# Matthew T. Whited

Department of Chemistry
Carleton College

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## *Professional Experience*

**Carleton College,** Northfield, MN — *September 2010 to present*

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|---|---|
| Professor, Department of Chemistry | 2023– |
| Chair, Department of Chemistry | 2022– |
| STEM Director | 2022– |
| Associate Professor, Department of Chemistry | 2017–2023 |
| Assistant Professor, Department of Chemistry | 2010–2017 |

**University of North Carolina,** Chapel Hill, NC — *March – October 2022*
Visiting Scholar, Department of Chemistry

**University of Southern California,** Los Angeles, CA — *June 2009 – May 2011*
Postdoctoral Research Associate

- Advisor: Professor Mark E. Thompson

## *Education*

**California Institute of Technology,** Pasadena, CA
Doctor of Philosophy in Chemistry (June 2009)

- Gordon and Betty Moore Fellow (Linus Pauling Fellowship)
- Advisors: Professor Robert H. Grubbs and Professor Jonas C. Peters
- Thesis title: *Synthetic and Mechanistic Studies of Small-Molecule Activation at Low-Valent Iron, Cobalt, and Iridium Centers*

**Davidson College,** Davidson, NC
Bachelor of Science with Honors in Chemistry, Magna Cum Laude, Salutatorian (May 2004)

- John Montgomery Belk Scholar
- Thesis title: *Modification of the bis-Ene-Hydrazine Tautomer in the Piloty Pyrrole Synthesis*

## *Selected Honors and Awards*

**Featured in *Undergraduate Research: Contributions to Organometallic Chemistry* (ACS Select Virtual Issue),** 2018.

**Cottrell Scholar, "Class of 2011" (Research Corporation)**, 2016.

**Henry Dreyfus Teacher-Scholar (Dreyfus Foundation)**, 2016.

**"New Talent: Americas" (*Dalton Transactions*)**, 2016.

**CAREER Award (National Science Foundation)**, 2016–2021.

**Burg Postdoctoral Teaching Award (USC)**, 2010.

**Remsen Bird Lecturer (Occidental College)**, 2009.

**Gordon and Betty Moore Fellow (Caltech)**, 2004–2009.

**Salutatorian (Davidson College Class of 2004)**, 2004.

**John M. Belk Scholar (Davidson College)**, 2000–2004.

## *External Funding*

**American Chemical Society – Petroleum Research Fund (UR)** (2025–2028)
- "*Development of Metal/Tetrylene Bonds as Scaffolds for Cooperative Small-Molecule Activation*" $70k

**NEH Humanities Connections** (2024–2025)
- "Curricular-Bridge Courses Between Humanities & STEM Fields" $50k (w/ Baird Jarman, Art History)

**NSF Facilitating Research at Primarily Undergraduate Institutions** (2023–2026)
- "RUI: CAS-SC: Promoting Group-Transfer Reactions at Metal/Main-Group Bonds" $356k
- *Critical Aspects of Sustainability – Innovative Solutions to Sustainable Chemistry (CAS-SC) initiative*

**NSF Research Opportunity Award** (2022)
- "ROA: Cation-Controlled Catalysis with Pincer-Crown Ether Complexes" $43k
  (PI: Alexander Miller, UNC-Chapel Hill – Supporting 2022 Sabbatical)

**NSF Chemistry Infrastructure Program** (2017–2018)
- "Chemistry Early Career Investigator Workshop" $70k (w/ Gordana Dukovic, CU-Boulder)

**Henry Dreyfus Teacher-Scholar Award (Dreyfus Foundation)** (2016–2021)
- "Exploiting Metal/Main-Group Cooperation in Small-Molecule Activation" $60K

**NSF Faculty Early Career Development Program (CAREER)** (2016–2023)
- "CAREER: SusChEM: Cooperative Small-Molecule Activation by Ambiphilic Pincer-Type Complexes Featuring Metal/Main-Group Bonds" $400K
- *Sustainable Chemistry, Engineering, and Materials (SusChEM) initiative*

**American Chemical Society – Petroleum Research Fund (UR)** (2015–2021)
- "Stoichiometric and Catalytic Nitrene-Group-Transfer Reactions from Late-Metal Silylamides" $70K

**NSF Major Research Instrumentation Program (MRI)** (2014–2017)
- "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research and Undergraduate Research Training at Carleton College and St. Olaf College" $335K (w/ Hofmeister and Alberg)

**American Chemical Society – Petroleum Research Fund (UNI)** (2011–2014)
- "Ambiphilic Scaffolds for Cooperative Metal–Ligand Activation of Small Molecules" $50K

**Research Corporation Cottrell College Science Award** (2011–2014)
- "Development of Silylamides as Nitrene Delivery Agents for Late Transition Metals" $35K

## *Selected Internal Funding*

**Eugster and Presidential Fellowships** (2020), *supporting sabbatical leave*
- "Cooperative Photochemical Approaches to Sustainable Chemical Catalysts"

**Targeted Opportunity Grant** (*from Dean of the College,* 2019)
- "Development of X-ray Crystallography Modules for CHEM 352 and Expansion of Crystallography as a Tool for Student/Faculty Research"

**Curriculum Innovation Grants** (*from HHMI and Dean of the College,* 2015)
- "Study Group on Course-Based Research Experiences in the Science Curriculum"

**HHMI Curriculum Development Grant** (2014)
- "Crystallographic Analysis of Inorganic Molecules in Chemistry 352"

**Hewlett Mellon and Eugster Fellowships** (2013), *supporting sabbatical leave*
- "Development of Silicon/Transition-Metal Frameworks for Energy-Relevant Catalysis"

**HHMI Curriculum Development Grant** (2012)
- "Synthesis and Characterization of Novel Molybdenum(II) Piano-Stool Complexes"
  *Grant for integrating authentic research experiences into the curriculum*

## *Professional Affiliations and Service*

### American Chemical Society (ACS)

- *Member (2002 to present)*
- *Affiliations: Division of Inorganic Chemistry, Organometallic Subdivision (from 2005); Division of Chemical Education (from 2011); Division of Fluorine Chemistry (from 2014)*

### Interactive Online Network of Inorganic Chemists (IONiC)

- *Member (2011 to present)*
- *Website Administration Team, Learning Object Reviewer (2012–2016)*

### Council on Undergraduate Research (CUR)

- *Member (2015 to present)*

**Manuscript Review:** *Journal of the American Chemical Society, Chemical Science, Chemical Communications, ACS Omega, Organometallics, ACS Catalysis, Inorganic Chemistry, Dalton Transactions, Chemistry—A European Journal, European Journal of Inorganic Chemistry, Inorganic Chemistry Frontiers, New Journal of Chemistry, Inorganica Chimica Acta, Journal of Physical Chemistry, Journal of Chemical Education, Chemical Educator, Journal of Chemical Crystallography, Journal of Organometallic Chemistry*

