ALEXANDRA VELIAN

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PROFESSIONAL APPOINTMENTS

2024-present **Associate Professor of Inorganic Chemistry** University of Washington

2017–2024 **Assistant Professor of Inorganic Chemistry** University of Washington
Atomically precise inorganic clusters and two-dimensional crystals for catalytic, electronic and quantum information applications

2015–2017 **MRSEC Postdoctoral Fellow** Columbia University
Advisor: Prof. Colin Nuckolls
Research Focus: Designer materials from superatomic building blocks

EDUCATION

2009–2015 **Ph.D. in Inorganic Chemistry** Massachusetts Institute of Technology
Advisor: Prof. Christopher C. Cummins
Thesis: Taming Reactive Phosphorus Intermediates with Organic and Inorganic Carriers
Won Alan Davison Prize for the Best Thesis in Inorganic Chemistry

2005–2009 **B.S. with Honors in Chemistry** California Institute of Technology
Advisor: Prof. Theodor Agapie
Thesis: Mono- and Bi-metallic Complexes Supported by a Versatile Diphosphine Ter-phenyl Framework
Advisor: Prof. Jonas C. Peters
Project: Tuning the luminescence in Cu_2N_2 diamond-core complexes

HONORS & AWARDS

2024 Member of the Royal Society of Chemistry
Kavli Fellow, National Academy of Sciences, Kavli Frontiers of Science Program
Sloan Research Fellowship, Sloan Foundation (*one of twenty-three chemists*)
Chair-Elect for the ACS Division of Inorganic Chemistry Organometallic Subdivision
Early Career Editorial Advisory Board for Inorganic Chemistry Frontiers (RSC)
Editorial Advisory Board for JACS (ACS)
Editorial Advisory Board for Inorganic Chemistry (ACS)

2023 Pack Leader in Safety (UW)
Inorganic Chemistry Lectureship Award (*one of one*)
Camille Dreyfus Teacher-Scholar Award, Dreyfus Foundation (*one of eighteen*)
Marion Milligan Mason Award for Women in the Chemical Sciences, AAAS (*one of four; biennial*)

2022 Thrust Co-Lead, UW Molecular Engineering Materials Center (MEM-C), NSF
Theme Leader, Programmable Quantum Materials EFRC DOE Center
C&EN Talented 12 (*one of twelve*)

2021	Cottrell Scholar Award, Research Corporation for Science Advancement (*one of fifteen chemists*)
	Reviewer Award Inorganic Chemistry, ACS (*one of one hundred and ten*)
2020	JACS Young Investigators (*one of twenty-seven*)
	CAREER Award, NSF
2017–20	Bernard and Claudine Nist Endowed Fellow
2016	Young Investigator Award (ACS Division of Inorganic Chemistry)
2015	Alan Davison Prize for the Best Thesis in Inorganic Chemistry (MIT)
2014–16	Materials Research Science & Engineering Center Fellowship (Columbia University)
2015	Elected Chair, Organometallics Gordon Research Symposium
2013	Morse Travel Grant (MIT)
2009	Hannah Bradley Summer Undergraduate Research Fellow (Caltech)
2006–09	Milton and Rosalind Chang Scholarship (Caltech)
2007–08	Edward W. Hughes Summer Undergraduate Research Fellowship (Caltech)
2006–07	Summer Undergraduate Research Fellowship (Caltech)
2006–07	Diane and Henry H. Hilton Scholarship (Caltech)
2004	Bronze medal, 38th Edition of D. Mendeleev International Chemistry Olympiad
2002–04	Several prizes, Romanian National Chemistry Olympiad and C. D. Nenițescu National Competition

PUBLICATIONS

[&] denotes undergraduate author; [‡] denotes equal co-authorship; * denotes corresponding author

