LeGrande M. Slaughter

Curriculum Vitae

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University of North Texas
Denton, TX 76203-5070

I. BACKGROUND

Education

B.A., Summa Cum Laude, Drew University, Madison, NJ 1994
Major: Chemistry. Minors: Physics, German

Ph.D., Inorganic Chemistry, Cornell University, 2000
Doctoral Advisor: Professor Peter T. Wolczanski

Postdoctoral, Department of Chemistry, Stanford University, 2000-2002
Research Advisor: Professor James P. Collman

Visiting Scientist, Technische Universität München, Germany
Summer 2002

Professional Appointments

Assistant Professor of Chemistry, Oklahoma State University, 8/2002 – 6/2008
Associate Professor of Chemistry, Oklahoma State University, 7/2008 – 8/2013
Associate Professor of Chemistry, University of North Texas, 8/2013 – present
Professor of Chemistry, University of North Texas, 9/2016 – present
Acting/Interim Chair of Chemistry, University of North Texas, 7/2018 – 8/2019
Chemistry Department Chair, University of North Texas, 9/1/2018 – present

Research Interests

Transition metal organometallic chemistry
Ligand design for transition metal homogeneous catalysts
Structure-activity and structure-selectivity correlations in catalysis
Applications of homogeneous catalysis in organic synthesis

Awards and Honors

Sigma Xi Young Investigator Award, OSU Chapter, 2007
National Science Foundation CAREER Award, 2007
Barry M. Goldwater Scholarship, 1992-1994
Phi Beta Kappa National Honor Society, 1993

Professional Affiliations

American Chemical Society (Divisions: Inorganic, Organic, Catalysis)
American Association for the Advancement of Science
Sigma Xi
Alpha Chi Sigma
Phi Beta Kappa

II. RESEARCH

Peer-Reviewed Publications. ***Independent career (corresponding author*)***

34. Kong, F., Ruch, A.A., Ellison, M.C., Nesterov, V. N., **Slaughter, L. M.***, "C_3-Symmetric tris(binaphthyl) phosphite ligands: Correlation of structural properties with performance in enantioselective palladium and gold catalysis." *Polyhedron,* in press. ***Invited paper for a special issue in honor of Prof. Pete Wolczanski's 70th birthday***.

33. Ruch, A. A.; Ellison, M. C.; Nguyen, J. K.; Kong, F.; Handa, S.; Nesterov, V. N.; Slaughter, L. M.* "Highly Sterically Encumbered Gold Acyclic Diaminocarbene Complexes: Overriding Electronic Control in Regiodivergent Gold Catalysis." *Organometallics* **2021**, *40*, 1416-1433. http://dx.doi.org/10.1021/acs.organomet.0c00776

32. Majek, P.;* Krupcik, J.; Breitbach, Z. S.; Dissanayake, M. K.; Kroll, P.; Ruch, A. A.; **Slaughter, L. M.**;* Armstrong, D. W. "Determination of the Interconversion Energy Barrier of Three Novel Pentahelicene Derivative Enantiomers by Dynamic High Resolution Liquid Chromatography." *Journal of Chromatography B* **2017**, *1051*, 60-67.

31. Ruch, A. A.; Kong, F.; Nesterov, V. N.; **Slaughter, L. M.*** "Tetracyclic dihydronaphthalene derivatives via gold-catalyzed aminative homodimerization of ortho-alkynylbenzaldehydes." *Chemical Communications* **2016**, *52*, 14133-14136.

30. Ruch, A. A.; Handa, S.; Kong, F.; Nesterov, V. N.; Pahls, D. R.; Cundari, T. R.; **Slaughter, L. M.*** "Competing Amination and C-H Arylation Pathways in Pd/Xantphos-Catalyzed Transformations of Binaphthyl Triflates: Switchable Routes to Chiral Amines and Helicene Derivatives." *Organic & Biomolecular Chemistry* **2016**, *14*, 8123-8140. ***Designated a "Hot Article."***

29. Prema, D.; Mathota Arachchige, Y. L. N.; Murray, R. E.; **Slaughter, L. M.*** "'Decarbonization' of an imino-N-heterocyclic carbene ligand via triple benzyl migration from hafnium." *Chemical Communications* **2015**, *51*, 6753-6756. ***Highlighted in Chemical & Engineering News (April 6, 2015).***

28. Handa, S.; Subramanium, S. S.; Ruch, A. A.; Tanski, J. M.; **Slaughter, L. M.*** "Ligand- and Brønsted acid/base-switchable reaction pathways in gold(I)-catalyzed cycloisomerizations of allenoic acids." *Organic & Biomolecular Chemistry* **2015**, *13*, 3936-3949.

27. Slaughter, L. M.* "Catalysis with Acyclic Aminocarbene Ligands: Alternatives to NHCs with Distinct Steric and Electronic Properties," in *N-Heterocyclic Carbenes: Effective Tools for Organometallic Synthesis*; Wiley-VCH: New York, 2014. ***Invited book chapter.*** https://onlinelibrary.wiley.com/doi/10.1002/9783527671229.ch16

26. Nanayakkara, Y. S.; Woods, R. M., Breitbach, Z. S.; Handa, S.; **Slaughter, L. M.**; Armstrong, D. W.* "Enantiomeric separation of isochromene derivatives by high-performance liquid chromatography using cyclodextrin based stationary phases and principal component analysis of the separation data." *Journal of Chromatography A* **2013**, *1305*, 94-101.

25. Handa, S.; Mathota Arachchige, Y. L. N.; **Slaughter, L. M.*** "Access to 2'-substituted binaphthyl monoalcohols via complementary nickel-catalyzed Kumada coupling reactions under mild conditions: Key role of a P,O ligand." *Journal of Organic Chemistry* **2013**, *78*, 5694-5699.

24. Singh, P.; Raj, R.; Bhargava, G.;* Hendricks, D. T.; Handa, S.; **Slaughter, L. M.**; Kumar, V.* "β-Lactam synthon-interceded diastereoselective synthesis of functionalized octahydroindole-based molecular scaffolds and their *in vitro* cytotoxic evaluation." *European Journal of Medicinal Chemistry* **2012**, *58*, 513-518.

23. Owusu, M. O.; Handa, S.; **Slaughter, L. M.*** "Chugaev-type bis(acyclic diaminocarbenes) as a new ligand class for the palladium-catalyzed Mizoroki-Heck reaction." *Applied Organometallic Chemistry* **2012**, *26*, 712-717.

22. Sluch, I. M.; Miranda, A. J.; Elbjeirami, O.; Omary, M. A.; **Slaughter, L. M.*** "Interplay of metallophilic interactions, π-π stacking, and ligand substituent effects in the structures and luminescence properties of neutral Pt^{II} and Pd^{II} aryl isocyanide complexes." *Inorganic Chemistry* **2012**, *51*, 10728-10746.

21. **Slaughter, L. M.*** "Acyclic aminocarbenes in catalysis." *ACS Catalysis* **2012**, *2*, 1802-1816. ***Invited Perspective (critical review).***

20. Handa, S.; **Slaughter, L. M.*** "Enantioselective alkynylbenzaldehyde cyclizations catalyzed by chiral gold(I) acyclic diaminocarbene complexes that contain weak Au-arene interactions." *Angewandte Chemie International Edition* **2012**, *51*, 2912-2915. ***Designated a Very Important Paper (top 5%). Featured on journal back cover. Highlighted in Angewandte Chemie, Synfacts, and ChemCatChem.***

19. Subramanium, S. S.; Handa, S.; Miranda, A. J.; **Slaughter, L. M.*** "Simple silver salts and palladium bis(N-heterocyclic carbene) complexes as complementary catalysts for the Nazarov cyclization." *ACS Catalysis* **2011**, *1*, 1371-1374.

