanded C-H and N-H Bond Thermochemistry of Cp^{N3}, an Amine-Rich Cyclopentadiene” *ACS Org. Inorg. Au*, **2025**. [10.1021/acsorginorgau.5c00060](https://doi.org/10.1021/acsorginorgau.5c00060)
35. J. Zuo, R. A. Lalancette, **D. E. Prokopchuk**, F. Jäkle “Regioselective Access to B-N Lewis Pair-Functionalized Anthracenes: Mechanistic Studies and Optoelectronic Properties” *Chem. Sci.*, **2025**, *16*, 8114. [10.1039/D5SC00597C](https://doi.org/10.1039/D5SC00597C)
34. A. VanderWeide, H. Neugebauer, B. Goel, D. S. Tresp, D. Pena, S. Grimme, A. Hansen, **D. E. Prokopchuk** “Multisite Ligand Noninnocence of (Cp^{N3})Fe(CO)₃⁺ with Exogenous Hydride Donors: Kinetics and Mechanism” *Organometallics*, **2024**, *43*, 3143. [10.1021/acs.organomet.4c00137](https://doi.org/10.1021/acs.organomet.4c00137). Part of the “Experimental Studies of Reaction Mechanisms in Organometallic Chemistry and Catalysis” special issue.
33. A. Karagiannis, H. Neugebauer, R. A. Lalancette, S. Grimme, A. Hansen, **D. E. Prokopchuk** “Pushing the Limits of Organometallic Redox Chemistry with an Isolable Mn(-I) Dianion” *J. Am. Chem. Soc.*, **2024**, *146*, 19279. [10.1021/jacs.4c04561](https://doi.org/10.1021/jacs.4c04561)
32. X. Chen, A. Cifuentes-Lopez, X. Shao, L. Lin, **D. E. Prokopchuk**, M. Pavanello “Unraveling the Hydration Shell Structure and Dynamics of Group 10 Aqua Ions” *J. Phys. Chem. Lett.*, **2024**, *15*, 5517. [10.1021/acs.jpcclett.4c00464](https://doi.org/10.1021/acs.jpcclett.4c00464).
31. D. S. Tresp, **D. E. Prokopchuk** “Leveraging Intramolecular Electrostatics to Boost Electrocatalytic CO₂ Reduction” *Chem Catal.*, **2024**, [10.1016/j.checat.2024.101053](https://doi.org/10.1016/j.checat.2024.101053). (invited contribution)
30. S. Luhach, R. A. Lalancette, **D. E. Prokopchuk** “‘Catch and Release’ of the Cp^{N3} Ligand Using Cobalt: Dissociation, Protonation, and C-H Bond Thermochemistry” *Dalton Trans.*, **2024**, *53*, 18865. [10.1039/D4DT01560F](https://doi.org/10.1039/D4DT01560F) Part of the **New Talent, Americas** collection and selected as a **HOT Article**.
29. L. Lin, D. S. Tresp, D. M. Spasyuk, R. A. Lalancette, **D. E. Prokopchuk** “Accessing Ni(0) to Ni(IV) via Nickel-Carbon-Phosphorus Bond Reorganization” *Chem. Commun.* **2024**, *60*, 674. [10.1039/D3CC04687G](https://doi.org/10.1039/D3CC04687G). Part of the **Emerging Investigators Collection**, selected as a **HOT Article**, and artwork featured on journal front cover.