1. Kephart, J. A.; Zhou, D. Y.; Sandwisch, J.; Cajiao, N.; Malinowski, P.; Chu, J.-C.; Neidig, M. L.; Kaminsky, W.; **Velian, A.*** Inorg. Chem. 2024, 63, 20388–20397, "Exploring Charge Redistribution at the Cu/Co_6Se_8 Interface".
2. Kephart, J. A.; Zhou, D. Y.; Sandwisch, J.; Cajiao, N.; Malinowski, P.; Chu, J.-C.; Neidig, M. L.; Kaminsky, W.; **Velian, A.*** ACS Cent. Sci. 2024, 10, 1276–1282, "Multi-site Ligand Substitution in Atomically Precise Clusters". link.
3. Walz Mitra, K. L.; Riehs, M.; Draguicevic, A.; Swann, W. A.; Li, C. W.; **Velian, A.*** Angew. Chem. Int. Ed. 2023, doi: 10.1002/anie.202311575 "Reaction Chemistry at Discrete Metal Fragments on Black Phosphorus". link. Selected as Hot Paper.
4. Mitchell, B.; Zimmerman, K.[&]; Kaminsky, W.; **Velian, A.*** *in revision*, "Aminophosphine Selenide Fe and Co Complexes and their Reactivity with Oxo-Atom Donor".
5. Abramson, J.; Holden, W.; Rivera-Maldonado, R.; **Velian, A.**; Cossairt, B.; Seidler, G.* J. Anal. At. Spectrom. 2023, 38, 1125-1134, **"**Laboratory X-ray Emission Spectrometer for Phosphorus Kα and Kβ Study of Air-Sensitive Samples"; link.
6. Mitchell, B.; Chirila, A.; Anderton, K.; Kaminsky, W.; **Velian, A.*** Inorg. Chem. 2023, doi: 10.1021/acs.inorgchem.3c01661, "Probing Edge/Support Electronic Cooperativity in Single Edge Fe/Co_6Se_8 Clusters"; link.
7. Mitchell, B.; Chirila, A.; Zhou, D.; Kephart, J.; **Velian, A.*** Inorg. Chem. 2023, 62, 8789–8793, "Metal/Support Interactions Regulate Substrate Binding in Fe/Co/Se Cluster Catalysts"; link.
8. Mitchell, B. S.[‡]; Chirila, A.[‡]; Kephart, J. A.; Boggiano, A. C.[&]; Krajewski, S. M.; Rogers, D.; Kaminsky, W.; **Velian, A.*** J. Am. Chem. Soc. 2022, 144, 18459–18469, "Metal/Support Interactions in Molecular Single-Site Cluster Catalysts"; link.