**Ad Hoc Proposal Review:** *NSF (SYN, CAT), DOE, ACS-PRF (UNI, UR, DNI, ND), RCSA Cottrell*

**Review Panels:** *NSF (SYN, CAT, GRFP)*

**Book Review:** *Pearson, Wiley*

### Carleton College Service:

- *STEM Board (2018–present): Director (2022–2025), Professional Development Subcommittee (2020–2021)*
- *Faculty Grants Committee (2023, 2024–2026)*
- *Selected Search Committees: VP and Dean of Admissions and Financial Aid (2018), STEM Program Manager (2019), Director of Academic Technology (2020)*
- *Advancing the Liberal Arts Task Force for 'Carleton 2033' Strategic Plan (2022–2023)*
- *Financial Aid Working Group (2022–2023)*
- *Summer Research Professional Development series (organizer, 2021, 2023)*
- *Fellow of the Perlman Learning & Teaching Center (2020–2021)*
- *Admissions and Financial Aid Committee (Chair, 2017–2019; Member, 2015–2019)*
- *Campaign Launch Committee; 'Backstage Carleton' organizing group (2017–2018)*
- *Post-Tenure Faculty Development working group (organizer, 2017–2019, 2021)*
- *Study Group on Course-Based Research Experiences (convener, 2014–2016)*
- *Course-Based Undergraduate Research Experiences Workshop (organizer, 2015)*
- *Other Committees: Environmental Advisory (2012–2014)*
- *Chemistry Department: Chair, Student Work Coordinator, Seminar Coordinator, Safety Committee, NMR Management Team, Integrative Exercise Coordinator*

### Other Service:

- *Advanced Grant Writing Workshop by St. Mary's University Consortium (mentor, 2018–2019)*
- *Dissertation Review for Australian National University (2018)*
- *NSF Early Career Investigator Workshop (Invited Speaker 2017; Co-Organizer 2018)*
- *NSF Midscale Instrumentation Workshop (Invited Participant, Report Co-Author 2016–2017)*
- *ACS Exams Committee: Inorganic Chemistry Foundations Exam (2014–2015)*
- *Career Panel: Gordon Research Seminar in Organometallic Chemistry (2014)*
- *College Chemistry Day with Northfield High School AP Students (organizer/supervisor, 2014–present)*
- *Chemistry Demos and Discussions: Prairie Creek and Greenvale Elementary Schools (2014, 2015, 2017, 2019)*

## ***Publications*** *(undergraduate co-authors are underlined)*

**49.** Whited, M. T.; Pearson, C. E.; Stewart, A.; Lee-Zacheis, C.; Khan, A. E.; Blythe, I. M.; Han, W.; Kohen, D. "Synthesis and Cooperative Reactivity of Sterically Encumbered Silyl and Silylene ($^{t\text{Bu}}P_2Si$)Co Complexes", in preparation.

**48.** Acosta-Calle, S.; Huebsch, E. Z.; Kolmar, S. S.; Whited, M. T.; Chen, C.-H.; Miller, A. J. M. M. "Regulating Access to Active Sites via Hydrogen Bonding and Cation-Dipole Interactions: A Dual Cofactor Approach to Switchable Catalysis" *J. Am. Chem. Soc.* **2024**, *16*, 11095–11104.

**47.** Wei, W.; Ma, J.; Schaab, J.; Brooks, J.; Kang, S.; Whited, M. T.; Djurovich, P. I.; Thompson, M. E. "A Comparison between Triphenylmethyl and Triphenylsilyl Spirobifluorenyl Hosts: Synthesis, Photophysics and Performance in Phosphorescent Organic Light-Emitting Diodes" *Molecules* **2023**, *28*, 5241.

**46.** Whited, M. T.; Han, W.; Jin-Lee H.; DiNardo, Z.; Watson, E.; Zhang, J.; Kohen, D. "Cobalt Silylenes as Platforms for Catalytic Nitrene-Group Transfer by Metal-Ligand Cooperation" *Angew. Chem., Int. Ed.* **2022**, *61*, e202205748.

* Designated as "Hot Paper" by *Angewandte Chemie*
* Highlighted as an "Item of Interest to Process R&D Chemists and Engineers" in *Org. Process Res. Dev.* **2022**, *26*, 2179−2189

**45.** Whited, M. T. "Pincer-Supported Metal/Main-Group Bonds as Platforms for Cooperative Transformations" *Dalton Trans.* **2021**, *50*, 16443–16450. (Invited Perspective Article)

**44.** Whited, M. T.; Ball, M. A.; Block, A.; Brewster, B. A.; Ferrer, L.; Jin-Lee, H. J.; King, C. J.; North, J. D.; Shelton, I. L.; Wilson, D. G. "Crystal Structures of Phosphine-Supported ($\eta^5$-cyclopentadienyl)molybdenum(II) Propionyl Complexes" *Acta Crystallogr., Sect. E: Crystallogr. Commun.* **2021**, *77*, 912–918.

**43.** Whited, M. T.; Zhang, J.; Conley, A. M.; Ma, S.; Janzen, D. E.; Kohen, D. "Bimetallic, Silylene-Mediated Multielectron Reductions of Carbon Dioxide and Ethylene" *Angew. Chem., Int. Ed*. **2021**, *60*, 1615–1619.

**42.** Anstey, M. R.; Bost, J. L.; Grumman, A. S.; Kennedy, N. D.; Whited, M. T. "Crystal Structures of *trans*-Acetyldicarbonyl($\eta^5$-cyclopentadienyl)(1,3,5-triaza-7-phosphaadamantane)molybdenum(II) and *trans*-Acetyldicarbonyl($\eta^5$-cyclopentadienyl)(3,7-diacetyl-1,3,7-triaza-5-phosphabicyclo[3.3.1]nonane)molybdenum(II)" *Acta Crystallogr., Sect. E: Crystallogr. Commun.* **2020**, *76*, 547–551.

**41.** Whited, M. T.; Taylor, B. L. H. "Metal/Organosilicon Complexes: Structure, Reactivity, and Considerations for Catalysis" *Comm. Inorg. Chem.* **2020**, *40*, 217–276. (Invited Contribution)

**40.** Whited, M. T.; Zhang, J.; Donnell, T. M.; Eng, V. H.; Peterson, P. O.; Trenerry, M. J.; Janzen, D. E.; Taylor, B. L. H. "Cooperative $CO_2$ Scission by Anomalous Insertion into a Rh–Si Bond" *Organometallics* **2019**, *38*, 4420–4432.

* "Top 10 Most Read" article, November–December 2019.

**39.** Whited, M. T.; Trenerry, M.; DeMeulenaere, K. E.; Taylor, B. L. H. "Computational and Experimental Investigation of Alkene Hydrogenation by a Pincer-Type [$P_2Si$]Rh Complex: Alkane Release *via* Competitive σ-Bond Metathesis and Reductive Elimination" *Organometallics* **2019**, *38*, 1493–1501.

* "Top 20 Most Read" article, March 2019.

**38.** Zhang, J.; Foley, B. J.; Bhuvanesh, N.; Zhou, J.; Janzen, D. E.; Whited, M. T.; Ozerov, O. V. "Synthesis and Reactivity of Pincer-Type Cobalt Silyl and Silylene Complexes" *Organometallics* **2018**, *37*, 3956–3962.