18. Raj, R.; Mehra, V.; Singh, P.; Kumar, V.; Bhargava, G.; Mahajan, M. P.*; Handa, S.; **Slaughter, L. M.** "β-Lactam-synthon-interceded, facile, one-pot, diastereoselective synthesis of functionalized tetra/octahydroisoquinolone derivatives." *European Journal of Organic Chemistry* **2011**, 2697-2704.

17. Subramanium, S. S.; **Slaughter, L. M.*** "Direct observation of a carbonylation reaction relevant to CO/alkene copolymerization in a methylpalladium carbonyl complex containing a bis(N-heterocyclic carbene) ligand." *Dalton Transactions* **2009**, 6930-6933. ***Invited contribution for a special issue on NHC ligands. Designated a "Hot Article".***

16. Wanniarachchi, Y. A.; Subramanium, S. S.; **Slaughter, L. M.*** "Palladium complexes of bis(acyclic diaminocarbene) ligands with chiral *N*-substituents and 8-membered chelate rings." *Journal of Organometallic Chemistry* **2009**, *694*, 3297-3305.

15. Bunce, R. A.*, Nammalwar, B.; **Slaughter, L. M.** "Divergent reactivity in tandem reduction-Michael ring closures of five- and six-membered cyclic enones" *Journal of Heterocyclic Chemistry* **2009**, *46*, 854-860.

14. Sluch, I. M.; Miranda, A. J.; **Slaughter, L. M.*** "Channeled polymorphs of *cis*-$M(CNPh)_2Cl_2$ (M = Pt, Pd) with extended metallophilic interactions." *Crystal Growth & Design* **2009**, *9*, 1267-1270.

13. **Slaughter, L. M.*** "'Covalent self-assembly' of acyclic diaminocarbene ligands at metal centers." *Comments on Inorganic Chemistry* **2008**, *29*, 46-72. ***Invited review article.***

12. Wanniarachchi, Y. A.; **Slaughter, L. M.*** "Reversible chelate ring opening of a sterically crowded palladium bis(acyclic diaminocarbene) complex." *Organometallics* **2008**, *27*, 1055-1062.

11. Wanniarachchi, Y. A.; Kogiso, Y.; **Slaughter, L. M.*** "Chiral palladium bis(acyclic diaminocarbene) complexes as enantioselective catalysts for the aza-Claisen rearrangement." *Organometallics* **2008**, *27*, 21-24.

10. Bunce, R. A.*, Nago, T.; Sonobe, N.; **Slaughter, L. M.** "Benzo-fused heterocycles and carbocycles by intramolecular S_NAr and tandem S_N2- S_NAr reactions." *Journal of Heterocyclic Chemistry* **2008**, *45*, 551-557.

9. Al-Far, A. M.; **Slaughter, L. M.*** "*cis*-*cis*-*trans*-Bis(acetonitrile-κ*N*)-dichloridobis(triphenylphosphine-κ*P*)-ruthenium(II) acetonitrile disolvate." *Acta Crystallographica, Section E: Structure Reports Online* **2008**, E64, m184.

8. Sluch, I. M.; **Slaughter, L. M.*** "*trans*-Diaquadichloridobis(*N*,*N*-dimethylformamide-κ*O*)manganese(II)." *Acta Crystallographica, Section E: Structure Reports Online* **2007**, E63, m3095.

7. Bunce, R. A.*, Schammerhorn, J. E.; **Slaughter, L. M.** "(±)-2,3-Dialkyl-1,2,3,4-tetrahydroquinoline-3-carboxylic esters by a tandem reduction-reductive amination reaction." *Journal of Heterocyclic Chemistry* **2007**, *44*, 1051-1057.

6. Wanniarachchi, Y. A.; **Slaughter, L. M.*** "One-step assembly of a chiral palladium bis(acyclic diaminocarbene) complex and its unexpected oxidation to a bis(amidine) complex." *Chemical Communications* **2007**, 3294-3296.

5. Bunce, R. A.*, Schammerhorn, J. E.; **Slaughter, L. M.** "Catalyst and pressure dependent reductive cyclizations for the diastereoselective synthesis of hexahydropyrrolo-[1,2-*a*]quinoline-5-carboxylic esters." *Journal of Heterocyclic Chemistry* **2006**, *43*, 1505-1511.

4. Moncada, A. I.; Manne, S.; Tanski, J. M.; **Slaughter, L. M.*** "Modular chelated palladium diaminocarbene complexes: Synthesis, characterization, and optimization of catalytic Suzuki-Miyaura cross-coupling activity by ligand modification." *Organometallics* **2006**, *25*, 491-505.

3. Moncada, A. I.; Tanski, J. M.; **Slaughter, L. M.*** "Sterically controlled formation of monodentate versus chelating carbene ligands from phenylhydrazine." *Journal of Organometallic Chemistry* **2005**, *690*, 6247-6251. ***Invited paper for a special issue on metal carbene chemistry.***

2. Moncada, A. I.; Khan, M. A.; **Slaughter, L. M.*** "A palladium Chugaev carbene complex as a modular, air-stable catalyst for Suzuki-Miyaura cross-coupling reactions." *Tetrahedron Letters* **2005**, *46*, 1399-1403.

1. Wanniarachchi, Y. A.; Khan, M. A.; **Slaughter, L. M.*** "An unusually static, sterically hindered silver bis(N-heterocyclic carbene) complex and its use in transmetalation." *Organometallics* **2004**, *23*, 5881-5884.

Graduate and postdoctoral career (corresponding author*)

6. **Slaughter, L. M.**; Collman, J. P.*; Eberspacher, T. A.; Brauman, J. I. "Radical autoxidation and autogenous O_2 evolution in manganese-porphyrin catalyzed alkane oxidations with chlorite." *Inorganic Chemistry* **2004**, *43*, 5198-5204. ***Featured on the cover of the August 23, 2004 issue of Inorganic Chemistry.***

5. Veige, A. S.; **Slaughter, L. M.**; Lobkovsky, E. B.; Wolczanski, P. T.*; Matsunaga, N.; Decker, S. A.; Cundari, T. R. "Symmetry and geometry considerations of atom transfer: Deoxygenation of $(silox)_3WNO$ and R_3PO (R=Me, Ph, ^{t}Bu) by $(silox)_3M$ (M=V, NbL (L=PMe_3, 4-Picoline), Ta; silox=^{t}Bu_3SiO)." *Inorganic Chemistry* **2003**, *42*, 6204-6224.

4. Collman, J. P.*; **Slaughter, L. M.**; Eberspacher, T. A.; Strassner, T.; Brauman, J. I. "Mechanism of dihydrogen cleavage by high-valent metal oxo compounds: Experimental and computational studies." *Inorganic Chemistry* **2001**, *40*, 6272-6280.

3. Veige, A. S.; **Slaughter, L. M.**; Wolczanski, P. T.*; Matsunaga, N.; Decker, S. A.; Cundari, T. R. "Deoxygenations of $(silox)_3WNO$ and R_3PO by $(silox)_3M$ (M = V, Ta) and $(silox)_3NbL$ (silox = $^tBu_3SiO$): Consequences of electronic effects." *Journal of the American Chemical Society* **2001**, *123*, 6419-6420.

2. **Slaughter, L. M.**; Wolczanski, P. T.*; Klinckman, T. R.; Cundari, T. R. "Inter- and intramolecular experimental and calculated equilibrium isotope effects for $(silox)_2(^tBu_3SiND)TiR$ + RH (silox = $^tBu_3SiO$): Inferred kinetic isotope effects for RH/D addition to transient $(silox)_2Ti{=}NSi^tBu_3$." *Journal of the American Chemical Society* **2000**, *122*, 7953-7975.