28. D. S. Tresp, **D. E. Prokopchuk** “Structural and Electrochemical Analysis of FeCp* Complexes Supported by a Borate-Bridged Dicarbene Ligand” *Polyhedron*, **2024**, *248*, 116745. [10.1016/j.poly.2023.116745](https://doi.org/10.1016/j.poly.2023.116745). Special Issue: **Emerging Investigators in Inorganic Chemistry**
27. B. Goel, H. Neugebauer, A. VanderWeide, P. Sánchez, R. A. Lalancette, S. Grimme, A. Hansen, **D. E. Prokopchuk** “Essential Roles of Cp Ring Activation and Coordinated Solvent During Electrocatalytic H₂ Production with Fe(Cp^{N3}) Complexes” *ACS Catalysis* **2023**, *13*, 13650. [10.1021/acscatal.3c02911](https://doi.org/10.1021/acscatal.3c02911)
26. A. VanderWeide, **D. E. Prokopchuk** “Cyclopentadienyl Ring Activation in Organometallic Chemistry and Catalysis” *Nature Reviews Chemistry*, **2023**, *7*, 561. [10.1038/s41570-023-00501-1](https://doi.org/10.1038/s41570-023-00501-1)
25. A. Karagiannis, B. Goel, **D. E. Prokopchuk** “Putting a New Spin on Imido Chemistry with an Fe^{II} Dicarbene Complex” *Trends Chem.*, **2023**, *5*, 105. [10.1016/j.trechm.2022.12.002](https://doi.org/10.1016/j.trechm.2022.12.002) (invited contribution)
24. D. S. Tresp, H. Neugebauer, S. Grimme, A. Hansen, **D. E. Prokopchuk** “Electronic Effects of Aminoindenyl ligands Coordinated to Manganese: Structures and Properties of a Mn⁰ Metalloradical and Bimetallic Mn^I/Mn^{-I} Adduct” *Organometallics* **2022**, *41*, 3055. [10.1021/acs.organomet.2c00463](https://doi.org/10.1021/acs.organomet.2c00463)
23. A. Karagiannis, A. M. Tyryshkin, R. A. Lalancette, D. M. Spasyuk, A. Washington, **D. E. Prokopchuk** “A Redox-active Mn(0) Dicarbene Metalloradical” *Chem. Commun.*, **2022**, *58*, 12963. [10.1039/D2CC04677F](https://doi.org/10.1039/D2CC04677F)
Selected as a 2022 ChemComm HOT Article
22. L. Lin, D. Spasyuk, R. A. Lalancette, **D. E. Prokopchuk** “Coordination-Induced Weakening of a C(sp³)-H Bond: Homolytic and Heterolytic Bond Strength of a CH—Ni Agostic Interaction” *J. Am. Chem. Soc.*, **2022**, *144*, 12632. [10.1021/jacs.2c05667](https://doi.org/10.1021/jacs.2c05667)