9. Tetef, S.; Kashyap, V.; Holden, W. M.; **Velian, A.**; Govind, N.; Seidler, G. T.* J. Phys. Chem. A 2022, 126, 4862–4872, "Informed Chemical Classification of Organophosphorus Compounds via Unsupervised Machine Learning of X-ray Absorption Spectroscopy and X-ray Emission Spectroscopy"; link.
10. Kephart, J. A.; Mitchell, B. S.; Kaminsky, W.; **Velian, A.*** J. Am. Chem. Soc. 2022, 144, 9206–9211, "Multi-active Site Dynamics on a Molecular Cr/Co/Se Cluster Catalyst"; link.
11. Mitchell, B. S.; Krajewski, S. M.; Kephart, J. A.; Rogers, D.; Kaminsky, W.; **Velian, A.*** JACS Au 2022, 2, 92-96, "Redox-Switchable Allosteric Effects in Molecular Clusters"; link.
12. Hazra, A.; Kephart, J. A.; **Velian, A.**; Lalic, G.* J. Am. Chem. Soc. 2021, 143, 7903–7908, "Hydroalkylation of Alkynes: Functionalization of the Alkenyl Copper Intermediate through Single Electron Transfer Chemistry"; link.
13. Mitchell, B. S.; Kaminsky, W.; **Velian, A.*** Inorg. Chem. 2021, 60, 6135–6139, "Tuning the electronic structure of atomically precise Sn/Co/Se nanoclusters via redox-matching of tin(IV) surface sites"; link. Selected as Feature Article and ACS Editors' Choice.
14. Tofan, D.[‡]; Sakazaki, Y.[‡]; Mitra, K. L. W.; Peng, R.; Lee, S.; Li, M.; **Velian, A.*** Angew. Chem. Int. Ed. 2021, 60, 8329–8336, "Surface Modification of Black Phosphorus with Group 13 Lewis Acids for Ambient Protection and Electronic Tuning"; link. Selected as Hot Paper.
15. Mitra, K. L. W.[‡]; Chang, C. H.[‡]; Hanrahan, M. P.; Yang, J.; Tofan, D.; Holden, W. M.; Govind, N.; Seidler, G. T.; Rossini, A. J.; **Velian, A.*** Angew. Chem. Int. Ed. 2021, 60, 9127–9134, "Surface Functionalization of Black Phosphorus with Nitrenes: Identification of P=N Bonds Using Isotopic Labeling"; link.
16. Tofan, D.; **Velian, A.*** ACS Cent. Sci. 2020, 6, 1485–1487, "Interstellar Chemistry in a Glovebox: Elusive Diatomic P≡N, Exposed"; link. (invited)
17. Kephart, J. A.; Romero, C. G.[&]; Tseng, C.-C.; Anderton, K. J.; Yankowitz, M.; Kaminsky, W.; **Velian, A.*** Chem. Sci. 2020, 11, 10744–10751, "Hierarchical nanosheets built from superatomic clusters: properties, exfoliation and single-crystal-to-single-crystal intercalation"; link.
18. Kephart, J. A.; Boggiano, A. C.[&]; Kaminsky, W.; **Velian, A.*** Dalton Trans. 2020, 49, 16464–16473, "Inorganic clusters as metalloligands: ligand effects on the synthesis and properties of ternary nanopropeller clusters" ; link. (invited, part of special issue New Talents: Americas)
19. Kephart, J. A.; Mitchell, B. S.; Chirila, A.; Anderton, K. J.; Rogers, D.; Kaminsky, W.; **Velian, A.*** J. Am. Chem. Soc. 2019, 141, 19605–19610, "Atomically Defined Nano-Propeller $Fe_3Co_6Se_8(Ph_2PNTol)_6$: Functional Model for the Electronic Metal- Support Interaction Effect and High Catalytic Activity for Carbodiimide Formation"; link. Selected for JACS Young Investigators 2020.

Before UW (postdoctoral, doctoral and undergraduate publications)

20. Transue, W. J.[‡]; **Velian, A.**[‡]; Nava, M.; García-Iriepa, C.; Temprado, M.; Cummins, C. C.* J. Am. Chem. Soc. 2017, 139, 10822–10831, "Mechanism and Scope of Phosphinidene Transfer from Dibenzo-7-Phosphanorbornadiene Compounds"; link.
21. Champsaur, A. M.; **Velian, A.**; Paley, D. W.; Choi, B.; Roy, X.*; Steigerwald, M. L.*; Nuckolls, C.* Nano Lett. 2016, 16, 5273–5277, "Building Diatomic and Triatomic Superatom Molecules"; link. Selected in "Top 10 Ideas That Will Change the World" by Scientific American. Highlighted in PhysOrg and Chemistry World.
22. Li, H.; Garner, M. H.; Shangguan, Z.; Zheng, Q.; Su, T. A.; Neupane, M.; Li, P.; **Velian, A.**; Steigerwald, M. L.; Xiao, S.; Nuckolls, C.; Solomon, G. C.; Venkataraman, L.* Chem. Sci. 2016, 7, 5657–5662, "Conformations of Cyclopentasilane Stereoisomers Control Molecular Junction Conductance"; link.