* "Top 10 Most Read" article, September–December 2018.

**37.** Wei, W.; Lima, S. A. M.; Djurovich, P. I.; Bossi, A.; Whited, M. T.; Thompson, M. E. "Synthesis and Characterization of Phosphorescent Isomeric Iridium Complexes with a Rigid Cyclometalating Ligand" *Polyhedron* **2018**, *140*, 138–145.

**36.** Whited, M. T.; Zhang, J.; Ma, S.; Nguyen, B. D.; Janzen, D. E. "Silylene-Assisted Hydride Transfer to $CO_2$ and $CS_2$ at a [$P_2$Si]Ru Pincer-Type Complex" *Dalton Trans.* **2017**, *46*, 14757–14761.

**35.** Whited, M. T.; Ruffer, E. J.; Zhang, J.; Janzen, D. E. "*trans*-Acetyldicarbonyl($\eta^5$-cyclopentadienyl)[tris(3,5-dimethylphenyl)phosphane]molybdenum(II)" *IUCrData* **2017**, *2*, x170042.

* Featured as the cover illustration for the issue: http://iucrdata.iucr.org/x/issues/2017/01/00/

**34.** Whited, M. T.; Deetz, A. M.; Donnell, T. M.; Janzen, D. E. "Examining the Role of Rh/Si Cooperation in Alkene Hydrogenation by a Pincer-Type [$P_2$Si]Rh Complex" *Dalton Trans.* **2016**, *45*, 9758–9761 (Invited Contribution for "New Talent: Americas" Special Issue).

**33.** Whited, M. T.; Qiu, L.; Kosanovich, A. J.; Janzen, D. E. "Chalcogen Extrusion from Heteroallenes and Carbon Monoxide by a Three-Coordinate Rh(I) Disilylamide" *Inorg. Chem.* **2015**, *54*, 3670–3679.

* Featured in *Undergraduate Research: Contributions to Organometallic Chemistry*: https://pubs.acs.org/page/orgnd7/vi/organometallic-undergradresearch.html

**32.** Whited, M. T.; Hofmeister, G. E.; Hodges, C. J.; Jensen, L. T.; Keyes, S. H.; Ngamnithiporn, A.; Janzen, D. E. "Crystal Structures of *trans*-acetyldicarbonyl($\eta^5$-cyclopentadienyl)(dimethylphenylphosphane)molybdenum(II) and *trans*-acetyldicarbonyl($\eta^5$-cyclopentadienyl)(ethyldiphenylphosphane)molybdenum(II)" *Acta Crystallogr., Sect. E: Struct. Rep. Online* **2014**, *70*, 216–220.

**31.** Whited, M. T.; Deetz, A. M.; Boerma, J. W.; DeRosha, D. E.; Janzen, D. E. "Formation of Chlorosilyl Pincer-Type Rhodium Complexes by Multiple Si–H Activations of Bis(phosphino)/Dihydrosilyl Ligands" *Organometallics* **2014**, *33*, 5070–5073.

**30.** Krylova, V. A.; Djurovich, P. I.; Conley, B. L.; Haiges, R. M.; Whited, M. T.; Williams, T. J.; Thompson, M. E. "Control of Emission Color with *N*-Heterocyclic Carbene (NHC) Ligands in Phosphorescent Three-Coordinate Cu(I) Complexes" *Chem. Commun*. **2014**, 7176–7179.

**29.** Whited, M. T.; Hofmeister, G. E. "Synthesis and Migratory-Insertion Reactivity of $CpMo(CO)_3(CH_3)$: Small-Scale Organometallic Preparations Utilizing Modern Glove-Box Techniques" *J. Chem. Educ.* **2014**, *91*, 1050–1053.

**28.** Whited, M. T.; Kosanovich, A. J.; Janzen, D. E. "Synthesis and Reactivity of Three-Coordinate (dtbpe)Rh Silylamides: $CO_2$ Bond Cleavage by a Rh(I) Disilylamide" *Organometallics* **2014**, *33*, 1416–1422.

**27.** Bossi, A.; Rausch, A. F.; Leitl, M. J.; Czerwieniec, R.; Whited, M. T.; Djurovich, P. I.; Yersin, H.; Thompson, M. E. "Photophysical Properties of Cyclometalated Pt(II) Complexes: Counterintuitive Blue Shift in Emission with an Expanded Ligand π-System" *Inorg. Chem.* **2013**, *52*, 12403–12415.

**26.** Whited, M. T.; Bakker-Arkema, J. G.; Greenwald, J. E.; Morrill, L. A.; Janzen, D. E. "*trans*-Acetyldicarbonyl($\eta^5$-cyclopentadienyl)[tris(furan-2-yl)phosphane-$\kappa P$]molybdenum(II)" *Acta Crystallogr., Sect. E: Struct. Rep. Online* **2013**, *69*, m475–m476.

**25.** Krylova, V.; Djurovich, P. I.; Aronson, J. W.; Haiges, R. M.; Whited, M. T.; Thompson, M. E. "Structural and Photophysical Studies of Phosphorescent 3-Coordinate Cu(I) Complexes Supported by *N*-Heterocyclic Carbene Ligands" *Organometallics* **2012**, *31*, 7983–7993.

**24.** Whited, M. T. "Metal–Ligand Multiple Bonds as Frustrated Lewis Pairs for C–H Functionalization" *Beilstein J. Org. Chem.* **2012**, *8*, 1554–1563.

**23.** Whited, M. T.; Boerma, J. W.; McClellan, M. J.; Padilla, C. E.; Janzen, D. E. "*trans*-Acetyldicarbonyl($\eta^5$-cyclopentadienyl)(methyldiphenylphosphane)molybdenum(II)" *Acta Crystallogr., Sect. E: Struct. Rep. Online* **2012**, *68*, m1158–m1159.

**22.** Trinh, C.; Whited, M. T.; Steiner, A.; Tassone, C.; Toney, M; Thompson, M. E. "Chemical Annealing of Tetraphenylporphyrin Films: Effects on Film Morphology and Organic Photovoltaic Performance" *Chem. Mater.* **2012**, *24*, 2583–2591.

**21.** Roberts, S. T.; McAnally, R. E.; Mastron, J. N.; Webber, D. H.; Whited, M. T.; Brutchey, R. L.; Thompson, M. E.; Bradforth, S. E. "Efficient Singlet Fission Found in a Disordered Acene Film" *J. Am. Chem. Soc.* **2012**, *134*, 6388–6400.

**20.** Liu, Z.; Djurovich, P. I.; Whited, M. T.; Thompson. M. E. "$Cu_4I_4$ Clusters Supported by P^N-Type Ligands: New Structures with Tunable Emission Colors" *Inorg. Chem.* **2012**, *51*, 230–236.

**19.** Whited, M. T.; Patel, N. M.; Roberts, S. T.; Allen, K.; Djurovich, P. I.; Bradforth, S. E.; Thompson, M. E. "Symmetry-Breaking Intramolecular Charge Transfer in the Excited State of *meso*-Linked BODIPY Dyads" *Chem. Commun.* **2012**, 284–286.