21. P. Sánchez, B. Goel, H. Neugebauer, Roger A. Lalancette, A. Hansen, S. Grimme, **D. E. Prokopchuk** “Ligand Protonation at Carbon, not Nitrogen, during H₂ Production with Amine-Rich Iron Electrocatalysts” *Inorg. Chem.* **2021**, *60*, 17407. [10.1021/acs.inorgchem.1c03142](https://doi.org/10.1021/acs.inorgchem.1c03142)

Before Rutgers:

20. M. M. H. Sung, **D. E. Prokopchuk**, R. H. Morris “Phosphine-free ruthenium NCN-ligand complexes and their use in catalytic CO₂ hydrogenation” *Dalton Trans.* **2019**, *48*, 16569. (invited contribution) [10.1039/C9DT03143J](https://doi.org/10.1039/C9DT03143J)
19. Z. Dubrawski, J. Heidebrecht, B. M. P. Lombardi, A. S. Hyla, J. Willkomm, C. L. Radford, J.-B. Lin, G. C. Welch, S. Ponnurangam, R. Roesler, **D. E. Prokopchuk**, W. E. Piers “Ligand-Centered Electrochemical Processes Enable CO₂ Reduction with a Nickel Bis(triazapentadienyl) Complex” *Sustainable Energy Fuels* **2019**, *3*, 1172. [10.1039/C8SE00623G](https://doi.org/10.1039/C8SE00623G)
Selected as a 2019 Sustainable Energy and Fuels HOT Article
18. **D. E. Prokopchuk**, Geoffrey M. Chambers, E. D. Walter, M. T. Mock, R. M. Bullock “H₂ Binding, Splitting, and Net Hydrogen Atom Transfer at a Paramagnetic Iron Complex” *J. Am. Chem. Soc.* **2019**, *141*, 1871. [10.1021/jacs.8b12823](https://doi.org/10.1021/jacs.8b12823)
News article at Phys.org, February 19, 2019: “Mechanism of iron-based hydrogen bond cleavage revealed”
17. **D. E. Prokopchuk**, E. S. Wiedner, E. D. Walter, N. A. Piro, W. S. Kassel, C. V. Popescu, R. M. Bullock, M. T. Mock “Catalytic N₂ Reduction into Silylamines and Thermodynamics of N₂ Binding at Square Planar Fe”, *J. Am. Chem. Soc.* **2017**, *139*, 9291. [10.1021/jacs.7b04552](https://doi.org/10.1021/jacs.7b04552)
16. P. Bhattacharya, **D. E. Prokopchuk**, M. T. Mock “Exploring the Role of Pendant Amines in Transition Metal Complexes for the Reduction of N₂ to Hydrazine and Ammonia”, *Coord. Chem. Rev.*, **2017**, *334*, 67. [10.1016/j.ccr.2016.07.005](https://doi.org/10.1016/j.ccr.2016.07.005)
15. S. A. M. Smith, **D. E. Prokopchuk**, R. H. Morris “Asymmetric transfer Hydrogenation of Ketones Using New Iron(II) (P-NH-N-P’) Catalysts: Changing the Steric and Electronic Properties at Phosphorus P’ ”, *Isr. J. Chem.* **2017** *57*, 1204. (invited contribution) [10.1002/ijch.201700019](https://doi.org/10.1002/ijch.201700019)
14. **D. E. Prokopchuk**, S. A. M. Smith, R. H. Morris “Ligands for iron-based homogeneous catalysts for the asymmetric hydrogenation of ketones and imines” in *Ligand Design in Metal Chemistry: Reactivity and Catalysis*, First Edition. Edited by Mark Stradiotto and Rylan Lundgren. John Wiley and Sons, Ltd., **2016** (invited contribution) [10.1002/9781118839621.ch8](https://doi.org/10.1002/9781118839621.ch8)
13. **D. E. Prokopchuk**, A. J. Lough, R. E. Rodriguez-Lugo, R. H. Morris, H. Grützmacher “Insights into metal–ligand hydrogen transfer: a square-planar ruthenate complex supported by a tetradentate amino-amido-diolefin ligand”, *Chem. Commun.*, **2016**, *52*, 6138. [10.1039/C6CC00041J](https://doi.org/10.1039/C6CC00041J)
12. W. Zuo, **D. E. Prokopchuk**, A. J. Lough, R. H. Morris “Details of the Mechanism of the Asymmetric Transfer Hydrogenation of Acetophenone Using the Amine(imine)diphosphine Iron Precatalyst: The Base Effect and The Enantiodetermining Step”, *ACS Catalysis*, **2016**, *6*, 301. [10.1021/acscatal.5b01979](https://doi.org/10.1021/acscatal.5b01979)
11. C. Lichtenberg, **D. E. Prokopchuk**, M. Adelhardt, J. Sutter, L. Viciu, K. Meyer, H. Grützmacher “Reactivity of an All-Ferrous Iron–Nitrogen Heterocubane under Reductive and Oxidative Conditions”, *Chem. Eur. J.*, **2015**, *21*, 15797. [10.1002/chem.201502530](https://doi.org/10.1002/chem.201502530)
10. **D. E. Prokopchuk**, B. T. H. Tsui, A. J. Lough, R. H. Morris “Intramolecular C–H/O–H Bond Cleavage with Water and Alcohol Using a Phosphine-Free Ruthenium Carbene NCN Pincer Complex”, *Chem. Eur. J.*, **2014**, *20*, 16960. [10.1002/chem.201404819](https://doi.org/10.1002/chem.201404819)
News article in ChemViews magazine, October 12, 2014: “Phosphine-Free Ruthenium Complex for Water Splitting”
9. W. Zuo, S. Tauer, **D. E. Prokopchuk**, R. H. Morris “Iron Catalysts Containing Amine(imine)diphosphine P-NH-N-P Ligands Catalyze both Asymmetric Hydrogenation and Asymmetric Transfer Hydrogenation of Ketones” *Organometallics*, **2014**, *33*, 5791. (invited contribution) [10.1021/om500479q](https://doi.org/10.1021/om500479q)
One of the most read articles between 2011-2016 (over 13000 times).