1. **Slaughter, L. M.**; Wolczanski, P. T.* "Ti(μ: η^1, η^1-$OCMe_2CH_2PPh_2)_3Rh$ has a cylindrically symmetric triple bond." *Chemical Communications* **1997**, 2109-2110.

Citation Metrics (Google Scholar; as of January 2024)

Total Citations:	1953
h-index:	25
i10-index (Google)	35

Patent

1. Murray, R.A.; Slaughter, L. M.; Prema, D.; Chen, J. (Assignee: Chevron Phillips) "Imino carbene compounds and derivatives, and catalyst compositions made therefrom." U.S. Patent 8,907,031, **2014**.

Volume Editor for Book Series

1. *Topics in Current Chemistry Vol. 357: Homogeneous Gold Catalysis;* Slaughter, L. M., Ed.; Springer: Heidelberg, **2015**.

Invited Workshop Participant

NSF CHE.DMS Innovation Lab: Learning the Power of Data in Chemistry. December 17-21, 2018.
Five day intensive workshop to develop innovative new ideas for collaborative projects involving teams of chemists and data scientists. Led to a NSF HDR-I-DIRSE Frameworks proposal being submitting with 9 other investigators (proposal was funded by NSF at $1.6 M, but LMS was moved to an advisory role due to reduction of budget)

Conference Presentations, Oral, Invited (presenting author, principal author*)

1. ***7th Annual F. Gordon A. Stone Symposium on Organometallic Chemistry, Baylor University, Waco, TX, May 23-24, 2018.*** "Exploiting the Unique Features of Acyclic Diaminocarbene Ligands in Regioselective Gold Catalysis." Slaughter, L. M.*

2. ***Bonding Analysis Workshop 2015, Marburg, Germany, May 2015.*** "Synergy of experiment and computation in ligand design for catalysis: The example of carbene ligands." Slaughter, L. M.* *International workshop, with LMS acting as coordinator/co-organizer for 11 UNT participants*

3. ***249th American Chemical Society National Meeting, Denver, CO, March 2015.*** "Micromanaging metal catalysts with structurally tunable acyclic carbene ligands." Slaughter, L. M.* *Symposium on "New Catalysis via Ligand Design."*

4. ***Florida ACS Annual Meeting & Exposition (FAME 2014)*, *Innisbrook Resort, FL, May 2014.*** "Template synthesis of tunable acyclic carbene ligands for gold catalysis." Slaughter, L. M.*; Ruch, A. A.; Handa, S.; Murie-Harting, M. *Symposium on inorganic chemistry & catalysis.*

5. ***TexSyn-1: Green Chemistry, Catalysis and Organic Synthesis in the Lone Star State, Austin, TX, May 2013.*** "Prospecting for ligand control in late metal catalysis." Slaughter, L. M.*

6. ***American Chemical Society National Meeting, Anaheim, CA, March 2011.*** "Tunable Carbene Ligands from Metal Isocyanide Synthons." Slaughter, L. M.*; Subramanium, S. S.; Miranda, A. J.; Handa, S. H. *Symposium in honor of Pete Wolczanski's receipt of the ACS Award in Organometallic Chemistry.*

7. ***American Chemical Society Annual Pentasectional (Local) Meeting, Bartlesville, OK, March 2011.*** "Catalysis With Electronically and Sterically Tunable Metal Carbene Complexes." Slaughter, L. M.*, Subramanium, S. S.; Handa, S.; Miranda, A. J. *Symposium on catalysis*

8. ***Deutscher Akademischer Austausch Dienst/Alexander von Humboldt Foundation Alumni Meeting: "Building a Transatlantic Approach to Sustainability", New York, NY, October 2010.*** "Harnessing Catalysis for Sustainable Production of Chemicals from Biomass." Slaughter, L. M.*

9. ***NSF Inorganic Chemistry Workshop, Semiahmoo, WA, June 2006***
"Toward 'Metallo-Click' Chemistry." Wanniarachchi, Y. A., Slaughter, L. M.*

Conference Presentations, Oral, Contributed (presenting author, principal author*)

1. ***American Chemical Society Fall 2022 National Meeting, Chicago, IL, August 25, 2022.*** "Development of First-Row Transition Metal Catalysts for Decarboxylation of Aliphatic Organic Acids." Vargas Trujillo, D., Slaughter, L. M.*

2. ***52nd American Chemical Society DFW Section Meeting in Miniature, Denton, TX, April 27, 2019.*** "Gold(I) Acyclic Diaminocarbene Complexes as Metallodrugs for Cancer." Asuramana, R.; Chaudhary, P.; Ruch, A. A.; Slaughter, L. M.*

3. ***52nd American Chemical Society DFW Section Meeting in Miniature, Denton, TX, April 27, 2019.*** "Gold(I) Acyclic Diaminocarbene Complexes as Hydrogen Bond Donors." Tiemann, M.; Zhang, X.; Slaughter, L. M.*

4. ***52nd American Chemical Society DFW Section Meeting in Miniature, Denton, TX, April 27, 2019.*** "Computational Investigation of Ligand Interactions in a Gold Complex for Selective Hydroamination of Allenes." Vázquez-Cervantes, J. E.; Vázquez Montelongo, E. A.; Ellison, M. C.; Slaughter, L. M.*; Cisneros, G. A.*

5. ***255th American Chemical Society National Meeting, New Orleans, LA, March 22, 2018.*** "Through-Space Ligand Effects on Reaction Selectivity in Gold(Acyclic Diaminocarbene)-Catalyzed Organic Transformations." Ruch, A. A.; Nguyen, J., Ellison, M. C., Slaughter, L. M.*

6. ***American Chemical Society National Meeting, San Diego, CA, March 2016.*** "Ligand Substituent Effects on Enantio- and Regioselectivity in Carbophilic Catalysis with Metal-Acyclic Diaminocarbene Complexes" Ruch, A. A.; Zhang, X.; Kong, F.; Slaughter, L. M.*

7. ***American Chemical Society Southwest Regional Meeting, Fort Worth, TX, November 2014.*** "Internal heavy-atom-effect triggered phosphorescence of aryl-isonitrile gold(I) complexes." Ghimire, M.; Ruch, A. A.; Murie-Harting, M.; Slaughter, L. M.; Omary, M. A.*

8. ***American Chemical Society National Meeting, Dallas, March 2014.*** "Unusual ligand effects and unexpected C-H arylation side reactions in palladium-catalyzed amination reactions en route to new monodentate binaphthyl-based ligands." Slaughter, L. M.*; Handa, S.; Ruch, A. A.

9. ***American Chemical Society National Meeting, Dallas, March 2014.*** "Structurally diverse gold-acyclic diaminocarbene complexes as catalysts for organic transformations." Ruch, A. A.; Handa, S.; Slaughter, L. M.*

10. ***American Chemical Society National Meeting, Dallas, March 2014.*** "Correlation of ligand donicity with catalytic activity in a series of gold(I) carbene and phosphine complexes." Mathota Arachchige, Y. L. N.; Le, J.; Slaughter, L. M.*

11. ***American Chemical Society National Meeting, Indianapolis, September 2013.*** "Catalysis with bulky gold-acyclic diaminocarbene complexes: Subtle effects of ligand structure on regioselectivity." Ruch, A. A.; Handa, S.; Slaughter, L. M.*

12. ***American Chemical Society National Meeting, Indianapolis, September 2013.*** "Chiral gold-acyclic diaminocarbene complexes displaying metal-ligand secondary interactions." Slaughter, L. M.*; Handa, S.; Ruch, A. A.