**18.** Schlenker, C. W.; Barlier, V. S.; Chin, S. W.; Whited, M. T.; McAnally, R. E.; Forrest, S. R.; Thompson, M. E. "Cascade Organic Solar Cells" *Chem. Mater.* **2011**, *23*, 4132–4140.

**17.** Hanson, K.; Patel, N.; Whited, M. T.; Djurovich, P. I.; Thompson, M. E. "Substituted 1,3-Bis(imino)isoindole Diols: A New Class of Proton Transfer Dyes" *Org. Lett.* **2011**, *13*, 1598–1601.

**16.** Liu, Z.; Qayyum, M. F.; Wu, C.; Whited, M. T.; Djurovich, P. I.; Hedman, B.; Solomon, E. I.; Thompson, M. E. "A Codeposition Route to CuI–Pyridine Coordination Complexes for OLEDs" *J. Am. Chem. Soc.* **2011**, *133*, 3700–3703.

**15.** Whited, M. T.; Djurovich, P. I.; Roberts, S. T.; Durrell, A. C.; Schlenker, C. W.; Bradforth, S. E.; Thompson, M. E. "Singlet and Triplet Excitation Management in a Bichromophoric Near-Infrared-Phosphorescent BODIPY–Benzoporphyrin Platinum Complex" *J. Am. Chem. Soc.* **2011**, *133*, 88−96.

**14.** Brookes, N. J.; Whited, M. T.; Ariafard, A.; Stranger, R.; Grubbs, R. H.; Yates, B. F. "Factors Dictating Carbene Formation at (PNP)Ir" *Organometallics* **2010**, *29*, 4239–4250.

**13.** Krylova, V. A.; Djurovich, P. I.; Whited, M. T.; Thompson, M. E. "Synthesis and Characterisation of Phosphorescent Three-Coordinate Cu(I)-NHC Complexes" *Chem Commun.* **2010**, *46*, 6696–6698.

**12.** Zhang, Y.; Whited, M.; Thompson, M. E.; Forrest, S. R. "Singlet-Triplet Quenching in High Efficiency Organic Light Emitting Diodes" *Chem. Phys. Lett.* **2010**, *495*, 161–165.

* Featured as an "Editor's Choice" in *Chemical Physics Letters*.

**11.** Hanson, K.; Tamayo, A.; Diev, V. V.; Whited, M. T.; Djurovich, P. I.; Thompson, M. E. "Efficient Dipyrrin-Centered Phosphorescence at Room Temperature from bis-Cyclometalated Iridium(III) Dipyrrinato Complexes" *Inorg. Chem.* **2010**, *49*, 6077–6084.

**10.** Whited, M. T.; Grubbs, R. H. "Late Metal Carbene Complexes Generated by Multiple C–H Activations: Examining the Continuum of M=C Bond Reactivity" *Acc. Chem. Res.* **2009**, *42*, 1607–1616.

* For a perspective review highlighting this work, see: Werner, H. "Carbene–Transition Metal Complexes Formed by Double C–H Activation" *Angew. Chem., Int. Ed.* **2010**, *49*, 4714–4728.

**9.** Whited, M. T.; Zhu, Y.; Timpa, S. D.; Chen, C.-H.; Foxman, B. M.; Ozerov, O. V.; Grubbs, R. H. "Probing the C–H Activation of Linear and Cyclic Ethers at (PNP)Ir" *Organometallics* **2009**, *28*, 4560–4570.

**8.** Whited, M. T.; Mankad, N. P.; Lee, Y.; Oblad, P. F.; Peters, J. C. "Dinitrogen Complexes Supported by Tris(phosphino)silyl Ligands" *Inorg. Chem.* **2009**, *48*, 2507–2517.

**7.** Whited, M. T.; Grubbs, R. H. "Elucidation of Heterocumulene Activation by a Nucleophilic-at-Metal Iridium(I) Carbene" *Organometallics* **2009**, *28*, 161–166.

**6.** Whited, M. T.; Grubbs, R. H. "A Catalytic Cycle for Oxidation of *tert*-Butyl Methyl Ether by a Double C–H Activation-Group Transfer Process" *J. Am. Chem. Soc.* **2008**, *130*, 16476–16477.

**5.** Whited, M. T.; Grubbs, R. H. "Synthesis and Reactivity of Iridium(III) Dihydrido Aminocarbenes" *Organometallics* **2008**, *27*, 5737–5740.

**4.** Romero, P. E.; Whited, M. T.; Grubbs, R. H. "Multiple C–H Activations of Methyl *tert*-Butyl Ether at Pincer Iridium Complexes: Synthesis and Thermolysis of Ir(I) Fischer Carbenes" *Organometallics* **2008**, *27*, 3422–3429.

**3.** Whited, M. T.; Grubbs, R. H. "Oxygen-Atom Transfer from Carbon Dioxide to a Fischer Carbene at (PNP)Ir" *J. Am. Chem. Soc.* **2008**, *130*, 5874–5875.

* For a highlight on this paper, see: Van Der Boom, M. E. "Oxygen-Atom 'Cut and Paste' from Carbon Dioxide to a Fisher Carbene Complex" *Angew. Chem., Int. Ed.* **2009**, *48*, 28–30.

**2.** Mankad, N. P.; Whited, M. T.; Peters, J. C. "Terminal $Fe^{I}$–$N_2$ and $Fe^{II}\cdots$H–C Interactions Supported by Tris(phosphino)silyl Ligands" *Angew. Chem., Int. Ed.* **2007**, *46*, 5768–5771.

**1.** Whited, M. T.; Rivard, E.; Peters, J. C. "Complexes of Iron and Cobalt with New Tripodal Amido-Polyphosphine Hybrid Ligands" *Chem. Commun.* **2006**, 1613–1615.

## ***Patents*** *(undergraduate co-inventors are underlined)*

**4.** Thompson, M. E.; Whited, M. T.; Patel, N. M.; Djurovich, P. I.; Forrest, S. R.; Allen, K. R.; Trinh, C. "Compounds Capable of Undergoing Symmetry Breaking Intramolecular Charge Transfer in a Polarizing Medium and Organic Photovoltaic Devices Comprising the Same", PCT Int. Appl. WO2013066453, 05/10/2013.

**3.** Thompson, M. E.; Trinh, C.; Whited, M. T. "Chemical Annealing Method for Fabrication of Organic Thin Films for Optoelectronic Devices", PCT Int. Appl. WO20120177813, 07/12/2012.

**2.** Forrest, S. R.; Zimmerman, J.; Yu, E.; Thompson, M. E.; Trin, C.; Whited, M. T.; Diev, V. V. "Photoactive Devices Including Porphyrinoids with Coordinating Additives", PCT Int. Appl. WO2012051337, 04/19/2012.

**1.** Thompson, M. E.; Whited, M. T.; Djurovich, P. I. "Broadly Absorbing Metalloporphyrin-Based Multichromophoric Arrays for Triplet Harvesting", PCT Int. Appl. WO2012034066, 03/15/2012.