8. S. E. Clapham, M. Zimmer-De Iuliis, K. Mack, **D. E. Prokopchuk**, R. H. Morris “Alcohol Assisted Base-free Hydrogenation of Acetophenone Catalyzed by OsH(NHCMe₂CMe₂NH₂)(PPh₃)₂” *Can. J. Chem.*, **2014**, 92, 731. (invited contribution) [10.1139/cjc-2014-0060](https://doi.org/10.1139/cjc-2014-0060)
7. **D. E. Prokopchuk**, A. Collado, A. J. Lough, R. H. Morris “Structural properties of *trans* hydridohydroxo M(H)(OH)(NH₂CMe₂CMe₂NH₂)(PPh₃)₂ (M = Ru, Os) complexes and their proton exchange behaviour with water in solution” *Dalton Trans.*, **2013**, 42, 10214. [10.1039/C3DT50452B](https://doi.org/10.1039/C3DT50452B)
6. **D. E. Prokopchuk**, R. H. Morris, “Inner-Sphere Activation, Outer-Sphere Catalysis: Theoretical Study on the Mechanism of Transfer Hydrogenation of Ketones Using Iron(II) PNNP Eneamido Complexes” *Organometallics*, **2012**, 31, 7375. [10.1021/om300572v](https://doi.org/10.1021/om300572v)
5. **D. E. Prokopchuk**, J. F. Sonnenberg, N. Meyer, M. Zimmer-De Iuliis, A. J. Lough, R. H. Morris, “Spectroscopic and DFT Study of Ferraziridine Complexes Formed in the Transfer Hydrogenation of Acetophenone Catalyzed Using *trans*-[Fe(CO)(NCMe)(PPh₂C₆H₄CH=NCH₂)₂-κ⁴P,N,N,P](BF₄)₂” *Organometallics*, **2012**, 31, 3056. [10.1021/om201170f](https://doi.org/10.1021/om201170f)
4. **D. E. Prokopchuk**, A. J. Lough, R. H. Morris “From Amine to Ruthenaziridine to Azaallyl: Unusual Transformation of Di-(2-pyridylmethyl)amine on Ruthenium” *Dalton Trans.*, **2011**, 40, 10603. [10.1039/C1DT10626K](https://doi.org/10.1039/C1DT10626K)
3. J. M. Chitanda, **D. E. Prokopchuk**, J. W. Quail, S. R. Foley “Synthesis of Palladacycles Employing Iminoisoindolines as Monoanionic Bidentate Ligands” *Dalton Trans.*, **2008**, 6023. [10.1039/B806544F](https://doi.org/10.1039/B806544F)
2. J. M. Chitanda, **D. E. Prokopchuk**, J. W. Quail, S. R. Foley “From Pyrroles to Isoindolines: Synthesis of a γ-Diimine Ligand for Applications in Palladium Coordination Chemistry and Catalysis” *Organometallics*, **2008**, 27, 2337. [10.1021/om800080e](https://doi.org/10.1021/om800080e)
1. **D. E. Prokopchuk**, G. A. Orlowski, H.-B. Kraatz “Synthesis of Amino Acid Conjugates of 1,1'-dimethylferrocene: New Chiral Conjugates” *Inorg. Chim. Acta*, **2008**, 361, 1327. [10.1016/j.ica.2007.08.028](https://doi.org/10.1016/j.ica.2007.08.028)

RESEARCH GRANTS

- | | |
|---|------------------|
| National Science Foundation (\$799,799) | 2025–2030 |
| “CAREER: CAS: Modulating Ligand-based C-H and N-H Bond Strengths for Sustainable Synthesis and Catalysis” (Lead PI) | |
| US Department of Energy (\$664,755) | 2025–2028 |
| “DOE-FAIR: Electrically Driven Catalysis with Supercharged Reducing Agents” (Lead PI) | |
| American Chemical Society – Petroleum Research Fund (\$110,000) | 2023–2025 |
| “Using Adamantyl Ligands as Metal-Mediated C-H Activation Models (66371-ND3)” (Lead PI) | |
| National Science Foundation (\$451,046) | 2021–2024 |
| “NSF-DFG-Echem: CAS: Synergistic Experimental and Computational Approaches to Designing Electrocatalysts with Proton-Responsive Ligand Architectures (2055097)” (Lead PI) | |
| Rutgers Global Grants Program (\$8,000) | 2022–2023 |
| “Electrically Driven Carbon Dioxide Reduction Using Organobismuth Compounds” (Lead PI)
Collaborative Project with Prof. Crispin Lichtenberg, University of Marburg | |
| National Science Foundation (\$273,700) | 2020–2023 |
| “MRI: Acquisition of a Single Crystal X-ray Diffractometer (2018753)” (co-PI) | |
| Rutgers Research Council (\$2,500) | 2019–2020 |
| “Bio-Inspired Molecular Catalysts for Electrochemical Energy” (Lead PI) | |