13. ***American Chemical Society National Meeting, Indianapolis, September 2013.*** "Ligand- and additive-tunable reaction pathways in gold-catalyzed hydrocarboxylations of allenes." Slaughter, L. M.*; Handa, S.

14. ***American Chemical Society National Meeting, New Orleans, April 2013.*** "Competing palladium-catalyzed amination and C-H arylation reactions of binaphthyl triflates: Routes to chiral ligands and helicene derivatives." Handa, S.; Slaughter, L. M.*

15. ***Chirality 2012, Fort Worth, TX, June 2012.*** "New monodentate binaphthyl-based ligands for enantioselective catalysis." Slaughter, L. M.;* Handa, S.

16. ***American Chemical Society National Meeting, Anaheim, CA, March 2011.*** "Effects of ligand structure and donor ability on electrophilic catalytic reactions of palladium bis-carbene complexes." Subramanium, S. S.; Slaughter, L. M.*

17. ***American Chemical Society National Meeting, Anaheim, CA, March 2011.*** "Synthesis and catalytic studies of bulky chiral carbene-gold (I) complexes." Handa, S.; Slaughter, L. M.*

18. ***American Chemical Society Midwest Regional Meeting, Wichita, KS, October 2010.*** "Electronic Properties of Biscarbene Ligands: Synthetic, Structural, Spectroscopic and Catalytic Studies of (Biscarbene) Palladium(II) Complexes." Subramanium, S. S.; Slaughter, L. M.*

19. ***American Chemical Society Annual Pentasectional (Local) Meeting, Norman, OK, April 2010.*** "Effects of Ligand Structure and Donor Type on Catalytic Activities of Electrophilic (Chelate)Palladium(2+) Complexes." Subramanium, S. S.; Slaughter, L. M.*

20. ***American Chemical Society Annual Pentasectional (Local) Meeting, Norman, OK, April 2010.*** "Crystallographic Analysis of Organometallic Structures with Extended Metallophilic and Pi-Pi Interactions." Slaughter, L. M.*; Sluch, I. M.; Miranda, A. J.

21. ***American Chemical Society Annual Pentasectional (Local) Meeting, Norman, OK, April 2010.*** "Synthetic and Mechanistic Studies of Migratory Insertion of CO into Cationic Methylpalladium Complexes Containing bis N-Heterocyclic Carbene (bis-NHC) Ligands." Subramanium, S. S.; Slaughter, L. M.*

22. ***American Chemical Society National Meeting, Washington, DC, August 2009.*** "Effects of Bis(carbene) Ligand Structure on Activities of Electrophilic Palladium(II) Catalysts." Subramanium, S. S.; Slaughter, L. M.*

23. ***American Chemical Society National Meeting, New Orleans, LA, April 2008.*** "Channeled Metal Isocyanide Structures With Extended Metallophilic Interactions." Miranda, A. J.; Sluch, I. M.; Wanniarachchi, Y. A.; Slaughter, L. M.*

24. ***American Chemical Society National Meeting, New Orleans, LA, April 2008.*** "Facile synthesis of chiral bis(acyclic diaminocarbene) palladium(II) catalysts for asymmetric aza-Claisen rearrangements of allylic imidates." Wanniarachchi, Y. A.; Miranda, A. J.; Slaughter, L. M.*

25. ***American Chemical Society National Meeting, Boston, MA, August 2007.*** "One-Step Assembly of Chiral Acyclic Diaminocarbene Ligands For Electrophilic Catalysis." Wanniarachchi, Y. A.; Miranda, A. J.; Hajimirzaei, T.; Slaughter, L. M.*

26. ***American Chemical Society National Meeting, San Francisco, CA, September 2006.*** "Self-Assembly of Structurally Diverse Diaminocarbene Ligands at Metal Centers." Wanniarachchi, Y. A.; Kogiso, Y.; Slaughter, L. M.*

27. ***American Chemical Society Annual Pentasectional (Local) Meeting, Bartlesville, OK, April 2006.*** "Catalytic and Supramolecular Properties of Modular Metal Carbene Complexes." Wanniarachchi, Y. A.; Moncada, A. I.; Sluch, I.; Slaughter, L. M.*

28. ***American Chemical Society Annual Pentasectional (Local) Meeting, Stillwater, OK, April 2005.*** "Convenient Synthetic Routes to Chelating Carbene Complexes of Catalytic Metals**."** Slaughter, L. M.*; Wanniarachchi, Y. A.; Moncada, A. I.

29. ***American Chemical Society National Meeting, San Diego, CA, March 2005.*** "Late Metal Complexes of Chelating Carbene Ligands Prepared by Transmetalation or Metal-Templating." Slaughter, L. M.*; Moncada, A. I.; Wanniarachchi, Y. W.

30. ***American Chemical Society Midwest Regional Meeting, Manhattan, KS, October 2004.*** "Synthesis of New Chelating Dicarbene Ligands and Their Application in Suzuki-Miyaura Cross-Coupling Reactions." Moncada, A. I.; Slaughter, L. M.

31. ***American Chemical Society Annual Pentasectional (Local) Meeting, Tulsa, OK, October 2004.*** "Modular Chelating Dicarbene Ligands and Their Application in Cross-Coupling Catalysis." Slaughter, L. M.*; Moncada, A. I.; Owusu, M. O.; Kogiso, Y.

32. ***American Chemical Society Southwest Regional Meeting, Ft. Worth, TX, September 2004.*** "Modular Chelating Dicarbene Ligands and Their Application in Cross-Coupling Catalysis." Slaughter, L. M.*; Moncada, A. I.; Owusu, M. O.; Kogiso, Y.

33. ***American Chemical Society National Meeting, Philadelphia, PA, September 2004.*** "Chelating Fischer-Type Carbene Complexes of Palladium: Metal-Templated Synthesis and Application in Catalytic Cross-Coupling Reactions." Slaughter, L. M.*; Moncada, A. I.; Owusu, M. O.; Kogiso, Y.

34. ***American Chemical Society National Meeting, Washington, DC, August 2000.*** "Reaction of Metal Oxo Compounds With Dihydrogen: Mechanistic Implications for Hydrocarbon Oxidations." Collman, J. P.*; Slaughter, L. M.

35. ***American Chemical Society National Meeting, Boston, MA, August 1998.*** "Equilibrium Isotope Effect Studies on Hydrocarbon Elimination/CH-Activation in $(^tBu_3SiO)_2Ti(NHSi^tBu_3)R$." Slaughter, L. M.; Bennett, J. L.; Cundari, T. R.; Wolczanski, P. T.*

Conference Presentations, Poster, Contributed (presenting author, principal author*)

1. ***American Chemical Society Spring 2023 National Meeting, Indianapolis, IN, March 2023.*** "Copper complexes for homogeneous catalytic conversion of fatty acids into fuels." Salaiza, J. A.; Vargas Trujillo, D., Slaughter, L. M.*

2. ***260th American Chemical Society National Meeting & Exposition (Virtual), August 2020.*** "Gold(I) bis(acyclic diaminocarbene) complexes for hydrogen bond catalysis." Ibarra, A.; Slaughter, L. M.*, Tiemann, M.

