

CURRICULUM VITAE
ZACHARY J. TONZETICH

Academic Appointments

- 2016 – Present** **The University of Texas at San Antonio**, San Antonio, TX
Associate Professor (*tenured*)
Department of Chemistry
- 2010 – 2016** **The University of Texas at San Antonio**, San Antonio, TX
Assistant Professor
Department of Chemistry

Education

- 2007 – 2010** **Massachusetts Institute of Technology**, Cambridge, MA
National Institutes of Health Postdoctoral Fellow.
Supervisor: Professor Stephen J. Lippard.
- 2002 – 2007** **Massachusetts Institute of Technology**, Cambridge, MA
Ph.D. in Inorganic Chemistry 2007.
Thesis advisor: Professor Richard R. Schrock.
Dissertation: "Early Transition Metal Alkyl, Alkylidene, and Alkylidyne Chemistry".
- 1998 – 2002** **University of Rochester**, Rochester, NY
B.S. *summa cum laude* in Chemistry 2002.
Undergraduate Research Supervisor: Professor Richard Eisenberg.

Awards and Honors

- 2016** UTSA College of Sciences Dean's Certificate for Excellence in Teaching
- 2015** UTSA College of Sciences Dean's Certificate for Excellence in Teaching
- 2013** UTSA College of Sciences Dean's Certificate for Excellence in Teaching and Research
- 2013** UTSA President's Distinguished Achievement Award for Research (tenure-track)
- 2012** UTSA Tenure-Track Research Award Competition recipient
- 2007** Alan Davison prize for best thesis in inorganic chemistry (MIT)
- 2005** Morse Travel Grant
- 2003** MIT Department of Chemistry Award for excellence in teaching by a graduate student
- 2002** John McCreary Memorial Prize for outstanding accomplishments as a senior chemistry major;
Carl Whiteman Teaching Award for distinguished achievement as a teaching assistant
- 2001** Merck Scholar Award for outstanding accomplishments as a junior chemistry major;
ACS Division of Inorganic Chemistry Travel Award
- 2000** Merck Index Award for Organic Chemistry

Fellowships

- 2007 – 2010** National Institutes of Health Postdoctoral Fellow
- 2005 – 2006** Alan Davison Fellow (MIT)
- 2002 – 2005** National Science Foundation Predoctoral Fellow

Research Interests

Synthetic inorganic and organometallic chemistry with an emphasis on structure, bonding and reactivity especially as it applies to catalysis and biology. More information can be found at www.utsa.edu/sciences/labs/ZacharyTonzetich.