## *Selected Invited Lectures*

**30.** *Hamline University* (September 20, 2024)
**29.** *University of California – Riverside* (September 29, 2022)
**28.** *Pomona College* (September 27, 2022)
**27.** *University of Vermont* (May 5, 2022)
**26.** *University of North Carolina – Chapel Hill* (March 29, 2022)
**25.** *Princeton University* (October 17, 2019)
**24.** *Massachusetts Institute of Technology* (September 25, 2019)
**23.** *Yale University, Silliman Lecture* (September 23, 2019)
**22.** *Virginia Tech* (October 23, 2017)
**21.** *University of Richmond* (October 20, 2017)
**20.** *Williams College* (March 4, 2016)
**19.** *University of Washington – Seattle* (February 16, 2016)
**18.** *Indiana University* (November 20, 2015)
**17.** *Texas A&M University* (September 2, 2015)
**16.** *Amherst College* (May 1, 2015)
**15.** *249$^{th}$ ACS National Meeting, Symposium in Honor of Mark E. Thompson* (March 22, 2015)
**14.** *University of Wisconsin – Madison* (March 13, 2015)
**13.** *University of California – Los Angeles* (February 11, 2015)
**12.** *University of Southern California* (February 10, 2015)
**11.** *California Institute of Technology* (February 9, 2015)
**10.** *North Carolina State University* (October 23, 2014)
**9.** *University of North Carolina – Chapel Hill* (October 21, 2014)
**8.** *Davidson College* (October 17, 2014)
**7.** *University of Minnesota – Twin Cities* (October 1, 2014)
**6.** *Macalester College* (February 28, 2014)
**5.** *St. Olaf College* (February 21, 2013)
**4.** *Gustavus Adolphus College* (November 16, 2012)
**3.** *Macalester College* (November 30, 2011)
**2.** *University of Minnesota – Twin Cities* (November 10, 2009)
**1.** *Occidental College, Remsen Bird Lecture* (January 26, 2009)

## ***Selected Presentations*** *(undergraduate co-authors are underlined)*

**23.** Vandel, E.; Watson, E.; Kohen, D.; Whited, M. T. "Computational Investigations of Isocyanate Formation at a Cobalt Silylene Complex Using G16/DFT and CREST" *265$^{th}$ ACS National Meeting, March 2023* (Poster Presentation).

**23.** Han, W.; Whited, M. T. "Metal-Silicon Cooperative Conversion of Alkyl Azide to Isocyanate Enabled by a Labile Si–OTf Interaction" *263$^{rd}$ ACS National Meeting, March 2022* (Poster Presentation – ACS-DIC Travel Award, Best Undergraduate Poster Award).

**22.** Brewster, B. A.; Whited, M. T. "Probing C–H Activation by Rodium Silyl Pincer-Type Complexes" *263$^{rd}$ ACS National Meeting, March 2022* (Poster Presentation).

**21.** Conley, A. M.; Zhang, J.; Kohen, D. L.; Whited, M. T. "Synthetic and Computational Investigation of Cobalt Silylene Reactivity" *257$^{th}$ ACS National Meeting, March 2019* (Poster Presentation – Selected for SciMix; ACS-DIC Travel Award).

**20.** DeSnoo, W. Q.; Kohen, D. L.; Whited, M. T. "Computational Examination of Structure and Reactivity in Ruthenium Silyl and Silylene Complexes" *257th ACS National Meeting, March 2019* (Poster Presentation).

**19.** Peterson, P. O.; Donnell, T. M.; Whited, M. T. "$CO_2$ Bond Scission via a [$P_2$Si]Rh Silylene Intermediate" *255th ACS National Meeting, March 2018* (Poster Presentation).

**18.** Zhang, J.; Foley, B. J.; Bhuvanesh, N.; Whited, M. T.; Ozerov, O. V. "Synthesis & Reactivity of Novel Silyl/Silylene Pincer Cobalt Complexes" *255th ACS National Meeting, March 2018* (Poster Presentation).

**17.** Ma, S.; Zhang, J.; Whited, M. T.; Janzen, D. E. "Synthesis, Characterization and Reactivity of Pincer-Type Bis(Phosphine)/Silylene [$P_2$Si]Ru Complexes" *255th ACS National Meeting, March 2018* (Poster Presentation – Selected for SciMix).

**16.** Trenerry, M. J.; Whited, M. T.; Taylor, B. L. H. "Computational Studies of Rhodium-Catalyzed Hydrogenation and Carbon Dioxide Activation" *253rd ACS National Meeting, March 2017* (Poster Presentation).

**15.** Whited, M. T. "Stoichiometric and Catalytic Reactions Utilizing Metal/Silicon Cooperation" *Gordon Research Conference – Organometallic Chemistry, July 2016* (Poster Talk).

**14.** Schaff, M. A.; Whited, M. T. "Synthesis and Reactivity of Nickel Silylamides" *251st ACS National Meeting, March 2016* (Poster Presentation – Selected for SciMix).

**13.** Qiu, L.; Whited, M. T. "Reactivity of Rh and Ni Silylamides" *251st ACS National Meeting, March 2016* (Poster Presentation).

**12.** Donnell, T. M.; Whited, M. T. "Cooperative Reactivity of (PSiP)Rh Pincer Complexes" *251st ACS National Meeting, March 2016* (Poster Presentation).

**11.** Deetz, A. M.; Whited, M. T. "Ambiphilic Late-Metal Silyl and Silylene Complexes for Cooperative Activation of Small Molecules" *249th ACS National Meeting, March 2015* (Oral Presentation in *Undergraduate Research at the Frontiers of Inorganic Chemistry*).

**10.** Olivares, C. A.; Whited, M. T. "Synthesis of ambiphilic nickel-silyl complexes for cooperative small molecule activation" *249th ACS National Meeting, March 2015* (Poster Presentation).

**9.** Nguyen, B.; Whited, M. T. "Synthesis and Characterization of Ruthenium(II) Complexes with Hydrosilyl Pincer-Type Ligands" *249th ACS National Meeting, March 2015* (Poster Presentation).

**8.** Olivares, C. A.; Whited, M. T. "Synthesis of Ambiphilic Nickel-Silyl Complexes for Cooperative Small Molecule Activation" *SACNAS National Conference, October 2014* (Poster Presentation).

**7.** Deetz, A. M.; Whited, M. T. "Cooperative Small-Molecule Activation by Ambiphilic Late-Metal Complexes" *247th ACS National Meeting, March 2014* (Poster Presentation – Selected for SciMix; ACS-DIC Travel Award).

**6.** Kosanovich, A. J.; Whited, M. T. "Synthesis and Reactivity of Three-Coordinate Rh(I) Silylamides" *247th ACS National Meeting, March 2014* (Poster Presentation).