3. ***Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 2019.*** "Engineering Structural Properties and Reactivity of Gold(I) Acyclic Diaminocarbene Complexes via Hydrogen Bonding." Tiemann, M. A.; Ellison, M. C.; Zhang, X.; Ibarra, A. E.; Slaughter, L. M.*

4. ***Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 2018.*** "Gold Catalysis With Extremely Bulky Acyclic Diaminocarbene Ligands: Overriding Electronic Effects on Selectivity." Ruch, A. A.; Nguyen, J. K.; Ellison, M. C.; Kong, F.; Slaughter, L. M.*

5. ***7th Annual F. Gordon A. Stone Symposium on Organometallic Chemistry, Baylor University, Waco, TX, May 23-24, 2018.*** "Effects of Ligand Distortion on π-Backbonding in Acyclic Diaminocarbene Ligands: A Computational Study." Ellison, M. C., Slaughter, L. M.*

6. ***7th Annual F. Gordon A. Stone Symposium on Organometallic Chemistry, Baylor University, Waco, TX, May 23-24, 2018.*** "Ligand Design of Acyclic Diaminocarbenes: Toward Controlling Electronic and Steric Effects in Gold Catalysis." Nguyen, J. K., Ruch, A. A.; Ellison, M. C., Kong, F.; Slaughter, L. M.*

7. ***American Chemical Society 73rd Southwest Regional Meeting, Lubbock, TX, October 30, 2017.*** "Catalysis With Bulky Acyclic Diaminocarbene-Gold(I) Complexes: Steric and Electronic Effects on Selectivity." Ellison, M. C., Ruch, A. A.; Slaughter, L. M.*

8. ***TexSyn-3: Celebrating Chemistry in Texas, Dallas, TX, May 2017.*** "Catalysis With Bulky Acyclic Diaminocarbene-Gold(I) Complexes: Steric and Electronic Effects on Selectivity." Ellison, M. C., Ruch, A. A.; Slaughter, L. M.*

9. ***TexSyn-3: Celebrating Chemistry in Texas, Dallas, TX, May 2017.*** "C_3-Symmetric Tris(binaphthyl)phosphite Ligands for Asymmetric Catalysis." Kong, F.; Ruch, A. A.; Ellison, M. C.; Slaughter, L. M.*

10. ***UT Austin Summer Symposium in Green Chemistry and Catalysis, Austin, TX, July 2015.*** "Development of Monodentate Chiral Acyclic Diaminocarbene Ligands for Enantioselective Gold Catalysis." Ruch, A. A.; Slaughter, L. M.*

11. ***UT Austin Summer Symposium in Green Chemistry and Catalysis, Austin, TX, July 2015.*** "Catalysis With Bulky Acyclic Diaminocarbene-Gold(I) Complexes: Steric and Electronic Effects on Selectivity." Ruch, A. A.; Slaughter, L. M.*

12. ***American Chemical Society Southwest Regional Meeting, Fort Worth, TX, November 2014.*** "New monodentate chiral acyclic diaminocarbene ligands for enantioselective gold catalysis." Ruch, A. A.; Handa, S.; Slaughter, L. M.*

13. ***American Chemical Society Southwest Regional Meeting, Fort Worth, TX, November 2014.*** "Synthesis and structural characterization of palladium complexes." Duong, P.; Ruch, A. A.; Slaughter, L. M.*

14. ***Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 2009.*** "Effects of Bis(Carbene) Chelate Geometry on Catalytic Activities of Electrophilic Palladium Complexes." Subramium, S. S; Slaughter, L. M.*

15. ***American Chemical Society Annual Pentasectional (Local) Meeting, Tulsa, OK, April 2009.*** "Electronic Properties of Chelate Ligands [N-Heterocyclic Carbenes (NHC), Acyclic Diaminocarbenes (ADC), and Diphosphines]: Synthetic, Structural, Spectroscopic and Catalytic Studies of (Ligand) Palladium (II) Complexes.**"** Subramanium, S. S.; Slaughter, L. M.*

16. ***American Chemical Society Annual Pentasectional (Local) Meeting, Tulsa, OK, April 2009.*** "Application of Palladium Bis(acyclic diaminocarbene) Complexes as Catalysts for the Nazarov Cyclization.**"** Anthea J. Miranda; Slaughter, L. M.*

17. ***American Chemical Society National Meeting, New Orleans, LA, April 2008.*** "X-ray diffraction studies: Chugaev palladium carbenes with electron-deficient aromatics. " Sluch, I. M.; Slaughter, L. M.*

18. ***Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 2007.*** "'Covalent Self-Assembly' of Chiral Palladium Bis(Acyclic Diaminocarbene) Complexes for Electrophilic Catalysis." Wanniarachchi, Y. A.; Miranda, A. J.; Al-Far, A. M.; Slaughter, L. M.*

19. ***American Chemical Society 51th Annual Pentasectional (Local) Meeting, Bartlesville, OK, April 1, 2006.*** "Efficient Methods for the Synthesis of Structurally Diverse Palladium Dicarbene Complexes**."** Wanniarachchi, Y. A.; Slaughter, L. M.* *Won a $100 prize for best poster presentation (4 prizes given).*

20. ***OSU Research Week Symposium, Stillwater, OK, February 22, 2006.*** "Interactions of Metal Carbene Complexes with Organic Molecules of Biological or Technological Importance." Hajimirzaei, T.; Wanniarachchi, Y.; Slaughter, L. M.

21. ***Oklahoma Research Day State Conference, Edmond OK, November 2005.*** "New Class of Metallodendrimers with Chelating Bipyridyl Ligands: Synthesis and Characterization." Manne, S.; Slaughter, L. M.*

22. ***Oklahoma EPSCoR Annual State Conference, Stillwater, OK, May 2005.*** "Synthesis and Characterization of Poly(propyleneimine) Palladium Metallodendrimers and Approaches to Dendrimer Clusters Linked with Metal Complexes." Manne, S.; Slaughter, L. M.*

23. ***American Chemical Society 60th Southwest Regional Meeting, Ft. Worth, TX, September 2004.*** "Approaches to Metal-Functionalized Dendrimers Containing Platinum(II) and Palladium (II) Carbene Complexes." Manne, S.; Slaughter, L. M.*

24. ***Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 2004.*** "Palladium-Templated Synthesis and Catalytic Application of Fischer-Type Chelating Carbene Ligands." Slaughter, L. M.*; Moncada, A. I.; Owusu, M. O.; Kogiso, Y.

25. ***Oklahoma EPSCoR Annual State Conference, Stillwater, OK, May 2004.*** "Synthesis of Silver-Dicarbene Complexes as Agents for Carbene Transfer to Catalytic Metals." Wanniarachchi, Y. A.; Slaughter, L. M.*

26. ***American Chemical Society 59th Southwest Regional Meeting, Oklahoma City, OK, October 2003.*** "New Chelating Carbene Ligands for Homogeneous Catalysis." Slaughter, L. M.*; Moncada, A. I.; Kogiso, Y.

Travel and Short-Term Research Awards

UNT Chemistry Supplemental Travel Award, 2014 & 2015
NSF-REU Undergraduate Mentors Travel Award, 2008
Invited participant, NSF Inorganic Workshop, 2006
Oklahoma NSF EPSCoR Summer Salary Award, 2005
OSU Arts & Sciences Travel Award, 2004, 2007 & 2011
OSU Arts & Sciences Summer Salary Award, 2003
Deutscher Akademischer Austausch Dienst Grant for Research in Germany, 2002

Invited Seminars: Primarily Undergraduate Universities

Drew University, Alumni Lecture, October 27, 2016
Midwestern State University, March 18, 2016
Texas Lutheran University, December 4, 2015
Texas A&M University-Commerce, April 17, 2009
Southeastern Oklahoma State University, Durant, OK, April 16, 2009
East Central University, Ada, OK, November 30, 2007
University of Central Oklahoma, Edmond, OK, April 7, 2006
Midwestern State University, Wichita Falls, TX, February 25, 2005.
Cameron University, Lawton, OK, February 23, 2005.