Peer-Reviewed Publications

~Independent Career~

61. Thompson, C. V.; Narro, A. L.; Arman, H. D.; Tonzetich, Z. J.* Synthesis and Reactivity of Iron(II) Acetylide Complexes Relevant to Alkyne Dimerization. *Organometallics* **2022**, *41*, ASAP.
60. Narro, A. L.; Arman, H. D.; Tonzetich, Z. J.* Mechanistic Studies of Alkyne Hydroboration by a Well-Defined Iron Pincer Complex: Direct Comparison of Metal-Hydride and Metal-Boryl Reactivity. *Inorg. Chem.* **2022**, *61*, 10477-10485.
59. Thompson, C. V.; Arman, H. D.; Tonzetich, Z. J.* Investigation of Iron Silyl Complexes as Active Species in the Catalytic Hydrosilylation of Aldehydes and Ketones. *Organometallics* **2022**, *41*, 430-440.
58. Caulfield, K. P.; Tonzetich, Z. J.* Alkyl Complexes of Iron(IV) Triphenylcorrole. *Organometallics* **2022**, *41*, 155-160.
57. Alawisi, H. A.; Arman, H. D.; Tonzetich, Z. J.* Catalytic Hydrogen of Alkenes and Alkynes by a Cobalt Pincer Complex: Evidence of Roles for Both Co(I) and Co(II). *Organometallics* **2021**, *40*, 1062-1070. *Featured on the cover.*
56. Saber, M. R.; Przyojski, J. A.; Tonzetich, Z. J.; Dunbar, K. R. Slow Magnetic Relaxation in Cobalt N-Heterocyclic Carbene Complexes. *Dalton Trans.* **2020**, *49*, 11577-11582.
55. Pluth, M. D.; Tonzetich, Z. J. Hydrosulfide Complexes of the Transition Elements: Diverse Roles in Bioinorganic, Cluster, Coordination, and Organometallic Chemistry. *Chem. Soc. Rev.* **2020**, *49*, 4070-4134.
54. Madera, J.; Slattery, M.; Arman, H. D.; Tonzetich, Z. J. Suzuki-Miyaura Coupling Catalyzed by a Ni(II) PNP Pincer Complex: Scope and Mechanistic Insights. *Inorg. Chim. Acta* **2020**, *504*, 119457. *Special issue honoring the career of Tara P. Dasgupta.*
53. Hartley, R.; Henry, C.; Eakle, S.; and Tonzetich, Z. J. Investigation into Low-Temperature Urea-Water Solution Decomposition by Addition of Titanium-Based Isocyanic Acid Hydrolysis Catalyst and Surfactant. *SAE Technical Paper*, **2020**, 2020-01-1316.
52. Krzystek, J.; Schnegg, A.; Aliabadi, A.; Holldack, K.; Stoian, S. A.; Ozarowski, O.; Hicks, S. D.; Abu-Omar, M. M.; Thomas, K. E.; Ghosh, A.; Caulfield, K. P.; Tonzetich, Z. J.; Telsner, J. Advanced Paramagnetic Resonance Studies on Manganese and Iron Corroles with a Formal d^4 Electron Count. *Inorg. Chem.* **2020**, *59*, 1075-1090.
51. Caulfield, K. P.; Conradie, J.; Arman, H. D.; Ghosh, A.; Tonzetich, Z. J. Iron(II) Corrole Anions. *Inorg. Chem.* **2019**, *58*, 15225-15235.
50. Thompson, C. V.; Arman, H. D.; Tonzetich, Z. J. Square-planar Iron(II) Silyl Complexes: Synthesis, Characterization, and Insertion Reactivity. *Organometallics* **2019**, *38*, 2979-2989.
49. Yue, Y.; Arman, H.; Tonzetich, Z. J.; Chen, B. Air-Free Synthesis of a Ferrous Metal-Organic Framework Featuring HKUST-1 Structure and its Mössbauer Spectrum. *Z. Anorg. Allg. Chem.* **2019**, *645*, 797-800.
48. Narro, A. L.; Arman, H. D.; Tonzetich, Z. J. Manganese Chemistry of Anionic Pyrrole-Based Pincer Ligands. *Organometallics* **2019**, *38*, 1741-1749.
47. Hartley, R.; Henry, C.; Eakle, S.; and Tonzetich, Z. J. Deposit Reduction in SCR Aftertreatment Systems by Addition of Ti-Based Coordination Complex to UWS. *SAE Technical Paper* **2019**, 2019-01-0313.
46. Alawisi, H.; Al-Afyouni, K. F.; Arman, H. D.; Tonzetich, Z. J. Aldehyde Decarbonylation by a Cobalt(I) Pincer Complex. *Organometallics* **2018**, *37*, 4128-4135.
45. Krishnan, V. M.; Davis, I.; Baker, T. M.; Curran, D. J.; Arman, H. D.; Neidig, M. L.; Liu, A.; Tonzetich, Z. J. Backbone Dehydrogenation in Pyrrole-Based Pincer Ligands. *Inorg. Chem.* **2018**, *57*, 9544-9553.

