
Matthew J. Chrzanowski

Website: www.mattchrzanowski.comEmail: mattchrz12@gmail.com

Phone: (707) 210-5197

1440 Center St.
Napa, CA 94559

PROFESSIONAL PREPARATION

Doctor of Philosophy, Chemistry

Thesis Title: "Synthesis and Characterization of Organoboron and Cationic Gold(III) Complexes"

Case Western Reserve University, College of Arts & Science

Fall 2015 – Spring 2022

Bachelor of Science, Chemistry

University of South Florida, College of Arts & Science

Fall 2008 - Spring 2012

RESEARCH INTERESTS

- Fundamental synthetic organometallic and main-group chemistry for energy related applications
- Chemistry Education Research with a focus in the chemistry laboratories, lectures, and graduate education
- Synthesis and analysis of functional porous materials including MOFs, COFs, POPs, for applications including carbon capture and sequestration, environmental remediation, gas storage and separation, heterogeneous catalysis

RESEARCH EXPERIENCE

Case Western Reserve University**Department of Chemistry***Graduate Research Assistant, May 2015 – May 2022*

- Development of synthetic methods to allow access to a new classes of main-group and organometallic materials
- Synthesis and characterization of novel luminescent compounds using rigid boron-based complexes
- Development and characterization of organogold catalytic and photocatalytic systems

University of South Florida**Department of Chemistry***Graduate Research Assistant, August 2012 - May 2015**Undergraduate Researcher, September 2010 - August 2012*

- Prepared and characterized novel metal-metalloporphyrin frameworks (MMPFs), porous covalent-porphyrin frameworks (PCPFs) from custom-designed and synthesized multi-topic porphyrin ligands
- Developed strategies to synthesize PCPFs, expanding the structural possibilities into robust 3D open nets
- Phenomenological study of undergraduate students transitioning two opposing Gen. Chem. Lab. Curricula

TEACHING EXPERIENCE

Adjunct Instructor*Inorganic Lecture and Lab*

John Carroll University

*January 2021 to May 2021***Adjunct Faculty***Interdisciplinary Research in Science*

USF Honors College

*August 2014 to December 2014***Instructor***Interdisciplinary Research in Science*

USF STEM Education Center

June 2014 to August 2014

Invited Instructor	<i>Interdisciplinary Research in Science</i>	USF Honors College <i>January 2013 to May 2013</i>
Curriculum Developer	<i>Gen. Chem. Lab</i>	USF Department of Chemistry <i>August 2013 to June 2014</i>
	<i>Adv. Inorganic Lab</i>	CWRU Department of Chemistry
	<i>Organic Chem. Lab</i>	<i>August 2015 to Present</i>
	<i>Organic Chem. Lecture</i>	
	<i>Gen. Chem. Lab</i>	
Graduate Teaching Assistant		USF Department of Chemistry <i>January 2015 to May 2015</i>
	<i>Gen. Chem. Lab</i>	<i>August 2012 to May 2013</i>
	<i>Chemistry for Today</i>	USF Department of Chemistry <i>August 2014 to December 2014</i>

MENTORING EXPERIENCE

in Synthetic Organometallics	2 Undergraduate Students
in Chemistry Education Research	3 Undergraduate Students
in Functional Porous Materials	5 Undergraduate Students
Graduate Student Mentor for NSF-REU Program	23 Undergraduate Students
USF STEM Education Center	32 High School Students

HONORS & AWARDS

Department of Chemistry Graduate Teaching Award	2020
Recognizes a PhD student for outstanding and exemplary teaching performance in the Department of Chemistry	
ACS Div. Chem. Ed. Travel Award	2018
Competitive travel award for up to 12 division members to cover travel expenses for Spring 2018 ACS National Meeting	
IUPAC 2015 Student Travel Award	2015
Provides funding for young and early-career chemists to travel and participate in IUPAC 2015 World Chemistry Congress in Busan, Korea	
Theodore and Venette Askounes Ashford Doctoral Fellowship in Chemistry	2014
Given to a PhD student that shows outstanding academic and research performance, good citizenship, and serves as an example to other graduate students	
Jay Worrell Memorial Scholarship	2012
Awarded to senior BS or BA Chemistry major who has strong academic performance and interest in inorganic chemistry	

PROFESSIONAL SERVICES

ACS Symposium - Research on Learning in the Laboratory	<i>Symposium Organizer, Presider</i>	2015 – 2022
International Young Chemists Network	<i>Outreach Committee</i>	2017 – 2021
Society of Aeronautics and Rocketry	<i>Founder, President</i>	2010 – 2015
University Lab and Field Safety Committee	<i>Graduate Student Chair</i>	2014 – 2015
Department of Chemistry Safety Committee	<i>Graduate Student Representative</i>	2014 – 2015
Chem-SEEDS (NSF-REU Program)	<i>Graduate Advisory Board</i>	2014 - 2015
Inspire-Chem Seminar Series for Undergraduates	<i>Chair</i>	2013 - 2014
Florida State Science Fair	<i>Judge</i>	2014
USF Undergraduate Research Symposium	<i>Facilitator</i>	2013 - 2014