Invited Seminars: Research Universities

Texas State University, San Marcos, TX, April 2017
Texas Woman's University, Denton, TX, October 2015
Texas Tech University, Lubbock, TX, October 2014
Wichita State University, Wichita, KS, April 2012
University of North Texas, Denton, TX, March 2012
University of Alabama, Tuscaloosa, AL, March 2011
Texas Christian University, Fort Worth, TX, September 2009
Kansas State University, Manhattan, KS, November 2007
University of Florida, Gainesville, FL, September 2007
Rice University, Houston, TX, September 2007
Texas A&M University, College Station, TX, September 2007
University of Kansas, Lawrence, KS, April 2007
University of North Texas, *Denton, TX,* April 2004.

External Grant Funding: Research

Intelligence Advanced Research Projects Agency (IARPA), subcontract via Leidos, Inc.

Project title:	Mesoscale Integrated Temporally-Triggered Heterostructures with Remote Indicating Luminescence (MITHRIL)
LMS Role:	co-PI (20% effort), with PI Mo. Omary and co-PI Jincheng Du (PI at Leidos: Deborah Hunka; PI at UCSD: Michael Sailor, with co-PIs S. Cohen and A. Tezcan) Acting PI from March – November 2019
Grant period:	August 20, 2018 – November, 2019
Award amount:	$304,717 (LMS effort: 20% for UNT subcontract; $60,943)

National Science Foundation (Chemical Catalysis Program, single PI, unsolicited)

Project title:	Harnessing Nonclassical Metal-Arene Interactions to Achieve Enantioselective Catalysis (CHE-1214066 and -1360610)
Grant period:	July 2012 – August 2017
Award amount:	$405,000 (of which $284,180 was awarded to UNT)

Oklahoma Center for the Advancement of Science & Technology, Health Research Program

Project title:	Novel Heterocycles Via Ligand-Tunable Gold Catalysis
Grant period:	August 2012 – July 2014
Award amount:	$90,000

ChevronPhillips Manager Sponsored Research Grant

Project title:	Novel Chelate Ligands for Olefin Polymerization Catalysis
Grant period:	March 2007 – December 2011 (including 4 yearly renewals)
Award amount:	$227,400

National Science Foundation CAREER Award

Project title:	CAREER: Self-Assembly of Electrophilic Late Metal Catalysts and Catalyzing Careers in Research (CHE-0645438)
Grant period:	March 2007 – July 2012
Award amount:	$560,000

Petroleum Research Fund Type G Grant

Project title:	Catalysis With Readily Modified Chelating Carbene Complexes
Grant period:	September 2003 – August 2005
Award amount:	$35,000

Oklahoma NSF EPSCoR NanoNet Seed Grant

Project title:	Nanostructured Metal-Carbene Catalysts
Grant period:	February 2004 – May 2005
Award amount:	$42,145

External Grant Funding: Equipment

National Science Foundation Major Research Instrumentation (MRI)

Project title:	MRI: Acquisition of a Microfocus X-Ray Diffractometer as a Regionwide Resource for Chemistry and Materials Research
LMS Role:	PI, with co-PIs D'Souza, Omary, Richmond, and Wang
Grant period:	August 2017 – July 2020
Award amount:	$262,689 (total $375,270 including 30% UNT cost share)

National Science Foundation Major Research Instrumentation (MRI)

Project title:	MRI: Acquisition of a Computer Cluster for the Computational Chemistry Program at the University of North Texas
PI:	Thomas R. Cundari (LMS role: Senior Investigator)
Grant period:	August1, 2015 – July 31, 2018
Award amount:	$400,000

External Grant Funding: Research Training and Education

National Science Foundation Research Experiences for Undergraduates (REU) - <u>active</u>

Project title:	REU Site: Team-Mentored Interdisciplinary Research Experiences in Chemistry for Early-Stage Undergraduates (CHE-1757946)
LMS Role:	PI, with co-PI Molly Atkinson
Grant period:	September 1, 2018 – August 31, 2024
Award amount:	$279,576

National Science Foundation Research Experiences for Undergraduates (REU)

Project title:	REU Site: Undergraduate Research Opportunities at the Interface of Computational and Experimental Chemistry at the University of North Texas (CHE-1461027)
LMS Role:	PI (from 2016); co-PI with PI Angela Wilson in 2015
Grant period:	May 2015 – April 2018
Award amount:	$243,742

National Science Foundation REU Supplement to Existing Award

PI:	LeGrande M. Slaughter (supplement to CHE-1214066)
REU student:	Maeghan Murie-Harting (OSU)
Grant period:	Summer 2013
Award amount:	$7,948

External Grant Funding: Travel and Conference Support

National Science Foundation Supplement for International Research Activities

PI:	LeGrande M. Slaughter (supplement to CHE-1360610)
Grant period:	July 2014 – June 2015
Award amount:	$7,548
Purpose:	Initiate collaboration and exchange of expertise with Prof. Gernot Frenking at Philipps Univ., Marburg, Germany. Expanded to a larger workshop using additional funds from DFG and UNT I-GRO.

Deutsche Forschungsgemeinschaft (DFG; German Research Foundation): Program for Initiation of International Research Collaboration

Project title:	Establishing Cooperation in Computational/Theoretical Chemistry Between Research Groups in Marburg (Frenking, Berger, Tonner) and the University of North Texas (Slaughter, Wilson, Cundari, Omary)
PI:	Gernot Frenking (Philipps University, Marburg)
LMS Role:	Cooperation partner
Award amount:	€7,770 (~$8,600).
Purpose:	Fund travel by UNT faculty to attend Bonding Analysis Workshop in Germany and initiate longer-term research collaborations

Internal Grant Funding: Research

UNT Office of Research & Innovation Collaborative Seed Grant

Project title:	Earth-Abundant Metal Catalysts for Conversion of Seed Oils to Drop-In Fuels
LMS Role:	PI, with collaborator Kent Chapman
Grant period:	January 2022 – January 2023
Award amount:	$10,000

UNT College of Science Collaborative Seed Grant

Project title:	Upgrading Plant-Based Biofuels via Metal-Catalyzed Decarboxylation
LMS Role:	PI, with collaborator Kent Chapman
Grant period:	April 2020 – December 2020
Award amount:	$10,000

UNT Advanced Materials & Manufacturing Processes Institute (AMMPI) Seed Grant

Project title:	Designer Porous Framework Materials for Catalysis
Grant period:	February 1, 2018 – August 31, 2018
LMS Role:	PI, with co-PIs Mohammad Omary and Sheldon Shi
Award amount:	$15,000 total ($5,000 to LMS)

OSU Environmental Institute Energy Research Grant

Project title: Efficient Catalysts for Bond Formation
Grant period: June 2003 – May 2004
Award amount: $9333

Internal Grant Funding: Equipment

OSU Core Facilities Support Award

Project title: Single Crystal X-Ray Diffraction Facility Support
P.I. Stacy D. Benson
LMS Role: co-PI
Grant period: January 2008 – December 2008
Award amount: $51,000

Internal Grant Funding: Travel and Conference Support

UNT Incentives for Global Research Opportunities (I-GRO), Global Discovery Program

Project title: Bonding Analysis Workshop in Marburg, Germany
Role: *Lead PI; co-PIs Angela Wilson, Tom Cundari, Mohammad Omary*
Grant period: January 2015 – September 2015
Award amount: $8,300 (to supplement NSF and DFG funds noted above)

Recent Collaborations (2008 – present)