44. Krishnan, V. M.; Arman, H. D.; Tonzetich, Z. J. Preparation and Reactivity of a Square-Planar PNP Cobalt(II)-Hydrido Complex: Isolation of the First {Co-NO}⁸-Hydride. *Dalton Trans.* **2018**, *47*, 1435-1441. *Featured on the inside front cover.*
43. Thompson, C. V.; Davis, I.; DeGayner, J. A.; Arman, H. D.; Tonzetich, Z. J. Iron Pincer Complexes Incorporating Bipyridine: A Strategy for Stabilization of Reactive Species. *Organometallics* **2017**, *36*, 4928-4935.
42. Thompson, C. V.; Arman, H. D.; Tonzetich, Z. J. A Pyrrole-Based Pincer Ligand Permits Access to Three Oxidation States of Iron in Organometallic Complexes. *Organometallics* **2017**, *36*, 1795-1802. CORRECTION – *IBID*, 2269.
41. Krishnan, V. M.; Arman, H. D.; Tonzetich, Z. J. Synthesis and Characterisation of Ruthenium-Nitrosyl Complexes in Oxygen-Rich Ligand Environments. *Dalton Trans.* **2017**, *46*, 1186-1193.
40. Meininger, D. M.; Arman, H. D.; Tonzetich, Z. J. Synthesis, Characterization, and Binding Affinity of Hydrosulfide Complexes of Synthetic Iron(II) Porphyrinates. *J. Inorg. Biochem.* **2017**, *167*, 142-149.
39. Bartley, G.; Tonzetich, Z. J.; Hartley, R. Ruthenium-Based Catalyst in EGR Leg of a D-EGR Engine Offers Combustion Improvements Through Selective NO_x Removal. SAE Technical Paper **2016**, 2016-01-0952.
38. Meninger, D. M.; Kasrawi, Z.; Arman, H. D.; Tonzetich, Z. J. Synthesis of Tetraphenylporphyrinate Manganese(III) Siloxides by Silyl Group Transfer from Silanethiols. *J. Coord. Chem.* **2016**, *69*, 1970. *Special issue on emerging investigators in coordination chemistry.*
37. Meininger, D. M.; Chee-Garza, M.; Arman, H. D.; Tonzetich, Z. J. Gallium(III) Tetraphenylporphyrinates Containing Hydrosulfide and Thiolate Ligands: Structural Models for Sulfur-Bound Iron(III) Hemes. *Inorg. Chem.* **2016**, *55*, 2421.
36. Hartle, M. D.; Meininger, D. M.; Zakharov, L. N.; Tonzetich, Z. J.; Pluth, M. D. NBu₄SH Provides a Convenient Source of HS⁻ Soluble in Organic Solution for H₂S and Anion-Binding Research. *Dalton Trans.* **2015**, *44*, 19782.
35. Al-Afyouni, M. H.; Krishnan, V. M.; Arman, H. D.; Tonzetich, Z. J. Synthesis and Reactivity of Manganese(II) Complexes Containing N-Heterocyclic Carbene Ligands. *Organometallics* **2015**, *34*, 5088.
34. Przyojski, J. A.; Kiewit, M. L.; Fillman, K. L.; Arman, H. D.; Tonzetich, Z. J. Homoleptic Transition Metal Complexes of the 7-Azaindolide Ligand Featuring κ¹-N1 Coordination. *Inorg. Chem.* **2015**, *54*, 9637.
33. Przyojski, J. A.; Veggeberg, K. P.; Arman, H. D.; Tonzetich, Z. J. Mechanistic Studies of Catalytic Carbon-Carbon Cross-Coupling by Well-Defined Iron NHC Complexes. *ACS Catal.* **2015**, *5*, 5938.
32. Hopmann, K. H.; Conradie, J.; Tangen, E.; Tonzetich, Z. J.; Lippard, S. J.; Ghosh, A. Singlet-Triplet Gaps of Cobalt Nitrosyls: Insights from Tropocoronand Complexes. *Inorg. Chem.* **2015**, *54*, 7362.
31. Meininger, D. J.; Muzquiz, N.; Arman, H. D.; Tonzetich, Z. J. Synthesis, Characterization, and Atropisomerism of Iron Complexes Containing the Tetrakis(2-chloro-6-fluorophenyl)porphyrinate Ligand. *Dalton Trans.* **2015**, *44*, 9486.
30. Fillman, K. L.; Przyojski, J. A.; Al-Afyouni, M. H.; Tonzetich, Z. J.; Neidig, M. L. A Combined Magnetic Circular Dichroism and Density Functional Theory Approach for the Elucidation of Electronic Structure and Bonding in Three- and Four-Coordinate Iron(II)-N-Heterocyclic Carbene Complexes. *Chem. Sci.* **2015**, *6*, 1178.
29. Shupp, J. P.; Kinne, A. S.; Arman, H. D.; Tonzetich, Z. J. Synthesis and Characterization of Molybdenum(0) and Tungsten(0) Complexes of Tetramethylthiourea: Single-Source Precursors for MoS₂ and WS₂. *Organometallics* **2014**, *33*, 5238.
28. Venkanna, G. T.; Arman, H. D.; Tonzetich, Z. J. Catalytic C-S Cross-Coupling Reactions Employing Ni Complexes of Pyrrole-Based Pincer Ligands. *ACS Catal.* **2014**, *4*, 2941.
27. Meininger, D. J.; Muzquiz, N.; Arman, H. D.; Tonzetich, Z. J. A Convenient Procedure for the Synthesis of Fluoro-iron(III) Complexes of Common Synthetic Porphyrinates. *J. Porphyrins Phthalocyanines* **2014**, *18*, 416.
26. Meininger, D. J.; Caranto, J. D.; Arman, H. D.; Tonzetich, Z. J. Studies of Iron(III) Porphyrinates Containing Silanthiolate Ligands. *Inorg. Chem.* **2013**, *52*, 12468.

25. Venkanna, G. T.; Tammineni, S.; Arman, H. D.; Tonzetich, Z. J. Synthesis, Characterization, and Catalytic Activity of Nickel(II) Alkyl Complexes Supported by Pyrrole–Diphosphine Ligands. *Organometallics* **2013**, *32*, 4656.
24. Przyojski, J. A.; Arman, H. D.; Tonzetich, Z. J. NHC Complexes of Co(II) Relevant to Catalytic C–C Coupling Reactions. *Organometallics* **2013**, *32*, 723. *Featured on the cover.*
23. Venkanna, G. T.; Ramos, T. V. M.; Arman, H. D.; Tonzetich, Z. J. Nickel(II) Complexes Containing a Pyrrole–Diphosphine Pincer Ligand. *Inorg. Chem.* **2012**, *51*, 12789.
22. Przyojski, J. A.; Arman, H. D.; Tonzetich, Z. J. Complexes of Iron(II) and Iron(III) Containing Aryl-Substituted *N*-Heterocyclic Carbene Ligands. *Organometallics* **2012**, *31*, 3264.