**5.** Whited, M. T.; Boerma, J. W.; Deetz, A. M.; DeRosha, D. E.; Olivares, C. E. "Cooperative Reactivity Involving Organosilicon Ligands and Late Transition Metals: Making and Breaking Silicon–Element Bonds via Metal Silyl and Silylene Intermediates" *247th ACS National Meeting, March 2014* (Oral Presentation in *Undergraduate Research at the Frontiers of Inorganic Chemistry*).

**4.** Kosanovich, A. J.; Whited, M. T. "Synthesis and Reactivity of Late-Metal Silylamides" *Winchell Undergraduate Research Symposium (MN Academy of the Sciences), April 2013* (Poster Presentation – Best Chemistry Poster and Excellence in Undergraduate Research Awards).

**3.** Boerma, J. W.; Whited, M. T. "Small-Molecule Activation at Late-Metal Silylenes via Polydentate Ligands" *245th ACS National Meeting, April 2013* (Poster Presentation – Selected for SciMix).

**2.** DeRosha, D. E.; Whited, M. T. "Dihydrosilyl Ligands for Synthesis of Ambiphilic Late-Metal Complexes" *245th ACS National Meeting, April 2013* (Poster Presentation).

**1.** Padilla, C. E.; Whited, M. T. "Synthesis and Reactivity of Late-Metal Silylamides" *245th ACS National Meeting, April 2013* (Poster Presentation – ACS-DIC Travel Award).

## ***Non-Peer-Reviewed Publications*** *(undergraduate co-authors are underlined)*

**19.** Whited, M. T. "More Electron Counting and CBC Assignments for Organometallic Complexes", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resource website (January 31, 2019): https://www.ionicviper.org/class-activity/more-electron-counting-and-cbc-assignments-organometallic-complexes

**18.** Whited, M. T. "Diverting Wilkinson's Catalyst: Critical Analysis of a Literature Paper", *Literature Discussion* Learning Object, Virtual Inorganic Pedagogical Resource website February 21, 2017): https://www.ionicviper.org/literature-discussion/diverting-wilkinsons-catalyst-critical-analysis-literature-paper

**17.** Whited, M. T. "Spectroscopy of Molybdenum(V) Halide and Oxo Complexes", *Problem Set* Learning Object, Virtual Inorganic Pedagogical Resource website (June 16, 2016): https://www.ionicviper.org/problem-set/spectroscopy-molybdenumv-halide-and-oxo-complexes

**16.** Whited, M. T. "Ligand Field Correlations for Square Pyramidal Oxovanadium(III)", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resource website (April 22, 2016): https://www.ionicviper.org/class-activity/ligand-field-correlations-square-pyramidal-oxovanadiumiii

**15.** Whited, M. T. "Working with Catalytic Cycles", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resource website (September 28, 2015): https://www.ionicviper.org/class-activity/working-catalytic-cycles

**14.** Whited, M. T. "Electron Counting and CBC Assignments for Organometallic Complexes", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resource website (March 17, 2015): https://www.ionicviper.org/class-activity/electron-counting-and-cbc-assignments-organometallic-complexes

**13.** Whited, M. T. "Ligand Effects in Pd-Catalyzed Cross Coupling", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resource website (January 9, 2015): https://www.ionicviper.org/class-activity/ligand-effects-pd-catalyzed-cross-coupling

**12.** Whited, M. T. "Molecular Orbitals of Square-Planar Tetrahydrides", *In-Class Activity* Learning Object, Virtual Inorganic Pedagogical Resources website (April 18, 2014): https://www.ionicviper.org/class-activity/molecular-orbitals-square-planar-tetrahydrides

**11.** Whited, M. T.; Cvitkovic, M. W. "Spin States of Homoleptic Co(III) Complexes: A Computational Activity Using WebMO", *Problem Set* Learning Object, Featured Activity on the Virtual Inorganic Pedagogical Resource website (December 2, 2013): https://www.ionicviper.org/problem-set/spin-states-homoleptic-coiii-complexes-computational-activity-using-webmo

**10.** Whited, M. T.; Hofmeister, G. E. "Synthesis and Migratory-Insertion Reactivity of $CpMo(CO)_3(CH_3)$: Small-Scale Organometallic Preparations Utilizing Modern Glove-Box Techniques", *Lab Experiment* Learning Object, Featured Activity on the Virtual Inorganic Pedagogical Resource website (August 26, 2013): https://www.ionicviper.org/experiment/synthesis-and-migratory-insertion-reactivity-cpmoco3ch3-small-scale-organometallic-prepar

**9.** Whited, M. T. "Energy Content and Properties of Fuels", *In-Class Activity* Learning Object, Featured Activity on the Virtual Inorganic Pedagogical Resource website (March 7, 2013): https://www.ionicviper.org/classactivity/energy-content-and-properties-fuels

**8.** Whited, M. T. "Structure and Bonding of Dinitrogen Pentoxide", *Problem Set* Learning Object, Virtual Inorganic Pedagogical Resource website (January 29, 2013): https://www.ionicviper.org/problemset/structure-and-bonding-dinitrogen-pentoxide

**7.** Whited, M. T. "Metal–Ligand Multiple Bonds and Frustrated Lewis Pairs", *Literature Discussion* Learning Object, Virtual Inorganic Pedagogical Resource website (November 3, 2012): https://www.ionicviper.org/literaturediscussion/metal-ligand-multiple-bonds-and-frustrated-lewis-pairs

**6.** Whited, M. T. "Spectroscopy of Ruby", *Problem Set* Learning Object, Featured Activity on the Virtual Inorganic Pedagogical Resource website (August 9, 2012): https://www.ionicviper.org/problemset/spectroscopy-ruby

**5.** Whited, M. T. "Alkyne Semihydrogenation with Niobium(II) Imido Complexes: Exploring An Unconventional Hydrogenation Mechanism", *Literature Discussion* Learning Object, Virtual Inorganic Pedagogical Resource website (August 9, 2012): https://www.ionicviper.org/literaturediscussion/alkyne-semihydrogenation-niobiumii-imido-complexes-exploring-unconventional-hyd

**4.** Whited, M. T. "Structure and Reactivity of Dirhodium Paddlewheel Complexes", *Problem Set* Learning Object, Virtual Inorganic Pedagogical Resource website (July 30, 2012): https://www.ionicviper.org/problemset/structure-and-reactivity-dirhodium-paddlewheel-complexes

**3.** Whited, M. T.; O'Connor, A.; Ryter, A.; Dempsey, J.; Norris, M. "Electrocatalysis and Proton Reduction", *5 Slides About* Learning Object, Virtual Inorganic Pedagogical Resource website (July 20, 2012): https://www.ionicviper.org/fiveslidesabout/electrocatalysis-and-proton-reduction

**2.** O'Connor, A.; Ryter, A.; Whited, M.; Norris, M. "An Introduction to Electrocatalysis: Hydrogen Evolution from Mono and Binuclear Cobalt Complexes", *Literature Discussion* Learning Object, Virtual Inorganic Pedagogical Resource website (July 19, 2012): https://www.ionicviper.org/literaturediscussion/introduction-electrocatalysis-hydrogen-evolution-mono-and-binuclear-cobalt-comp