Kent Chapman & Ana Alonso (UNT/BDI)	Catalysis for biofuels synthesis
Andrés Cisneros (U. of North TX & UTD)	Noncovalent interaction modeling
Véronique Michelet (ParisTech)	Synthetic applications of catalysis
Gernot Frenking (Philipps U. Marburg)	Computational bonding analysis
Mariusz Mitoraj (Jagiellonian Univ.)	Computational bonding analysis
Mohammad A. Omary (U. of North TX)	Metal-based luminescence
Thomas R. Cundari (U. of North TX)	Computational modeling
Daniel Armstrong (UT-Arlington)	Chiral separations
Vipan Kumar (Guru Nanak Dev U., India)	Reaction mechanisms, crystallography
Rex A. Murray (Chevron Phillips Co.)	Olefin polymerization catalysis
Joseph M. Tanski (Vassar College)	X-ray crystallography
Richard A. Bunce (Oklahoma State U.)	Synthetic applications of catalysis

III. TEACHING AND MENTORING

Graduate Courses Taught at UNT

Intro to Graduate Teaching & Research (CHEM 5010)	Taught 9 times
Inorganic Chemistry I (CHEM 5560; co-taught with 4610)	Taught 1 time
Organometallic Chemistry & Catalysis (CHEM 5620)	Taught 4 times
Seminar in Current Chemistry (CHEM 5940)	Taught 4 times

Undergraduate Courses Taught at UNT

General Chemistry for Science Majors (CHEM 1410)	Taught 2 times
Advanced Inorganic Chemistry (CHEM 4610)	Taught 1 time
Special Problems-Organometallic Chem. (CHEM 4900)	Co-taught w/5620
Chemistry Seminar (CHEM 4940)	Co-taught w/5940

Graduate Courses Taught at OSU

Advanced Inorganic Chemistry I (CHEM 5260)	Taught 4 times
Solid-State Chemistry (CHEM 5283)	Taught 1 time
Special Topics: Organometallic Chemistry (CHEM 6650)	Taught 4 times

Undergraduate Courses Taught at OSU

General Chemistry—Honors (CHEM 1314H)	Taught 1 time
General Chemistry II—Honors (CHEM 1515H)	Taught 1 time
General Chemistry for Engineers (CHEM 1414)	Taught 5 times
Descriptive Inorganic Chemistry (CHEM 3353)	Taught 7 times

Recent Postdoctoral Advisees

Sri S. Subramanium	10/18 – 8/2020 8/13 – 8/14	Now at Grand Canyon University
Jinhui Chen	10/09 – 6/10	
Dipesh Prema	8/07 – 7/09	Thompson Rivers Univ., BC, Canada

Recent Graduate Advisees (career total: 6 Ph.D. dissertations, 3 M.S. theses)

John Nguyen	Ph.D. 2023	Adjunct, UNT
Matthew Tiemann	Ph.D. 2023	Adjunct, Tarleton State University
Roshani Asuramana	Ph.D. 2023	Davis & Elkins College, WV
Matthew C. Ellison	Ph.D. 2019	Computational chemist, Maryland
Aaron Ruch	Ph.D. 2016	Trécé, Inc., Oklahoma
Yohan Mathota Arachchige	Ph.D. 2014	Lecturer, Univ. of Kelaniya, Sri Lanka
Sachin Handa	Ph.D. 2013	Associate Professor, Univ. of Missouri
Sri S. Subramanium	Ph.D. 2011	Lecturer, Univ. of Kelaniya, Sri Lanka
Anthea J. Miranda	Ph.D. 2009	Scientific publishing, India
Yoshitha A. Wanniarachchi	Ph.D. 2008	Postdoctoral scientist at MIT; Now at Pfizer Nebraska
Fanji Kong	M.S. 2017	Ph.D., then Postdoc, Univ.of Virginia
Xiaofan (Michelle) Zhang	M.S. 2016	Teacher, Xi′an China
Millicent O. Owusu	M.S. 2006	Corning, Inc., Corning NY
Adriana I. Moncada	M.S. 2005	Ph.D. Texas A&M, 2010; Now at Dow Chemical, Michigan
Sudhakar Manne	M.S. 2005	Takeda Global Research, Chicago

Current Graduate Advisees

Barret Nabona	Ph.D. student	11/17 – present
Daniela Vargas Trujill o	Ph.D. student	11/19 – present
Zack Brizendine	Ph.D. student	11/23 – present

Undergraduate and High School Research Students

Marvin Ochoa Cifuentes	REU student	Summer 2023
Jennifer Salaiza	REU student	Summer 2022
Angel Ibarra	REU student	Summer 2019
Karina Saucedo-Chavez	REU student	Summer 2018
Samantha Rudin-Rush	REU student	Summer 2016
YingYan Ho	TAMS student	10/15 – 5/16

Johnny Olivares	REU student	Summer 2015
Justin Leung	TAMS student	11/13 – 5/15
Jaime Coronado	REU student	Summer 2014
Maeghan Murie-Harting	REU Supplement Awardee	Summer 2013
James Le	Freshman Research Scholar, Niblack Research Scholar	1/10 – 8/11
Aaron Ruch	Undergraduate Research Assistant	6/10 – 8/11
Shanetha Collier	Honors Thesis; B.S. 2009	2/09 – 5/09
Chris G. Palmer	REU student, NSU-Tahlequah	5/09 – 8/09
Ilya Sluch	High School Summer Intern '05, Freshman Research Scholar, Honors Thesis; B.S. 2009	9/06 – 8/09
Amanda Miller	REU student, Outreach Assistant	5/08 – 8/08
Chase Winkel	RA and Outreach Assistant	5/07 – 12/07
Tahereh Hajimirzaei	Niblack Research Scholar	9/05 – 8/06
Yuri Kogiso	M.S. Ohio State, 2008	8/03 – 5/05
Lindy Dewlen	B.S. 2005	5/04 – 8/04
Michelle Ward	B.S. 2005, then OU Medical School	9/03 – 4/04
Deirdre Sidner	B.S. 2003	9/02 – 5/03

Awards Won By Student Advisees
Graduate Students

Daniela Vargas Trujillo	DAAD Short-Term Research Grant, 2023-2024 Robert W Brown Departmental Service Award, 2022 COS Doctoral Summer Stipend Awards, 2022 & 2023 1st Place in Session, UNT Graduate Research Day, 2021
Matthew Tiemann	2nd Place in Session, ACS Meeting in Miniature, 2019 Robert W. Brown Departmental Service Award, 2020
John Nguyen	1st Place in Session, UNT Graduate Research Day, 2018
Matthew Ellison	Robert Wade Brown Dept. Recognition Award, 2016
Aaron Ruch	1st Place in Session, UNT Graduate Research Day, 2014 Hodges Memorial Scholarship (UNT Chemistry), 2015 UNT Student of the Year, ACS DFW Section, 2016
Sachin Handa	OSU Distinguished Graduate Fellowship, 2012
Yohan Mathota Arachchige	Dermer Award for Outstanding Graduate Student, 2012
Sri Subramanium	OSU Graduate Research Excellence Award, 2012 Dermer Award for Outstanding Graduate Student, 2008
Yoshitha Wanniarachchi	Travel Award, ACS Div. of Inorganic Chem., 2008 Outstanding Poster, ACS Pentasectional Meeting, 2006 Dermer Award for Outstanding Graduate Student, 2004