~Mentored Work~

21. Tonzetich, Z. J.; Heroguel, F.; Do, L. H.; Lippard, S. J. Chemistry of Nitrosyliron Complexes Supported by a β -Diketiminato Ligand. *Inorg. Chem.* **2011**, *50*, 1570.
20. Tinberg, C. E.; Tonzetich, Z. J.; Wang, H.; Do, L. H.; Yoda, Y.; Cramer, S. P.; Lippard, S. J. Characterization of Iron Dinitrosyl Species Formed in the Reaction of Nitric Oxide with a Biological Rieske Center. *J. Am. Chem. Soc.* **2010**, *132*, 18168.
19. Tonzetich, Z. J.; McQuade, L. E.; Lippard, S. J. Detecting and Understanding the Roles of Nitric Oxide in Biology. *Inorg. Chem.* **2010**, *49*, 6338.
18. Tonzetich, Z. J.; Wang, H. X.; Mitra, D.; Tinberg, C. E.; Do, L. H.; Jenney, F. E.; Adams, M. W. W.; Cramer, S. P.; Lippard, S. J. Identification of Protein-Bound Dinitrosyl Iron Complexes by Nuclear Resonance Vibrational Spectroscopy. *J. Am. Chem. Soc.* **2010**, *132*, 6914.
17. Tonzetich, Z. J.; Do, L. H.; Lippard, S. J. Dinitrosyl Iron Complexes Relevant to Rieske Cluster Nitrosylation. *J. Am. Chem. Soc.* **2009**, *131*, 7964.
16. Harrop, T. C.; Tonzetich, Z. J.; Reisner, E.; Lippard, S. J. Reactions of Synthetic [2Fe-2S] and [4Fe-4S] Clusters with Nitric Oxide and Nitrosothiols. *J. Am. Chem. Soc.* **2008**, *130*, 15602.
15. Schrock, R. R.; Tonzetich, Z. J.; Lichtscheidl, A. G.; Müller, P.; Schattenmann, F. J. Carboxylate-Based Molybdenum Alkylidene Catalysts: Synthesis, Characterization, and Use as Initiators for 1,6-Heptadiyne Cyclopolymerizations. *Organometallics* **2008**, *27*, 3986.
14. Blanc, F.; Rendón, N.; Berthoud, R.; Basset, J.-M.; Copéret, C.; Tonzetich, Z. J.; Schrock, R. R. Dramatic Enhancement of the Alkene Metathesis Activity of Mo Imido Alkylidene Complexes Upon Replacement of One *t*BuO by a Surface Siloxy Ligand. *Dalton Trans.* **2008**, 3156.
13. Tonzetich, Z. J.; Schrock, R. R.; Bailey, B. C.; Wampler, K. M.; Cummins, C. C.; Müller, P. A Tungsten(VI) Nitride Having a $W_2(\mu-N)_2$ Core. *Inorg. Chem.* **2008**, *47*, 1560.
12. Blanc, F.; Basset, J.-M.; Copéret, C.; Sinha, A.; Tonzetich, Z. J.; Schrock, R. R.; Solans-Monfort, X.; Clot, E.; Eisenstein, O.; Lesage, A.; Emsley, L. Dynamics of Silica-Supported Catalysts Determined by Combining Solid-State NMR Spectroscopy and DFT Calculations. *J. Am. Chem. Soc.* **2008**, *130*, 5886.
11. Tonzetich, Z. J.; Jiang, A. J.; Schrock, R. R.; Müller, P. Molybdenum Imido Alkylidene Complexes that Contain a β -Diketiminato Ligand. *Organometallics* **2007**, *26*, 3771.
10. Blanc, F.; Thivolle-Cazat, J.; Basset, J.-M.; Copéret, C.; Hock, A. S.; Tonzetich, Z. J.; Sinha, A.; Schrock, R. R. Highly Active, Stable, and Selective Well-Defined Silica Supported Mo Imido Olefin Metathesis Catalysts. *J. Am. Chem. Soc.* **2007**, *129*, 1044.
9. Tonzetich, Z. J.; Lam, Y. C.; Müller, P.; Schrock, R. R. Facile Synthesis of a Tungsten Alkylidyne Catalyst for Alkyne Metathesis. *Organometallics* **2007**, *26*, 475.
8. Czekelius, C. C.; Hafer, J.; Tonzetich, Z. J.; Schrock, R. R.; Christensen, R. L.; Müller, P. Synthesis of Oligoynes that Contain up to 15 Double Bonds from 1,6-Heptadiynes. *J. Am. Chem. Soc.* **2006**, *128*, 16664.
7. Tonzetich, Z. J.; Jiang, A. J.; Schrock, R. R.; Müller, P. Cationic Imido Alkylidene Complexes of Molybdenum Supported by β -Diketonate and β -Diketiminato Ligands. *Organometallics* **2006**, *25*, 4725.