23. Transue, W. J.; **Velian, A.**; Nava, M.; Martin-Drumel, M.-A.; Womack, C. C.; Jiang, J.; Hou, G.-L.; Wang, X.- B.; McCarthy, M. C.; Field, R. W.; Cummins, C. C.* J. Am. Chem. Soc. 2016, 138, 6731–6734, "A Molecular Precursor to Phosphaethyne and Its Application in Synthesis of the Aromatic 1,2,3,4- Phosphatriazolate Anion"; link.

24. **Velian, A.**; Cossairt, B.; Cummins, C.* Dalton Trans. 2016, 45, 1783–2320, "Assembly and Stabilization of E(cyclo-P_3)$_2$ (E = Sn, Pb) as a Bridging Ligand Spanning Two Triaryloxyniobium Units"; link. Front cover of special issue "Phosphorus Chemistry: Discoveries and Advances".

25. **Velian, A.**; Transue, W. J.; Cummins, C. C.* Organometallics 2015, 34, 4644–4646, "Synthesis, Characterization, and Thermolysis of Dibenzo-7-dimethylgermanorbornadiene"; link.

26. **Velian, A.**; Cummins, C. C.* Science 2015, 348, 1001–1004, "Synthesis and Characterization of $P_2N_3^-$: An Aromatic Ion Composed of Phosphorus and Nitrogen"; link. Featured in C&EN News; Highlighted in PhysOrg; SynFacts; and Angewandte Chemie.

27. **Velian, A.**; Nava, M.; Temprado, M.; Zhou, Y.; Field, R. W.; Cummins, C. C.* J. Am. Chem. Soc. 2014, 136, 13586–13589, "A Retro Diels-Alder Route to Diphosphorus Chemistry: Molecular Precursor Synthesis, Kinetics of P_2 Transfer to 1,3-Dienes, and Detection of P_2 by Molecular Beam Mass Spectrometry"; link. Selected SynFact of the Month.

28. Majumdar, S.; Stauber, J. M.; Palluccio, T. D.; Cai, X.; **Velian, A.**; Rybak-Akimova, E. V.; Temprado, M.; Captain, B.; Cummins, C. C.; Hoff, C. D.* Inorg. Chem. 2014, 53, 11185–11196, "Role of Axial Base Coordination in Isonitrile Binding and Chalcogen Atom Transfer to Vanadium(III) Complexes"; link.

29. Horak, K. T.; **Velian, A.**[&]; Day, M. W.; Agapie, T.* Chem. Commun. 2014, 50, 4427–4429, "Arene Non-Innocence in Dinuclear Complexes of Fe, Co, and Ni Supported by a para-Terphenyl Diphosphine"; link.

30. Cummins, C. C.*; Huang, C.; Miller, T.; Reintinger, M.; Tannou, I.; Tofan, D.; Toubaei, A.; Stauber, J.; **Velian, A.***; Wu, G.* Inorg. Chem. 2014, 53, 3678–3687, "The Stannylphosphide Anion Reagent Sodium bis(Triphenylstannyl) Phosphide: Synthesis, Structural Characterization, and Reactions with Indium and Tin Electrophiles"; link. Velian A. is corresponding author.

31. Lin, S.; Herbert, D. E.; **Velian, A.**[&]; Day, M. W.; Agapie, T.* J. Am. Chem. Soc. 2013, 135, 15830–15840, "Dipalladium(I) Terphenyl Diphosphine Complexes as Models for Two-Site Adsorption and Activation of Organic Molecules"; link.

32. **Velian, A.**; Cummins, C. C.* J. Am. Chem. Soc. 2012, 134, 13978–13981, "Facile Synthesis of Dibenzo-7-λ^3-phosphanorbornadiene Derivatives Using Magnesium Anthracene"; link. Featured in C&EN News.