Undergraduate Students

Michelle Ward	Wentz Research Project Scholarship, 2003 – 2004
Tahereh Hajimirzaei	Niblack Research Scholar, 2005 – 2006
Amanda Miller	Hach Scientific Foundation Chemistry Teachers Scholarship, 2008 – 2009
Ilya Sluch	Freshman Research Scholar (FRS), 2006 – 2007 Best Oral Presentation, FRS Symposium, 2007 Wentz Research Project Scholarship, 2007 – 2008

ACS Oklahoma Section Travel Award, 2008
NSF-REU Chemistry Leadership Travel Award, 2008
Barry M. Goldwater Scholarship, 2008
Outstanding Graduate, OSU College of A&S, 2009

IV. SERVICE AND OUTREACH

Departmental Special Assignments

UNT

Department Chair	September 2019 - present
Interim Chair	September 2018 – August 2019
Acting Chair	July 16, 2018 – August 31, 2018
Faculty Advisor Chemistry Graduate Student Organization	October 2022 - present

Chair, Graduate Affairs Committee August 2015 – July 2018
Duties included graduate admissions, graduate advising, coordination of teaching assistantships, and administration of graduate scholarships & awards

Director, Summer REU program May 2015 – present
Responsible for selection of participants, coordination of travel and housing arrangements, matching with research advisors, and overseeing training and social events during the 10-week summer research program. Also responsible for yearly reporting of outcomes to NSF and preparation of renewal proposals.

OSU

Graduate Coordinator/Admissions Chair 2009 – 2013
Duties included graduate admissions, recruiting, and coordination of teaching assistantships. Notable accomplishment: Oversaw an expansion of the graduate program from 46 graduate students to over 70 to accommodate an increase in the number of tenure-track faculty

Manager, OSU X-Ray Diffraction Facility 2010 – 2013
Coordinated and/or performed maintenance of unstaffed single crystal X-ray diffractometer; trained student researchers; collaborated with OSU and outside faculty on structure determinations

Departmental Committees

UNT

Welch Chair Search Committee	2018 - 2019
Graduate Recruiting Committee	2013 – 2015
Department Chair Search Committee	2015
Organic Faculty Search Committee	2015 – 2016

OSU

Faculty Search Committee	2002 – 2004, 2006 – 2007,
Promotion and Tenure Committee	2003 – 2004, 2008 – 2009, 2012 – 2013
Graduate Affairs Committee	2003 – 2005, 2010 – 2013
Safety Committee	2004 – 2008

Awards Committee	2005 – 2007
Curriculum Committee (ACS/CPT)	2008 – 2010
Department Chair Search Committee	2008 – 2009
Facilities/Space Committee	2010 – 2013

University/College Committees

Science & Technology Building Steering Committee, 2022 – present
SRB 2nd Floor Renovation Steering Committee, 2021 - 2023
COS Dean Search Committee, 2021-2022
UNT BioDiscovery Institute Advisory Board, 2021 - 2024
Chairs' Council, Representative for College of Science, 2019 - 2020
Vice Provost for Faculty Success Search Committee, 2019
Environmental Oversight & Risk Review Committee, 2018 - present
Graduate Council (elected committee of Faculty Senate), 2017 – 2018
Toulouse Scholar Award Selection Committee, 2017
UNT College of Science Transitional Task Force, 2017
Blavatnik Award Nomination Committee, 2016
OSU Graduate Faculty Membership Committee, 2009

Organizer, Departmental Literature Meeting

Initiator and faculty coordinator of weekly literature meeting on organometallic reactivity UNT, 2015-2021 (involved participants from four research groups)

Faculty Development Activities

UNT Leadership Fellow, 2018 – 2019. Participate in group activities and projects to support individual and organizational development. For 2018-2019, this group is focused on creating initiatives to improve student retention at UNT.

Participant, Allies & Advocates Program (funded by NSF ADVANCE through North Dakota State Univ.) 2016 – present. Network of male faculty actively working to promote hiring and promotion of women faculty members and to create a supportive environment for women scholars.

Session Chair at Professional Meetings

Organometallic Catalysis Oral Presentation Session, ACS National Meeting, Dallas (March 2014)

Organometallic Synthesis Oral Presentation Session, ACS National Meeting, Dallas (March 2014)

Organometallic Catalysis Oral Presentation Session, ACS National Meeting, Indianapolis (September 2013; fill-in for absent chair)

Organometallic Catalysis Oral Presentation Session, ACS National Meeting, Washington, DC (August 2009)

Organometallic Synthesis Oral Presentation Session, ACS National Meeting, Boston (August 2007)

Co-Organizer, Scientific Workshop

Bonding Analysis Workshop 2015

May 18 – 22, 2015, Marburg, Germany

Co-organized workshop to exchange research results and expertise in computational bonding analysis methods between theoretical and experimental groups from Germany, the U.S., and three other countries.

LMS role: Obtained funding from NSF and UNT I-GRO; co-planned program with German hosts; coordinated travel of 11 faculty, staff, and doctoral student participants from UNT; arranged software license for Amsterdam Density Functional package at UNT for use in bonding analysis studies

Service in Professional Organizations

Secretary, Sigmi Xi, OSU Chapter, 2009-2011
Founding Member, Phi Beta Kappa OSU Chapter, 2013

Peer Review, Journals (2008 to present)

ACS Catalysis
Acta Crystallographica
Advanced Synthesis & Catalysis
Angewandte Chemie
Applied Organometallic Chemistry
ChemCatChem
Chemical Communications
Chemical Reviews
Chemical Science
Chemistry-A European Journal
ChemSusChem
Coordination Chemistry Reviews
Dalton Transactions
European Journal of Inorganic Chemistry
Inorganic Chemistry
Journal of the American Chemical Society
Journal of Organometallic Chemistry
Organic Letters
Organometallics
Pure & Applied Chemistry
Tetrahedron Letters

Textbook Review

Shriver & Atkins *Inorganic Chemistry*, 5th Ed. 2008

Peer Review, Granting Agencies, Panel

NSF CHE Virtual Review Panel January 2015

Peer Review, Granting Agencies, Ad Hoc

Petroleum Research Fund	(7)
National Science Foundation	(12)
Louisiana State Board of Regents Support Fund	(1)

Educational Outreach

The Magic of Catalysts
Organized interactive labs/demonstrations to introduce high school, middle school, and elementary school students to research through hands-on experiments with polymerization catalysts; in partnership with UNT Office of Outreach
Tied to Broader Impacts of NSF CHE-1360610 (2012 – 2017)

Cyberspace Research Summit (CReS)

Outreach program to introduce rural high school students to the benefits of scientific research through Web-enabled videoconference interactions with industrial and academic scientists.

CReS guest scientists included academic researchers (Dan Nocera, MIT; Kris McNeill, UMinn) and industrial scientists from DuPont (Mark Scialdone), Dow (Jerzy Klosin), and ConocoPhillips (George Parks)

Supported by NSF CAREER award (2007-2012).

Invited speaker, Indian Youth Career Day, Univ. of Central Oklahoma, October 2011.
Discussed career pathways in science with American Indian students, grades 7-12.

Invited participant and speaker, Career Awareness Day, Cameron University
Student-organized event to introduce undergraduates to career opportunities in science.
February 2005, February 2007

Science Fair Judge, Will Rogers Elementary, Denton, TX (March 2014)
Science Fair Judge, Oklahoma EPSCoR Virtual Science Fair (April 2005)

Co-organizer, Chemistry Day, for TAMS STEM Summer Academy (Summer 2016, 2017, 2018). A new summer day camp program to introduce Middle School students to science, focusing on low-income students who are potential 1st-generation college students

Invited speaker, Career Day, Briarhill Middle School, Highland Village TX (October 2018, October 2019)

Invited speaker, UNT Osher Lifelong Learning Institute (OLLI), June 2019