6. Tonzetich, Z. J.; Schrock, R. R.; Müller, P. Reaction of Phosphoranes with Mo(N-2,6-*i*-Pr₂C₆H₃)(CHCMe₃)[OCMe(CF₃)₂]₂: Synthesis and Reactivity of an Anionic Imido Alkylidyne Complex. *Organometallics* **2006**, *25*, 4301.
5. Adamchuk, J.; Schrock, R. R.; Tonzetich, Z. J.; Müller, P. Initiators of the Type Mo(NAr)(CHR')(OR')₂ for the Controlled Polymerization of Diethyldipropargylmalonate. *Organometallics* **2006**, *25*, 2364.
4. Tonzetich, Z. J.; Schrock, R. R. "Potential Group IV Olefin Polymerization Catalysts that Contain a Diamido Ligand Substituted with Hexaisopropylterphenyl Groups. *Polyhedron* **2006**, *25*, 469.
3. Tonzetich, Z. J.; Schrock, R. R.; Hock, A. S.; Müller, P. Synthesis, Characterization, and Activation of Zirconium and Hafnium Dialkyl Complexes that Contain a C₂-Symmetric Diaminobinaphthyl Dipyridine Ligand. *Organometallics* **2005**, *24*, 3335.
2. Tonzetich, Z. J.; Lu, C. C.; Schrock, R. R.; Hock, A. S.; Bonitatebus, P. J., Jr. Synthesis, Characterization, and Polymerization Behavior of Zirconium and Hafnium Complexes that Contain Asymmetric Diamido-N-Donor Ligands. *Organometallics* **2004**, *23*, 4362.
1. Tonzetich, Z. J.; Eisenberg, R. Luminescent η⁵-Pentamethylcyclopentadienyl Tantalum(V) Complexes: Synthesis, Characterization, and Emission Spectroscopy. *Inorg. Chim. Acta* **2003**, *345*, 340.

Book Chapters

Tonzetich, Z. J. H₂S and Bioinorganic Metal Complexes. *Hydrogen Sulfide: Chemical Biology Basics, Detection Methods, Therapeutic Applications, and Case Studies*. Pluth, M. D. Ed. Wiley, 2022.

Tonzetich, Z. J. Biomimetic Metal Thiolates. *Comprehensive Coordination Chemistry III*. Constable E., Parkin, G. Que, L. Eds. Elsevier, 2021.

Thompson, C. V.; Tonzetich, Z. J. Pincer ligands incorporating pyrrolyl units: Versatile platforms for organometallic chemistry and catalysis. *Advances in Organometallic Chemistry* Perez, P. J. Ed. Elsevier, 2020, *74*, 153-240.

Tonzetich, Z. J. Nucleophilic Carbenes of the Chromium Triad. *Contemporary Carbene Chemistry* Doyle, M. and Moss, R. Eds. Wiley, 2013, pp. 452-490.

Other Creative Works

Tonzetich, Z. J. Fourier Transform IR Spectroscopy of Tetrahedral Borate Ions. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2019**.

Tonzetich, Z. J. Redox Chemistry and Modern Battery Technology. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2017**.

Tonzetich, Z. J. Exercises with Solid State Structure and Thermodynamics. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2015**.

Tonzetich, Z. J. Electronic Absorption Spectroscopy of Aquated Transition Metal Ions. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2014**.

Tonzetich, Z. J. Crystal Field Theory: Analysis of the Iron Sites in Gillespite. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2014**.

Tonzetich, Z. J. MO Theory for Organometallic Compounds: Pentalene. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2013**.

Tonzetich, Z. J. Molecular Structure - the Curious Case of Iron Tetracarbonyl. Published on Virtual Inorganic Pedagogical Electronic Resource, <https://www.ionicviper.org/> **2013**.

National/Regional Conference Presentations (as presenter)

Narro, A. L.; Arman, H. D.; Tonzetich, Z. J. "Synthesis and Reactivity of Iron-Boryl Complexes Relevant to Catalytic Hydroboration" Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 10-15, **2022**.

Tonzetich, Z. J. "Synthesis and Catalytic Applications of Earth-Abundant Transition Metal Complexes" CCI QuEST Winter Conference, Rochester, NY, January 6-7, **2022**.