33. Palluccio, T. D.; Rybak-Akimova, E. V.; Majumdar, S.; Cai, X.; Chui, M.; Temprado, M.; Silvia, J. S.; Cozzolino, A. F.; Tofan, D.; **Velian, A.**; Cummins, C. C.; Captain, B.; Hoff, C. D.* J. Am. Chem. Soc. 2013, 135, 11357–11372, "Thermodynamic and Kinetic Study of Cleavage of the NO Bond of N-Oxides by a V(III) Complex: Enhanced Oxygen Atom Transfer Reaction Rates for Adducts of Nitrous Oxide and Mesityl Nitrile Oxide"; link.

34. **Velian, A.**; Cummins, C. C.* Chem. Sci. 2012, 3, 1003–1006, "Synthesis of a Diniobium Tetraphosphorus Complex by a 2(3-1) Process"; link.

35. **Velian, A.**[&]; Lin, S.; Miller, A. J. M.; Day, M. W.; Agapie, T.* J. Am. Chem. Soc. 2010, 132, 6296–6297, "Synthesis and C-C Coupling Reactivity of a Dinuclear Ni^I-Ni^I Complex Supported by a Terphenyl Diphosphine"; link.

PRESENTATIONS

Invited Lectures and Seminars

1. University of Chicago, Department of Chemistry, Chicago, IL, February 12, 2024
2. "Rising Stars Symposium" *(student invited)*, Columbia University, Department of Chemistry, New York, NY, January 26, 2024
3. University of Minnesota, Department of Chemistry, Minneapolis, MN, December 7, 2023
4. Yale University, Department of Chemistry, New Haven, CT, November 13, 2023
5. Johns Hopkins University, Department of Chemistry, Baltimore, MD, October 24, 2023
6. University of Washington, Department of Chemistry, Seattle, WA, October 3, 2023
7. The University of Western Ontario, Department of Chemistry, Ontario, Canada, September 20, 2023
8. Boston University, Department of Chemistry, Boston, MA, September 11, 2023
9. Indiana University, Bloomington, Department of Chemistry, Bloomington, IN, August 25, 2023
10. University of Michigan, Department of Chemistry, Ann Arbor, MI, June 6, 2023
11. University of California at Davis, Department of Chemistry, Davis, CA, May 9, 2023
12. Harvard University, Department of Chemistry and Chemical Biology, Cambridge, MA, May 4, 2023
13. The Ohio State University, Department of Chemistry and Biochemistry, Columbus OH, March 22, 2023
14. University of Wisconsin-Madison, Department of Chemistry, Madison, WI, March 1, 2023
15. Purdue University, Department of Chemistry, West Lafayette, IN, January 24, 2023
16. Caltech, Division of Chemistry and Chemical Engineering, Pasadena, CA, January 9, 2023
17. University of Pennsylvania, Department of Chemistry, Philadelphia, PA, November 16, 2022
18. Colorado State University, Department of Chemistry, Fort Collins, CO, September 27, 2022
19. University of California at Berkeley, Department of Chemistry, Berkeley, CA, September 9, 2022
20. Stanford University, Department of Chemistry, Stanford, CA, May 26, 2022
21. University of Rochester, Department of Chemistry, Rochester, NY, May 9, 2022
22. University of North Carolina at Chapel Hill, Department of Chemistry, Chapel Hill, NC, April 26, 2022
23. University of Maryland, Laboratory for Physical Sciences, College Park, MD, (virtual) April 13, 2022
24. University of Houston, Department of Chemistry, Houston, TX, (virtual) April 20, 2021
25. University of Diponegro, Department of Chemistry, Semarang, Indonesia (virtual) April 13, 2021
26. Western Washington University, Chemistry Department, Bellingham, WA, May 10, 2019
27. Pacific Lutheran University, Department of Chemistry, Tacoma, WA, October 29, 2018
28. Whitman College, Chemistry Department, Walla Walla, WA, November 2, 2017