HONORS, AWARDS,

AND

SCHOLARSHIPS

Rising Star in Organic and Inorganic Chemistry, <i>ACS Organic and Inorganic Au</i>	2025
Emerging Investigator, <i>Chemical Communications</i>	2024
New Talent: Americas, <i>Dalton Transactions</i>	2024
Emerging Investigator in Inorganic Chemistry, <i>Polyhedron</i>	2024
Outstanding Staff Award, PNNL	2016-2017
NSERC CGS-D Alexander Graham Bell Canada Graduate Scholarship	2011-2014
J. Warren Flanagan Ontario Graduate Scholarship, U of T	2014-2015
Chemistry Conference Travel Grant, U of T	2014
Special Opportunity Graduate Travel Fellowship, U of T	2014
NSERC-CGS-D Michael Smith Foreign Study Scholarship	2014
Chemistry Conference Travel Grant, U of T	2012
School of Graduate Studies Conference Travel Grant, U of T	2011
Student Travel Award, ACS Division of Inorganic Chemistry	2011
Best Poster Award, Inorganic Discussion Weekend, Windsor, ON	2010
NSERC CGS-M Alexander Graham Bell Canada Graduate Scholarship	2010-2011
Edwin Walter and Margery Warren Scholarship in Science, U of T	2009-2010
Alan C. Nixon Summer Research Award, U of S	2007
Best Poster Award, U of S Chemistry Research Awards Day	2006
Greystone Scholar Entrance Scholarship, U of S	2004

INVITED TALKS

46 th International Conference on Coordination Chemistry, Odense, Denmark	Jun 2026
Cornell University, Ithaca, NY	Apr 2026
Yale University, New Haven, CT	Feb 2026
Stony Brook University, Stony Brook, NY	Feb 2026
University of Pennsylvania, Philadelphia, PA	Nov 2025
Temple University, Philadelphia, PA	Nov 2025
ACS Mid-Atlantic Regional Meeting, Seton Hall University, NJ	May 2025
12 th Philadelphia Inorganic Colloquium (PIC-12), Ursinus College, PA	Apr 2025
California State University, Chico, CA	Apr 2025
ACS Spring Meeting, San Diego, CA	Mar 2025
York University, North York, ON	Mar 2025
University of Toronto, Toronto, ON	Mar 2025
Columbia University, New York, NY	Mar 2025
Lehigh University, Bethlehem, PA	Feb 2025
University of Cincinnati, Cincinnati, OH	Jan 2025
University of Houston, Houston, TX	Dec 2024
Rutgers University, New Brunswick, NJ	Dec 2024
University of Virginia, Charlottesville, VA	Nov 2024
New York University, New York, NY	Oct 2024
NSF-DFG PI Meeting, Braunschweig, Germany	Sep 2024
ACS Fall Meeting, Denver, CO (2 talks)	Aug 2024
Gordon Conference, Organometallic Chemistry, Newport, RI	Jul 2024
ACS Mid-Atlantic Regional Meeting (MARM), Penn State University, PA	Jun 2024
Canadian Chemistry Conference and Exhibition, Winnipeg, MB	Jun 2024
ETH Zürich, Switzerland	May 2024
University of Zürich, Switzerland	May 2024
University of Bonn, Germany	May 2024
Utrecht University, Netherlands	May 2024
University of Marburg, Germany	May 2024
University of Göttingen, Germany	May 2024
University of Hamburg, Germany	May 2024
Western Canadian Undergraduate Chemistry Conference, Saskatoon, SK	May 2024
University of Saskatchewan, Saskatoon, SK	Mar 2024