Tonzetich, Z. J.; Thompson, C. V.; Krishnan, V. M.; Alawisi, H. "Synthesis and Catalytic Applications of Earth-Abundant Transition Metal Complexes Containing Pyrrole-Based Pincer Ligands" Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 8-13, **2018**.

Tonzetich, Z. J.; Thompson, C. V.; Alawisi, H.; Krishnan, V. M. "Iron and Cobalt Chemistry of Pyrrole-Based PNP Pincer Ligands" Abstracts of Papers, 73rd Southwest Regional Meeting of the ACS, Lubbock, TX, Oct 29-Nov 1, **2017**.

Tonzetich, Z. J.; Meininger, D. J. "Insights into the Chemistry of Hydrosulfide Ion with Heme Metal Centers Using Synthetic Metalloporphyrinates" Abstracts of Papers, 72nd Southwest Regional Meeting of the ACS, Galveston, TX, November 10-13, **2016**.

Tonzetich, Z. J.; Przyojski, J. A. "Mechanistic Studies of Cobalt-Catalyzed Kumada Couplings Employing N-Heterocyclic Carbene Complexes" Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 10-15, **2016**.

Tonzetich, Z. J.; Meininger, D. J.; Kasrawi, Z.; Arman, H. D.; Griffith, W. P. "Synthesis and Characterization of Tetraphenylporphyrinate Manganese(III) Siloxides by Silyl Group Transfer from Silanethiols" 64th ASMS Conference on Mass Spectrometry & Allied Topics, San Antonio, TX, June 5-9, **2016**.

Tonzetich, Z. J.; Krishnan, V. M. "Synthesis, Characterization, and Reactivity of Ruthenium Nitrosyl Complexes in Oxygen-Rich Ligand Environments" Abstracts of Papers, 250th ACS National Meeting & Exposition, Boston, MA, August 16-20, **2015**.

Tonzetich, Z. J.; Meininger, D. J. "Exploration of the Interactions of Reactive Sulfur and Nitrogen Species with Heme Iron Sites Using Synthetic Model Complexes" Abstracts of Papers, 248th ACS National Meeting & Exposition, San Francisco, CA, August 10-24, **2014**.

Tonzetich, Z. J.; Venkanna, G. T. "Nickel(II) Chemistry of New Pyrrole-Based PNP Ligands" Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 6-11, **2014**.

Tonzetich, Z. J.; Venkanna, G. T.; Ramos, T. V. M.; Tammineni, S. "Nickel Chemistry Pyrrole-Based PNP Ligands" Stone Symposium in Synthetic and Structural Inorganic Chemistry" Abstracts of Papers, 69th Southwest Regional Meeting of the ACS, Waco, TX, November 16-19, **2013**.

Tonzetich, Z. J.; Meininger, D. J. "Thiolate Chemistry with Synthetic Iron(III) Porphyrins: Insights into the Roles of H₂S in Biology" Symposium Honoring Prof. Judith Walmsley, Abstracts of Papers, 69th Southwest Regional Meeting of the ACS, Waco, TX, November 16-19, **2013**.

Tonzetich, Z. J. "Group VI Thiourea Complexes as Single-Source Precursors for Metal Sulfide Materials" UTSA College of Sciences Research Conference, San Antonio, TX, October 18, **2013**.

Tonzetich, Z. J.; Przyojski, J. A.; Krishnan, M. "Earth-Abundant Transition Metal Catalysts for C-C Cross Coupling Reactions" Gordon Research Conference on Organometallic Chemistry, Newport, RI, July 7-12, **2013**.

Tonzetich, Z. J.; Przyojski, J. A.; Krishnan, M. "N-Heterocyclic Carbene Complexes of Mn, Fe, and Co: Applications in Cross-Coupling Catalysis" Abstracts of Papers, 244th ACS National Meeting & Exposition, Philadelphia, PA, August 19-23, **2012**.

Tonzetich, Z. J.; Lippard, S. J. "Chemistry of Dinitrosyl Iron Complexes Relevant to Their Formation and Reactivity in Biology" Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, March 21-25, **2010**.

Tonzetich, Z. J.; Lippard, S. J. "Modeling the Biological Reactivity of Nitric Oxide with Iron-Sulfur Clusters" Gordon Research Conference on Iron Sulfur Proteins, New London, NH, June 8-12, **2008**.

Tonzetich, Z. J.; Adamchuk, J.; Czekelius, C. O.; Hafer, J. E.; Schrock, R. R. "Living Polymerization of 1,6-Heptadiynes by Molybdenum Imido Alkylidene Compounds: New Mechanistic Insights and Avenues in Catalyst Design" Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, March 26-30, **2006**.