Before UW

29. University of Washington, Department of Chemistry, Seattle, WA, January 2017
30. University of California, Berkeley, Department of Chemistry, Berkeley, CA, January 2017
31. University of Pennsylvania, Department of Chemistry, Philadelphia, PA, January 2017
32. Caltech, Division of Chemistry and Chemical Engineering, Pasadena, CA, January 2017
33. Harvard University, Department of Chemistry and Chemical Biology, Boston, MA, January 2017
34. Princeton University, Princeton, Department of Chemistry, NJ, January 2017
35. University of California at Davis, Department of Chemistry, Davis, CA, December 2016
36. University of Minnesota, Department of Chemistry, Minneapolis, MN, November 2016

Conferences and Symposia

1. **Invited.** Fall 2023 ACS National Meeting, Division of Inorganic Chemistry, "2023 Inorganic Lectureship" Award Address, San Francisco, CA, *August 13–17, 2023*.

2. **Invited.** Organometallic Gordon Research Conference, Salve Regina University, Newport, RI, July 9-14, 2023.
3. **Invited.** Spring 2023 ACS National Meeting, Division of Inorganic Chemistry, "2023 M. Frederick Hawthorne Award in Main Group Inorganic Chemistry: Symposium in Honor of Christopher Cummins", Indianapolis, IN, March 26–30, 2023.
4. **Selected Poster Talk.** Atomically Precise Nanochemistry Gordon Research Conference, Ventura, CA, October 16-21, 2022.
5. **Invited.** C&EN Talented 12 Symposium (virtual) September 19-21, 2022.
6. **Invited.** The 2022 M. Frederick Hawthorne Award in Main Group Inorganic Chemistry Symposium, UCLA, Los Angeles, CA, September 16, 2022.
7. **Invited.** Fall 2022 ACS National Meeting, Division of Inorganic Chemistry, "Emerging Areas in Inorganic Chemistry" Symposium, Chicago, IL, August 21–25, 2022.
8. **Selected Poster Talk.** Organometallic Gordon Research Conference, Salve Regina University, Newport, RI, July 10-15, 2022.
9. **Invited.** Inorganic Gordon Research Conference, Salve Regina University, Newport, RI, May 29 - June 3, 2022.
10. **Invited.** 105th Canadian Chemistry Conference & Exhibition (CCCE), "Main Group Chemistry: Concepts, Catalysts, and Materials" Symposium, Calgary, Alberta June 13–17 2022 (Missed due to COVID; seminar presented by graduate student Kendahl Walz Mitra).
11. **Invited.** Spring 2022 ACS National Meeting, Division of Inorganic Chemistry, "Phosphorus Symposium", San Diego, CA, March 20–24, 2022.
12. **Invited.** Spring 2022 ACS National Meeting, Division of Inorganic Chemistry, "Organometallics Distinguished Author Symposium in Honor of Robert Gilliard", San Diego, CA, March 20–24, 2022.
13. **Invited.** Spring 2022 ACS National Meeting, Division of Inorganic Chemistry, "Multimetallic molecular and extended platforms for energy applications" Symposium, San Diego, CA, March 20–24, 2022.
14. **Invited.** ACS Periodic Table Talks (Nanoscience Division); Virtual seminar series of the Division of Inorganic Chemistry of the ACS; March 9, 2022.
15. **Invited.** 2021 Nanocrystals Northwest, University of Washington, August 25-27, 2021.
16. **Invited.** Spring 2021 Northwest Regional Meeting, "Cottrell Scholars from the NW and Beyond", May 9–11, 2021. (virtual)
17. **Invited.** Spring 2021 ACS National Meeting, Division of Inorganic Chemistry, "Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator Symposium in Honor of Smaranda Marinescu", April 7, 2021. (virtual)
18. **Invited.** Spring 2021 ACS National Meeting, Division of Inorganic Chemistry, "Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator Symposium in Honor of Hemamala Karunadasa", April 8, 2021. (virtual)
19. **Invited.** Phosphorus Chemistry Seminar Series, July 7, 2020. (virtual)
20. **Invited.** Global Inorganic Discussion Weekends (GIDW), May 25, 2020. (virtual)
21. **Invited.** Northwest Regional Meeting of the American Chemical Society, The "Bioinspired Catalysts, Compounds, and Reactions" Session; Western Washington University, Bellingham, WA June 28th - July 1, 2020. (Canceled due to COVID-19)