Princeton University, Princeton, NJ	Feb 2024
University of New Hampshire, Durham, NH	Aug 2023
University of Seville, Seville, Spain	Apr 2023
University of Winnipeg, Winnipeg, MB	Mar 2023
University of Manitoba, Winnipeg, MB	Mar 2023
Marquette University, Milwaukee, WI	Jan 2023
The College of New Jersey, Ewing, NJ	Oct 2022
Canadian Chemistry Conference and Exhibition, Calgary, AB	Jun 2022
ACS Spring Meeting, San Diego, CA	Mar 2022
Pacificchem, Honolulu, HI	Dec 2021
IUPAC/Canadian Chemistry Conference and Exhibition, Montreal, QC	Aug 2021
University of Akron, Akron, OH	Apr 2021
Peking University, Beijing, China	Sep 2019
Gordon Research Seminar, Solar Fuels, Ventura, CA	Jan 2018
University of British Columbia–Okanagan, Kelowna, BC	Jan 2018
University of Cincinnati, Cincinnati, OH	Dec 2017
Gordon Research Seminar, Organometallic Chemistry, Newport, RI	Jul 2017

CONFERENCE
PRESENTATIONS

Pacificchem 2025 (2 talks), Honolulu, HI	2025
Gordon Research Conference, Organometallic Chemistry, Newport, RI	2025
Gordon Research Conference, Organometallic Chemistry, Newport, RI	2022
Gordon Research Conference, Solar Fuels, Lucca, Italy	2022
Gordon Research Seminar, Organometallic Chemistry, Newport, RI	2019
Gordon Research Conference, Solar Fuels, Ventura, CA	2018
Gordon Research Conference, Organometallic Chemistry, Newport, RI	2017
DOE Meeting of Energy Frontier Research Centers, Washington, DC	2017
100 th Canadian Chemistry Conference, Toronto, ON	2017
Gordon Research Conference, Organometallic Chemistry, Newport, RI	2016
97 th Canadian Chemistry Conference, Vancouver, BC	2014
Inorganic Discussion Weekend, York, ON	2013
95 th Canadian Chemistry Conference, Calgary, AB	2012
94 th Canadian Chemistry Conference, Montreal, QC	2011
241 st ACS National Meeting, Anaheim, CA	2011
Inorganic Discussion Weekend, Windsor, ON	2010
U of S Chemistry Research Awards Day, Saskatoon SK	2007
90 th Canadian Chemistry Conference, Winnipeg, MB	2007
21 st Western Canadian Undergraduate Chemistry Conference, Saskatoon, SK	2007
U of S Chemistry Research Awards Day, Saskatoon SK	2006

SERVICE TO
CHEMISTRY

Peer reviewer: *Journal of the American Chemical Society*, *Angewandte Chemie International Edition*, *Nature Communications*, *ACS Catalysis*, *Chem Catalysis*, *Chemical Communications*, *Chemistry – A European Journal*, *Organometallics*, *Inorganic Chemistry*, *Dalton Transactions*, *Canadian Journal of Chemistry*, *European Journal of Inorganic Chemistry*, *ChemElectroChem*, *New Journal of Chemistry*, *Polyhedron*, *Inorganic Chemistry Frontiers*

PhD thesis external examiner: Rutgers – New Brunswick (Bo Li, 2019; Goldman), Rutgers – New Brunswick (Benjamin Gordon, 2022; Goldman) University of New Hampshire (Peiyuan Zhao, 2023; Caputo), Rutgers – New Brunswick (Minzhu Zou, 2024; Waldie)

Symposium Organizer, ACS Mid-Atlantic Regional Meeting, Seton Hall University
“Mechanistic Organometallic Chemistry: From Fundamentals to Applications” **2025**