Tonzetich, Z. J.; Schrock, R. R. "Synthesis, Characterization, and Activation of C₂ Symmetric Zirconium and Hafnium Complexes Containing a Chiral Diamido-dipyridine Ligand" Abstracts of Papers, 229th ACS National Meeting, San Diego, CA, March 13-17, **2005**.

Tonzetich, Z. J.; Eisenberg, R. "Luminescent Cp*Ta complexes: Synthesis, Characterization, and Emission Spectroscopy" Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, April 7-11, **2002**.

Eisenberg, R.; Houlis, J.; Tonzetich, Z. J. "Toward the Development of Luminescent Platinum Group Complexes" Abstracts of Papers, 221st ACS National Meeting, San Diego, CA, April 1-5, **2001**.

Invited Seminars

Trinity University, San Antonio, TX, April 29, **2021** (*virtual*)

University of Idaho, Moscow, ID, March 23, **2021** (*virtual*)

University of Texas at San Antonio, San Antonio, TX, September 25, **2020** (*virtual*)

St. Edward's University, Austin, TX, October 11, **2019**

Indiana University, Bloomington, IN, April 19, **2019**

West Virginia University, Morgantown, WV, September 26, **2018**

University of Texas at Austin, Austin, TX, November 2, **2016**

University of California at Riverside, Riverside, CA, October 9, **2015**

University of Southern California (USC), Los Angeles, CA, October 8, **2015**

University of California at Los Angeles (UCLA), Los Angeles, CA, October 7, **2015**

University of California at Santa Barbara, Santa Barbara, CA, May 15, **2015**

Emory University, Atlanta, GA, April 15, **2015**

University of Illinois at Chicago, Chicago, IL, February 17, **2015**

University of Maryland, College Park, MD, February 5, **2015**

Georgetown University, Washington, DC, February 4, **2015**

University of Oregon, Eugene, OR, January 23, **2015**

Texas A&M University, College Station, TX, November 19, **2014**

The University of North Texas, Denton, TX, November 7, **2014**

Texas Christian University, Forth Worth, TX, November 6, **2014**

Baylor University, Waco, TX, November 3, **2014**

The University of Texas at Dallas, Richardson, TX, October 17, **2014**

The University of Rochester, Rochester, NY, October 6, **2014**

Angelo State University, San Angelo, TX, April 10, **2014**

The University of Houston, Houston, TX, February 7, **2014**

The University of Texas at San Antonio, San Antonio, TX, December 6, **2013**.

Texas State University, San Marcos, TX, November 4, **2013**.

North Carolina State University, Raleigh, NC, October 24, **2013**.

Duke University, Durham, NC, October 23, **2013**.

University of North Carolina at Charlotte, Charlotte, NC, October 21, **2013**.

Freie Universität Berlin, Berlin, Germany, May 31, **2013**.

St. Edwards University, Austin, TX, February 9, **2013**.

Texas Lutheran University, Seguin, TX, November 30, **2012**.

Bucknell University, Lewisburg, PA, August 24, **2012**.

Symposium Honoring Richard Eisenberg, University of Rochester, Rochester, NY, May 5, **2011**.

University of the Incarnate Word, San Antonio, TX, February 24, **2011**.

Lecture Courses Taught

Graduate Level

Organometallic Chemistry, CHE 6433
Advanced Inorganic Chemistry, CHE 5453

Undergraduate Level

Proseminar, CHE 4971
Inorganic Chemistry, CHE 4633
Instrumental Analysis, CHE 4213
Descriptive Inorganic Chemistry, CHE 3464
General Chemistry I, CHE 1103

Graduate Students Mentored

Tanushri Mukherjee, **M.S. 2013**
Swetha Tammineni, **M.S. 2013**
Teresa Virginia M. Ramos, **M.S. 2014**
Adam Kinne, **M.S. 2014**
Daniel J. Meininger, **Ph.D. 2015**
Jacob A. Przyojski, **Ph.D. 2016**
Malik H. Al-Afyouni, **Ph.D. 2016 – University of Rochester**
Kathlyn L. Fillman, **Ph.D. 2016 – University of Rochester**
Ryan Hartley, **M.S. 2016, Ph.D. 2018**
Justin Madera, **M.S. 2019**
V. Mahesh Krishnan, **M.S. 2013, Ph.D. 2019**
Hussah Alawisi, Ph.D. **Ph.D. 2019**
C. Vance Thompson, **Ph.D. 2020**
Ana Narro Laborrin, **Ph.D. 2022**
Kenneth Caufield, Ph.D. expected 2022
Christopher Reyes, Ph.D. expected 2024
Jackson Reyna, Ph.D. expected 2025
Anthony Amaya, Ph.D. expected 2025

Other Student Advising Activities

2011 – Present	ACS Project SEED Research mentor
2013 – 2015	MBRS-RISE Research mentor
2011 – 2012	UTSA Provost Summer Research Mentor Program Summer research mentor