**1.** Whited, M. T. "Oxidative Suzuki-Type C–H Functionalization (Learning to Read a Detailed Organic Paper)", *Literature Discussion* Learning Object, Featured Activity on the Virtual Inorganic Pedagogical Resource website (July 17, 2012): https://www.ionicviper.org/literaturediscussion/oxidative-suzuki-type-c-h-functionalization-learning-read-detailed-organic-pape

## *Recent Teaching Experience*

**Carleton College**

Chemistry 122 – "An Introduction to Chemistry"
Chemistry 123 – "Principles of Chemistry I"
Chemistry 124 – "Principles of Chemistry I w/ Problem Solving"
Chemistry 233 – "Organic Chemistry I"
Chemistry 234 – "Organic Chemistry II"
Chemistry 300 – "Chemistry Research"
Chemistry 301 – "Chemical Kinetics Laboratory"
Chemistry 306 – "Spectrometric Characterization of Chemical Compounds"
Chemistry 351/352 – "Inorganic Chemistry" and "Advanced Inorganic Chemistry Lab"
Chemistry 358 – "Organometallic Chemistry"
Chemistry 390 – "Electrochemistry and Electrocatalysis" (*Independent Reading*)
Chemistry 292 & 394 – "Inorganic Synthesis" (*Independent Research*)
Chemistry 400 – "Integrative Exercise"

## *Research Group Members*

Zoe Morton '26 (Synthetic and catalytic studies of metal/main-group bonds)
- September 2024 to present

Isaac Blythe, Visiting Assistant Professor (Synthetic and catalytic studies of metal/main-group bonds)
- January 2024 to present

Sergio Yap '25 (Catalytic group transfer at group 9 silylene complexes)
- March 2024 to present

Claire Lee-Zacheis '26 (Computational analysis of metal/main-group bonds)
- March 2023 to present
- Jointly advised with Prof. Dani Kohen

Aidan Khan '25 (Computational analysis of metal/main-group bonds)
- March 2023 to present
- Jointly advised with Prof. Dani Kohen

Quan Nguyen '25 (Group transfer at group 9 silylene complexes)
- March 2023 to present

Annika Stewart '25 (Group transfer at group 9 silylene complexes)
- March 2023 to present

Collin Pearson '25 (Group transfer at group 9 silylene complexes)
- March 2023 to present

Marshall Johnson '25 (Group transfer at group 9 silylene complexes)
- March 2023 to present

Ellie Vandel '23 (Computational analysis of group transfer at cobalt silylene complexes)
- **CURRENT:** University of Illinois, Chemistry PhD Program
- June 2022 to June 2023
- Jointly advised with Prof. Dani Kohen

Helen Jin-Lee '23 (Cooperative catalytic processes at cobalt silylene complexes)
- **CURRENT:** Weill Cornell Medical College, MD Program
- Sept. 2021 to June 2023 (Publication #46)

Jackson Cleveland '23 (Cooperative activation by metal silylene complexes)

- **CURRENT:** University of Minnesota, Materials Science PhD Program (Reineke Group)
- June 2021 to Sept. 2021

Emma Watson '23 (Computational analysis of group 9 silylene complexes)

- **CURRENT:** Carleton College, Educational Associate with Prof. Dan Maxbauer
- June 2021 to June 2023 (Publication #46)
- Jointly advised with Prof. Dani Kohen

Ben Brewster '22 (Cooperative activation by metal silylene complexes)

- **CURRENT:** University of Wisconsin, Chemistry PhD Program (Goldsmith Group)
- June 2021 to Dec. 2021 (Presentation #22)

Wenlai Han '23 (Synthesis and reactivity of group 9 silylene complexes)

- **CURRENT:** MIT, Chemistry PhD Program (Wendlandt Group)
- June 2020 to June 2023 (Publication #46; Presentation #23)
- ACS Division of Inorganic Chemistry Travel Award (Spring 2022)
- DIC Best Undergraduate Poster Award (Spring 2022)

Margaret Ball '21 (Synthesis and computational analysis of group 9 silylene complexes)

- **CURRENT:** Ohio State University, Chemistry PhD Program (Zhang Group)
- June 2020 to Sept. 2020

Jack Williams '21 (Synthesis and computational analysis of late-metal amides and imides)

- **CURRENT:** University of Wisconsin, Integrated PhD Program in Biochemistry (Chaudhard Group)
- June 2020 to Sept. 2020

Matt Stamets '21 (Synthesis and computational analysis of late-metal amides and imides)

- **CURRENT:** Karolinska Institutet (Stockholm), M.P.H.–Epidemiology program
- June 2020 to Sept. 2020

Zach DiNardo '22 (Synthesis and computational analysis of metal–element multiple bonds)

- **CURRENT:** Test Engineer I, HTS and Assay Development, Ginkgo Bioworks
- June 2020 to June 2022 (Publication #46)
- Jointly advised with Prof. Dani Kohen

Irene Stoutland '21 (Computational analysis of metal–element multiple bonds)

- **CURRENT:** University of Wisconsin, Chemical Biology PhD Program (Blackwell Group)
- June 2020 to June 2021
- Jointly advised with Prof. Dani Kohen
- NSF Graduate Fellowship (Awarded 2022)

Joseph Luther '20 (Synthesis and reactivity of ruthenium silyl and silylene complexes)

- **CURRENT:** Research Associate, Altasciences
- Sept. 2017 to June 2020

Anna Conley '20 (Reactivity of pincer-type Rh and Ir silylenes)

- **CURRENT:** University of Illinois, Chemistry PhD Program (van der Donk Group)
- Mar. 2018 to June 2020 (Publication #43; Presentation #21)
- Jointly advised with Prof. Dani Kohen
- Poster Selected for Sci-Mix at ACS National Meeting (Spring 2019)
- ACS Division of Inorganic Chemistry Travel Award (Spring 2019)

Luke Westawker '20 (Nitrogen-group-transfer reactions from late metal silylamides)

- **CURRENT:** University of Illinois, Chemistry PhD Program (Mirica Group)
- NSF Graduate Fellowship (Awarded 2023)
- National Renewable Energy Laboratory, Research Intern (2020–2021)
- Mar. 2018 to June 2020

Claire Shugart '20 (Nitrogen-group-transfer reactions from late metal silylamides)

- **CURRENT:** Chemist at Boulder Scientific Company
- M.S. in Inorganic Chemistry (2022), Colorado State University
- Mar. 2018 to June 2020

Yuheng Miao '19 (Synthesis and reactivity of iridium silyl and silylene complexes)

- **CURRENT:** Northeastern University, MS in Computer Science Program
- MS in Materials Science and Engineering (2021), University of Minnesota
- Sept. 2017 to Dec. 2017

Ben Byun '18 (Synthesis and reactivity of iridium silyl and silylene complexes)

- **CURRENT:** University of Minnesota, MD Program
- Sept. 2017 to Dec. 2017

Madeline Chosy '18 (Synthesis and reactivity of rhodium silyl and silylene complexes)

- PhD in Chemistry (2023), Stanford University (Cegelski Group)
- Sept. 2017 to Dec. 2017