Symposium Co-organizer , ACS Spring Meeting, San Diego, CA “ACS Award in Organometallic Chemistry: Symposium in Honor of Robert Morris”	2025
Ad Hoc Reviewer, US Department of Energy (DOE-BES Program)	2023, 2025
Ad Hoc Reviewer, National Science Foundation	2025
Ad Hoc Reviewer, ACS Petroleum Research Fund	2022, 2023, 2024, 2025
Ad Hoc Reviewer, Rutgers Global Grants Program	2023
Panel Reviewer, National Science Foundation	2021, 2022
Review Editor, <i>Frontiers in Chemistry</i> (Inorganic Chemistry)	2022-
Ad Hoc Reviewer, Oak Ridge Associated Universities (FDCRGP Program)	2022, 2023
Symposium Co-organizer , Canadian Chemistry Conference and Exhibition, Calgary, AB “Dihydrogen, Metal Hydrides, and Beyond”	2022
Symposium Co-organizer , ACS Spring Meeting, San Diego, CA “ACS Award in Organometallic Chemistry: Symposium in Honor of Morris Bullock”	2022
Session Chair , Virtual Q&A, Canadian Chemistry Conference and Exhibition, Montreal, QC	2021
Chair , Gordon Research Seminar, Organometallic Chemistry, Newport, RI	2019
Organizer , 21 st Western Canadian Undergraduate Chemistry Conference	2007

SERVICE TO
UNIVERSITY

Thesis Defense Committee , Rutgers–Newark Chemistry Ian Weiss (PhD 2021, Galoppini) Ana de Oliveira Silva (PhD 2023, Brenner-Moyer) Junjie Ouyang (MS 2024, He) Jingyao Zuo (PhD 2024, Jäkle)	2021–
Candidacy Exam Committee , Rutgers–Newark Chemistry James McQuade (2020), Oguz Kucukosmann (2022), Conor Long (2022), Kelvin Urbina (2023), Amy Turtz (2023), Tiffany Olivera (2023), Zhiyuan Zhang (2023), Andres Cifuentes-Lopez (2024), Diana Kapkayeva (2024), Lakshita Anand (2024), Wenchao Chu (2024), Yawei Zhu (2024).	2020–
Business Administrator Search Committee , Rutgers–Newark Chemistry	2023
Faculty Search Committee , Rutgers–Newark Chemistry	2021–2022
Advisory Committee , Rutgers–Newark McNair TRiO Scholarship Program	2021–
Graduate Admissions Committee , Rutgers–Newark Chemistry	2019–2022

TEACHING

Chem 448: Inorganic and Materials Chemistry Laboratory Capstone course for chemistry majors at Rutgers-Newark. The course presents a series of laboratory experiments on the synthesis and characterization of organic, inorganic, organometallic and polymeric compounds and materials. Introduced two new teaching modules: <i>1. Synthesis of Vaska's Complex for Stoichiometric and Catalytic Reactions</i> <i>2. Scientific Glassblowing Fundamentals</i>	Spring 2022, 2023, 2024, 2025
Chem 579: Coordination Chemistry Applied to Catalysis Conceived, developed, and taught new graduate course covering classical and modern aspects of ligand design for homogeneous catalysis	Spring 2019, 2020; Fall 2023
Chem 413: Inorganic Chemistry 2 Senior level undergraduate course covering, structure, bonding and reactivity of molecules containing transition metals and main group elements.	Fall 2019, 2020, 2021, 2024, 2025

Current PhD Students: Sanju Kumari, Viani Maxwell, Nino Demetrashvili, Zhenhong Zhang

Current MS Students: Deuris Pena

Current Undergrads: Faith Kim (Chemistry '26), Chem 452 Student and SURF Scholar

PhD students graduated:

Lirong Lin (2025). "Using Diamondoid Ligands as C(sp³)-H Bond Activation Models at Group 10 Transition Metals"

David Tresp (2025). "Manganese and Iron Carbonyl Complexes with Amine-Rich Cyclopentadienyl and Dicarbene Ligands: Synthesis, Reactivity, Redox, and N-H Bond Thermochemistry"

Ageliki Karagiannis (2025). "Synthesis and Reactivity of Manganese Complexes with Arylborate Bridged Dicarbene Ligands"

Bhumika Goel (2024). "Controlling the Movement of Protons and Electrons with Amine-Functionalized Cp^{N3} Ligands Coordinated to Iron"

MS Students graduated:

Ageliki Karagiannis (2020). "Synthesis of Amine-Functionalized Bis(imidazolium)borate Salts: Novel Bis(carbene)borate Ligand Precursors"

Former Postdocs:

Dr. Andrew VanderWeide (2021-2023)

