Jonathan Gooch

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Teaching and Mentoring

2023-Present	**Assistant (Tenure-Track) Professor of Chemistry, Arcadia University, Glenside, PA** Courses: General Chemistry I & II and Inorganic Chemistry
2018- 2023	**Lecturer of Chemistry, Muhlenberg College, Allentown, PA**
2016- 2018	**Visiting Assistant Professor of Chemistry, Muhlenberg College** Courses Taught: General Chemistry I & II, Materials Chemistry, CUE: Chemistry Seminar, Inorganic Chemistry
2017-Present	**Mentor for Student Research, Muhlenberg College** Mentored a total of nine students between 8-week Summer Programs (17', 18', 20', 21', 22') and throughout the academic semester.
2015-2016	**Visiting Assistant Professor of Chemistry, Hobart and William Smith, Geneva, NY** Courses Taught: General Chemistry I & II and Inorganic Chemistry
2010-2015	**Teaching Assistant, Syracuse University, Syracuse, NY** Courses Taught: General Chemistry I & II, Honors General Chemistry, Organic Chemistry Lab, Physical Chemistry Lab

College and Departmental Services

2020- Present — Library Committee (Chair AY21-22)

- Assisted the library director with promoting and reviewing applications for Parents' Fund and Faculty Study spaces.
- Facilitated committee meetings and led discussions in the committee composition and future goals.
- Drafted monthly reports and an annual report for the Provost's Office and Faculty.

2019- Present — Track and Field Liaison

- Point of Contact between coach, team members, and faculty to bridge any communication gaps when issues arose.
- Supported the team by attending meets, sending supportive/congratulatory emails, and on occasion ran with the team.

2016-Present — Miscellaneous Service

- 2022 Summer Advisor for the incoming Class of 2026
- Led a Departmental Retreat in May 2022 to reevaluate the General Chemistry Curriculum

- Developed a Chemistry Placement exam for incoming students to better place them between our Introductory and General courses. Assisted in reviewing exam scores through the summer advising periods of 2021 and 2022
- Advisor of the Chemistry and Biochemistry Club
- Advisor of the student formed STEM Interest House
- Led the gathering of data for the Chemistry Department's Pennsylvania Department of Education Review

Grants and Awards

2019-2020	Bridge Builder Award (Student nominated award for supportive faculty)
2017-2018	Bridge Builder Award
2017	Faculty Summer Research Grant, $2,000
2016-2017	Bridge Builder Award

Education

2010-2015 **Syracuse University, Syracuse, NY – Ph.D., Chemistry**
Thesis: *Electrostatic Assembly of Gold Nanoparticles Mediated with Large Cluster Polyoxometalates*

2005-2010 **Misericordia University, Dallas, PA – B.S., Chemistry**
Thesis: *Identification of Cellulose-Degrading Enzyme Using Bioassay-Guided Fractionation*

Research

2010-2015 Graduate Research, Syracuse University, Syracuse, NY

- Conducted independent research under advisor Dr. Jon Zubieta and Dr. Mathew Maye (collaborator)
- Synthesis and purification of gold nanoparticles including Au sizes of 1.5, 4.4, and 12 nm
- Synthesis and characterization of polyoxometalates systems including Mo-12, Mo-132, and Mo-154 derivatives.
- Ligand exchange mechanisms of Au precursors with alkyl thiols.
- Observed electrostatic assembly of Au nanoparticles and polyoxometalates by UV-visible, Dynamic Light Scattering, and Zeta Potential Analysis.
- Characterization of Au nanoparticles, polyoxometalates, and other small molecules using a full scope of instrumentation.
- Hydrothermal synthesis of transition metals, phosphonate ligand derivatives, and nitrogen based ligands.

Spring 2009 Senior Research Experience, Misericordia University, Dallas, PA

- Conducted independent research under advisor Dr. Xuegang Jia
- Project title: *Identification of Cellulose-Degrading Enzyme Using Bioassay-Guided Fractionation*

Training

Instrumentation:	Single Crystal X-ray Diffractometer, Zetasizer Nano Z, Dynamic Light Scattering, Transmission Electron Microscopy, Scanning Electron Microscopy, Thermogravimetric Analysis, NMR Spectroscopy, Infrared Spectroscopy, and, UV-visible Spectroscopy.

Publications

Gooch, Jonathan; Jalan, Abhishek A.; Jones, Stephanie; Hine, Corey R.; Alam, Rabeka; Garai, Somenath; Maye, Mathew M.; Müller, Achim; Zubieta, Jon, *Keplerate cluster (Mo-132) mediated electrostatic assembly of nanoparticles*. Journal of Colloid and Interface Science, 432, **2014**, 144-150.

Ouellette, Wayne; Luquis, Stephanie; **Gooch, Jonathan**; Zubieta, Jon A. *Anion Influences On The Solid State Coordination Chemistry of Copper-bispyrazole Materials*. Inorganica Chimica Acta. **2015**. 427, 188-197.

Ruggiero, Michael T.; **Gooch, Jonathan W**.; Zubieta, Jon; Korter, Timothy M., *Evaluation of Range-Corrected Density Functionals for the Simulation of Pyridinium-Containing Molecular Crystals.* Journal of Physical Chemistry A. **2016.** 120, 939-947.

Smith, Tiffany M.; Zhang, Y.-Z.; **Gooch, Jonathan**; Lau, Adam; McLeish,Sharde; Dunbar, Kim R.; Zubieta, Jon A. *Hydrothermal syntheses and structures of cobalt(II) and copper(II) coordination polymers with 1-tetrazole-phenyl-4-methylphosphonate ligands*. Inorganica Chimica Acta, **2017**. 458, 109-115.