Isaac Martinez '18 (Synthesis and reactivity of cobalt silyl and silylene complexes)

- **CURRENT:** UAB – Institute for Cancer Outcomes and Survivorship, Clinical Research Coordinator
- Sept. 2017 to June 2018

Will DeSnoo '19 (Computational analysis of ruthenium silylenes)

- **CURRENT:** UC-Davis, Chemistry PhD Program (Tantillo Group)
- Mar. 2017 to June 2019 (Presentation #20)
- Jointly advised with Prof. Dani Kohen

Jason Ma '18 (Synthesis and reactivity of ruthenium silyl and silylene complexes)

- **CURRENT:** Process Chemist, Bristol Myers Squibb
- PhD in Chemistry (2023), UC-Berkeley (Hartwig Group)
- Sept. 2016 to June 2018 (Publications #36 & 43, Presentation #17)

Paul Peterson '18 (Synthesis and reactivity of cobalt silylamides)

- **CURRENT:** Postdoctoral Researcher, Yale University (Miller Group)
- PhD in Chemistry (2023), Princeton University (Chirik Group)
- Mar. 2016 to June 2018 (Presentation #19, Publication #40)

Jim Zhang '18 (Synthesis and reactivity of ruthenium and cobalt silylene complexes)

- **CURRENT:** Scientist, PPG Industries
- PhD in Chemistry (2024), Stanford University (Waymouth Group)
- Mar. 2016 to May 2019 (Publications #36, 38, 40, 43, and 46; Presentations #17 & 18)

Aaron Reynolds '17 (Hydrogenation by silyl pincer rhodium complexes)

- Former: University of Minnesota, Chemistry PhD Program (Douglas Group)
- Sept. 2016 to June 2017

Sarah Wang '17 (Redox and group transfer chemistry of nickel silylamides)

- **CURRENT:** Associate, RMI
- PhD in Chemistry (2023), UC-Irvine (Yang Group)
- Mar. 2016 to June 2017

Kate DeMeulenaere '17 (Hydrogenation and hydrofunctionalization by [$P_2$Si]Rh)

- **CURRENT:** Northwestern University, Driskill Life Sciences PhD Program
- Mar. 2016 to June 2017 (Publication #39)

Mike Trenerry '17 (Computational analysis of rhodium-catalyzed hydrogenation)

- **CURRENT:** Postdoctoral Researcher, University of Minnesota (Bailey Group)
- PhD in Chemistry (2022), University of Wisconsin (Berry Group)
- Jointly advised with Prof. Buck Taylor
- Mar. 2016 to June 2017 (Publications #39 & 40, Presentation #16)

Margaret Schaff '16 (Redox and group-transfer chemistry of nickel silylamides)

- **CURRENT:** Ski School Supervisor, SnowSports School
- Mar. 2015 to June 2016 (Presentation #14)
- Poster Selected for Sci-Mix at ACS National Meeting (Spring 2016)

Kathryn Peneyra '17 (Organic dyes for ion sensing and sensitization)

- MA in Conservation, UCLA
- Jan. 2015 to June 2015

Teddy Donnell '17 (Reactivity of group 9 silyl and silylene pincer complexes)

- **CURRENT:** Chemistry Professor, Pasadena City College
- MS in Inorganic Chemistry (2019), Caltech
- Jan. 2015 to June 2017 (Publications #34 & 40; Presentation #12)

Lisa Qiu '16 (Nitrene-group transfer from late-metal silylamides)

- **CURRENT:** Research Fellow, Cincinnati Children's Hospital
- Doctor of Osteopathic Medicine, Western University of Health Sciences
- Mar. 2014 to June 2016 (Publication #33; Presentation #13)

Binh Nguyen '16 (Synthesis and reactivity of Group 8 silyl and silylene complexes)

- **CURRENT:** CTO, EnCapital Financial Technology / DNSE Securities
- Mar. 2014 to Nov. 2015 (Publication #36; Presentation #9)

Christian Olivares '15 (Synthesis and reactivity of Group 10 silyl and silylene complexes)

- **CURRENT:** Banner Engineering (Plymouth, MN)
- MS in Mechanical Engineering (2017), University of Minnesota
- Mar. 2013 to June 2015 (Presentations #5, 8, 10)
- Carleton College Summer Science Fellow

Zander Deetz '15 (Synthesis and reactivity of Group 9 silyl and silylene complexes)

- **CURRENT:** Chemist, Procter & Gamble
- PhD in Chemistry (2023), UNC Chapel Hill (G. Meyer Group)
- Mar. 2013 to June 2015 (Publications #31, 34; Presentations #5, 7, 11)
- Dreyfus Undergraduate Summer Researcher (Summer 2014)
- Honors in Independent Research (Chemistry 394, Spring 2014)
- Poster Selected for Sci-Mix at ACS National Meeting (Spring 2014)
- ACS Division of Inorganic Chemistry Travel Award (Spring 2014)

Eliza Green '15 (Computational analysis of rhodium silylenes and silylamides)

- **CURRENT:** Senior Associate, WilmerHale
- JD (2020), Harvard Law School
- Jointly advised with Prof. Dani Kohen (Summer 2014)
- Mar. 2013 to Dec. 2014

Alex Kosanovich '14 (Synthesis and reactivity of diphosphine-supported rhodium silylamides)

- **CURRENT:** Research Scientist, Dow Chemical, polyurethanes division (Lake Jackson, TX)
- PhD in Chemistry (2019), Texas A&M University (Ozerov Group)
- Apr. 2012 to May 2014 (Publications #28, 33; Presentations #6, 8)
- Best Chemistry Poster Award from MN Academy of Sciences (2013)
- Excellence in Undergraduate Chemistry Research Award from ACS (2013)
- Dean's Excellence Fellowship for Graduate Studies (Awarded 2014)
- LSAMP BTD Fellowship (Awarded 2014)

Christian Padilla '13 (Synthesis and reactivity of polydentate silylamide complexes)

- **CURRENT:** Software Engineer, Google
- Nov. 2011 to May 2013 (Publication #23; Presentation #1)
- Kolenkow-Reitz Fellowship (Winter Break 2011)
- ACS Division of Inorganic Chemistry Travel Award (Spring 2013)
- NSF Graduate Fellowship (Awarded 2013)

Joe Boerma '13 (Synthesis and reactivity of Group 9 silyl and silylene complexes)

- **CURRENT:** Scientist at University of Texas San Antonio
- Nov. 2011 to May 2013 (Publications #23, 31; Presentations #3, 5)
- Kolenkow-Reitz Fellowship (Winter Break 2011)
- Poster Selected for Sci-Mix at ACS National Meeting (Spring 2013)

Dan DeRosha '13 (Synthesis and reactivity of nickel silyl and silylene complexes)

- **CURRENT:** Consultant, McKinsey & Co.
- Postdoctoral Fellow (2019–2021), Columbia University (Owen Group)
- PhD in Chemistry (2019), Yale University (Holland Group)
- Apr. 2012 to May 2013 (Publication #31; Presentations #2, 5)