Dr. Práxedes Sánchez (2019-2021)

Former Undergraduates:

Faith Kim, 2025 (Chem 452 Project and SURF Scholar)

Monika Chhetri, 2025 (SURI Intern, Caldwell University)

Allison Houn, 2024 (Meiklejohn Fellow, Amherst College)

Amado Rosendo, 2024 (Meiklejohn Fellow, Amherst College)

Shenelle Baines, 2024 (GS-LSAMP Scholar, Chemistry)

Christopher Elliott, 2023 (Chemistry major and SURF Scholar)

Deuris Pena, 2023 (SURI Intern, Bloomfield College)

Asmaa Washington, 2022 (GS-LSAMP Scholar, Chemistry)

Naser Abuali, 2022 (Chem 452 Project)

Meroline Bazile, 2019-2020 (McNair and GS-LSAMP Scholar, Chemistry)

Christeen Shenoda, 2019-2020 (Summer Student, Chem 452 Project)

Judge , Inorganic Poster Session, Canadian Chemistry Conference, Winnipeg, Canada	2024
NSF-Garden State LSAMP Program Mentor , Rutgers University–Newark	2019-2020, 2022, 2024
Summer Undergraduate Research Program Mentor , Rutgers University–Newark	2023
McNair Scholarship Program Mentor , Rutgers University–Newark	2019-2020
Juror , ACS North Jersey Section Awards Division	2021
Judge , William Paterson University Undergraduate Research Symposium, Wayne, NJ	2019
Member , US Department of Energy Early Career Network	2016-2017
Co-Founder , Chemistry Career Day, University of Toronto	2014
Chair , Chemical Institute of Canada (CIC) Toronto Section	2013-2014
Treasurer/Webmaster , Chemical Institute of Canada (CIC) Toronto Section	2012-2013
Student Activities Chair , Chemical Institute of Canada (CIC) Toronto Section	2011-2012
Organizer , International Year of Chemistry, Toronto, ON	2011
Volunteer , Science Rendezvous, University of Toronto	2011
Volunteer , "Ask a Nobel Laureate" Lecture Series, University of Toronto	2010, 2011
Member At Large , Chemical Institute of Canada (CIC) Toronto Section	2010-2011
VP Internal , Chemistry Student Society, University of Saskatchewan	2007-2008

STUDENT
ACHIEVEMENTS

- David Tresp: **SASN Teaching Assistant Award** 2024
One of two graduate students selected from the School of Arts & Sciences for their outstanding contributions to undergraduate education.
- Lirong Lin: **Dissertation Fellowship** 2024–2025
The graduate school's most prestigious and comprehensive financial award for students in the last year of their doctoral programs.
- Lirong Lin: **Teaching Assistant Award** 2023
For outstanding contributions to the Organic Chemistry laboratory.
- Bhumika Goel: **ACS DIC Student Travel Award** 2023
Presented results at the Fall ACS Meeting in San Francisco.
- Ageliki Karagiannis: **Cambridge Isotope Laboratories Student Travel Award** 2023
Presented results at the Fall ACS Meeting in San Francisco.
- Christopher Elliott: **Summer Undergraduate Research Fellowship** 2023
Highly competitive campus-wide competition for undergraduate students performing summer research at Rutgers-Newark.
- Bhumika Goel: **Dissertation Fellowship** 2023–2024
The graduate school's most prestigious and comprehensive financial award for students in the last year of their doctoral programs.
- Viani Maxwell: **NIH G-RISE Fellowship** 2022–2024
Awarded to top incoming PhD students from diverse backgrounds to successfully transition into careers in biomedical research.
- Lirong Lin: **Taylor-Torre Research Award** 2022
In recognition of her outstanding accomplishments as a 3rd year PhD student at Rutgers–Newark.
- David Tresp: **Rutgers University Presidential Fellowship** 2019–2024
Awarded to top incoming PhD students across all disciplines that display strong potential for success in research.
- Bhumika Goel: **Teaching Assistant Award** 2020–2021
For outstanding contributions to the General Chemistry laboratory.
- David Tresp: **Teaching Assistant Award** 2020–2021
For outstanding contributions to senior Organic and Inorganic chemistry laboratories.