22. Organometallic Gordon Research Symposium and Conference, Salve Regina University, Newport, RI, US, July 2019. (poster)
23. **Invited.** Spring ACS National Meeting, Division of Inorganic Chemistry, "Fresenius Award Symposium in Honor of Brandi Cossairt", Orlando, FL, March 31 – April 4, 2019.
24. **Invited.** Spring ACS National Meeting, Division of Inorganic Chemistry, "Chemistry at the Interface of Solution-processed Inorganic Materials", Orlando, FL, March 31 – April 4, 2019.
25. International Conference on Energy Systems and Storage, Biannual conference by the Clean Energy Institute, WA, September 2018. (poster)

Before UW

26. **Invited.** 252nd ACS National Meeting, Division of Inorganic Chemistry, "Young Investigator Symposium", "Molecular Precursors: Reactive Intermediates and Building Blocks", Philadelphia, PA, US, August 21–25, 2016.
27. Columbia University MRSEC Retreat, "Designing Materials from Superatom Building Blocks", Highland Falls, NY, May 9 – 10, 2016.
28. MRS Spring Meeting, Phoenix, "Creating Functional Nanostructures from Atomically Precise Building Blocks", AZ, March 28 – April 1, 2016.
29. Friday Synthesis Symposium, "On Molecular Legos: A Study on Linked Cobalt Selenide Clusters", Columbia University, New York, NY, February 2016.
30. Friday Synthesis Symposium, "Inorganic Aromaticity: Synthesis and Isolation of $P_2N_3^-$", Columbia University, New York, NY, February 2015.
31. **Invited.** Gordon Research Symposium (Organometallics), "Taming reactive phosphorus intermediates with organic and inorganic carriers", Salve Regina University, Newport, RI, July 2014.
32. **Selected Poster Talk.** Gordon Research Conference (Organometallics), "Anthracene: A Simple Carrier for Reactive Phosphorus Fragments", Salve Regina University, Newport, RI, US, July 2013.
33. **Invited.** Gordon Research Symposium (Organometallics), "Anthracene: A Simple Carrier for Reactive Phosphorus Fragments", Salve Regina University, Newport, RI, July 2013.
34. **Invited.** Bruker-AXS / MIT Symposium, "Phosphinidene Transfer Reactions from 7λ^3-Phospha-Norbornadienes", MIT, Cambridge, MA, February 2013.
35. 19th International Conference on Phosphorus Chemistry, "Facile Syntheses of 7λ^3-Phospha-Norbornadienes", Rotterdam, The Netherlands, July 8 – 12, 2012.
36. Chemistry Student Seminar, "Facile Synthesis of 7-Heteroatom-Norbornadienes", MIT, Cambridge, MA, April 2012.
37. 8th European Workshop on Phosphorus Chemistry, "Phosphorus Clusters Supported by Niobium (V) Platforms", Münster, Germany, March 2011.
38. Metals in Synthesis, "Phosphorus Clusters Supported by Niobium (V) Platforms", MIT, Cambridge MA, May 2011.
39. 240th ACS National Meeting, "Phosphorus Rich Molecules via Reaction at a Cyclo-P_3 Niobium Platform", Boston MA, United States, August 22 – 26, 2010.
40. Undergraduate Thesis Symposium, Division of Chemistry and Chemical Engineering, "Mono- and Bi-metallic Complexes Supported by a Versatile, Semi-Rigid Diphosphine Terphenyl Framework", Caltech, Pasadena, CA, June 2009.