University Service

2022 – Present	Chair's Executive Committee Department of Chemistry
2021 – Present	Doctoral Graduate Advisor of Record Department of Chemistry

2021 – Present	Seminar Committee Department of Chemistry
2021 – Present	Graduate Council University committee
2021 – Present	APR Committee Department of Chemistry
2020 – 2022	Faculty Grievance Committee University committee
2016 – Present	Departmental Faculty Review Advisory Committee Department of Chemistry
2013 – Present	Graduate Curriculum Committee, Chair 2017-2020 Department of Chemistry
2020 – Present	Faculty Development Leave Committee, Chair College of Sciences
2020 - 2021	Departmental Faculty Review Advisory Committee Department of Environmental Science and Ecology
2018 – 2021	Awards Committee Department of Chemistry
2019 – 2020	Chemistry Faculty Search Committee, Chair Department of Chemistry
2012 – 2019	Chemical Safety Committee, Vice Chair 2017-19 University committee
2018 – 2019	Physics Chair Search Committee Department of Physics
2017 – 2019	Chair’s Advisory Committee Department of Chemistry
2017 – 2019	Affirmative Action Advocate – Faculty Search Committees College of Sciences
2017 – 2019	College Faculty Review Advisory Committee College of Sciences
2012, 2016 – 2018	Chemistry co-Chair, College of Science Research Conference College of Sciences
2013 – 2017	Chemical Education Working Group Department of Chemistry
2015 – 2016	Chemistry Faculty Search Committee Department of Chemistry
2015 – 2016	Parking and Traffic Committee University Committee
2011 – 2016	Chair’s Advisory Committee Department of Chemistry
2010 – 2012	Graduate Recruitment Committee Department of Chemistry

Professional Service

2011 – Present

Senior Level Judge

ExxonMobil Texas Science and Engineering Fair
Alamo Regional Academy of Science and Engineering Science Fair
San Antonio Postdoctoral Research Forum

2010 – Present

Proposal Reviewer

NIH (NIGMS) – Special Emphasis Panel Member
NSF – Panel Member and Ad-Hock Reviewer
DOE Office of Basic Energy Science – Ad-Hock Reviewer
SLAC National Accelerator Laboratory
Research Corporation for Scientific Advancement
Petroleum Research Fund
Louisiana Board of Regents

Journal Reviewer

<i>Journal of the American Chemical Society</i>	<i>Accounts of Chemical Research</i>
<i>Chemical Science</i>	<i>Angewandte Chemie International Edition</i>
<i>ACS Catalysis</i>	<i>Journal of Inorganic Biochemistry</i>
<i>Chemical Communications</i>	<i>Journal of Organometallic Chemistry</i>
<i>Organometallics</i>	<i>Inorganica Chimica Acta</i>
<i>Inorganic Chemistry</i>	<i>Langmuir</i>
<i>Journal of Chemical Education</i>	<i>Coordination Chemistry Reviews</i>
<i>Dalton Transactions</i>	<i>Current Organic Chemistry</i>
<i>ACS Applied Materials and Interfaces</i>	<i>Structure and Bonding</i>
<i>Journal of Porphyrins and Phthalocyanines</i>	<i>Journal of Physical Chemistry</i>
<i>Journal of Coordination Chemistry</i>	<i>Helvetica Chimica Acta</i>
<i>Organic Letters</i>	<i>New Journal of Chemistry</i>
<i>European Journal of Inorganic Chemistry</i>	<i>Catalysis Communications</i>
<i>Inorganic Chemistry Frontiers</i>	<i>Nature Catalysis</i>
<i>Polyhedron</i>	<i>European Journal of Organic Chemistry</i>
<i>ACS Chemical Biology</i>	<i>Metallomics</i>
<i>Chemistry an Asian Journal</i>	<i>Tetrahedron</i>
<i>Zeitschrift für Anorganische und Allgemeine Chemie</i>	<i>Tetrahedron Letters</i>
<i>Journal of Organic Chemistry</i>	<i>Chemistry of Materials</i>

Text Book Reviewer

Organometallic Chemistry 3rd Ed., by Spessard and Miessler, Oxford Univ. Press
Inorganic Chemistry 7th Ed., by Weller and Shriver, Oxford Univ. Press

Affiliations

Member of Phi Beta Kappa and Golden Key national honor societies.
Member of the American Chemical Society.
Member of the Society of Biological Inorganic Chemistry
Member of the Society of Porphyrins and Phthalocyanines
Member of the San Antonio Audubon Society
Member of the National Audubon Society
Member of the Cornell Laboratory of Ornithology
Member of the Mitchell Lake Audubon Center
Member of the San Antonio Botanical Garden