PUBLICATIONS

16. "Investigation of the effect aurophilic interactions on photophysical properties of organogold(I) complexes bearing a benzothiazole-2,7-fluorenyl moiety" **Chrzanowski, M.J.**, Gray, T.G. *In preparation*
15. "9-Borabicyclononane Bipyridyl Complexes: Syntheses, Photophysical, and Electronic Characterization" **Chrzanowski, M.J.**, Collins, S.J., Gray, T.G. *Eur. J. Ino. Chem.*, **2020**, *39*, 3738-3745
14. "Ultrasonic-assisted Transesterification: A Green Miniscale Organic Laboratory Experiment" Wang, X.S.; **Chrzanowski, M.J.**; Liu, Y.J. *J. Chem. Ed.*, **2020**, *97*, 1123-1127.
13. "Learning in the tertiary level chemistry laboratory: What we have learnt from phenomenology research" Sandi-Urena, S.; **Chrzanowski, M.J.** *Science Education Research and Practical Work*, **2016**, 181-192
12. "Reform in General Chemistry Laboratory: How do students experience change in instructional approach?" **Chrzanowski, M.J.**; Chopra, I.; O'Connor, J.; Pancho, R.; Sandi-Urena, S. *Chem. Educ. Res. Pract.*, **2017**, *18*, 113-126.
11. "Applications of Metal-Organic Frameworks Featuring multi-Functional Sites" Li, B.; **Chrzanowski, M.J.**; Zhang, Y.; Ma, S.* *Coord. Chem. Reviews*, **2016**, *307*, 106-129
10. "Creating Extra Pores in Microporous Carbon via a Template Strategy for Remarkable Enhancement of Ambient-Pressure CO₂ Uptake" Li, B.; Zhang, Y.; Ma, D.; Zhu, L.; Zhang, D.; **Chrzanowski, M.J.**; Shi, Z.; Ma, S.* *Chem. Comm.*, **2015**, *51*, 8683-8686
9. "Metal-Organic Framework Based upon the Synergy of a Brønsted Acid Framework and Lewis Acid Centers as a Highly Efficient Heterogeneous Catalyst for Fixed-Bed Reactions" Li, B.; Leng, K.; Zhang, Y.; Dynes, J.J.; Wang, J.; Hu, Y.; Ma, D.; Shi, Z.; Zhu, L.; Zhang, D.; Sun, Y.; **Chrzanowski, M.J.**; Ma, S.* *J. Am. Chem. Soc.*, **2015**, *12*, 4243-4248.
8. "Investigation of prototypal MOFs consisting of polyhedral cages with accessible Lewis-acid sites for quinolone synthesis" Gao, W.-Y.; Leng, K.; Cash, L.; **Chrzanowski, M.J.**; Stackhouse, C.A.; Sun, Y; Ma, S.* *Chem. Comm.* **2015**, *51*, 4827-4829
7. "Introduction of π -Complexation into Porous Aromatic Framework for Highly Selective Adsorption of Ethylene over Ethane" Li, B.; Zhang, Y.; Krishna, R.; Yao, K.; Han, Y.; Zili, W.; Ma, D.; Shi, Z.; Pham, T.; Space, B.; Liu, J.; Thallapally, P.K.; Liu, J.; **Chrzanowski, M.J.**; Ma, S.* *J. Am. Chem. Soc.*, **2014**, *136*, 8654-8660.

6. "Covalent Heme Framework as Highly Active Heterogeneous Biomimetic Oxidation Catalysts" Wang, X.-S.; **Chrzanowski, M.J.**, Yuan, D.; Sweeting, B.; Ma, S.* *Chem. Mater.*, **2014**, 26, 1639-1644.
5. "Metal-Metalloporphyrin Frameworks: Resurging Class of Functional Materials" Gao, W.-Y.; **Chrzanowski, M.J.**, Ma, S. * *Chem. Soc. Rev.*, **2014**, 43, 5841-5866
4. "Formation of a Metalloporphyrin-Based Nanoreactor by Post-Synthetic Metal-ion Exchange of a Polyhedral-Cage Containing Metal-Metalloporphyrin Framework" Wang, X.-S.; **Chrzanowski, M.J.**; Wojtas, L.; Chen, Y.-S.; Ma, S.* *Chem. Eur. J.* **2013**, 19, 3297-3301.
3. "Quest for Highly Porous Metal-Metalloporphyrin Framework based upon a Custom-Designed Octatopic Porphyrin Ligand" Wang, X.-S.; **Chrzanowski, M.J.**; Kim, C.; Gao, W.-Y.; Wojtas, L.; Chen, Y.-S.; Zhang, X. P.; Ma, S.* *Chem. Commun.*, **2012**, 48, 7173-7175.
2. "Vertex-Directed Self-Assembly of a High Symmetry Supermolecular Building Block Using a Custom-Designed Porphyrin" Wang, X.-S.; **Chrzanowski, M.J.**; Gao, W.-Y.; Wojtas, L.; Chen, Y.-S.; Zaworotko, M. J.; Ma, S.* *Chem. Sci.*, **2012**, 3, 2823-2827.
1. "Three-Dimensional Porous Metal-Metalloporphyrin Framework Consisting of Nanoscopic Polyhedral Cages" Wang, X.-S.; Meng, L.; Cheng, Q.; Kim, C.; Wojtas, L.; **Chrzanowski, M.J.**; Chen, Y.-S.; Zhang, X. P.; Ma, S.* *J. Am. Chem. Soc.*, **2011**, 133, 16322-16325.

PRESENTATIONS

11. **"Investigation of the effect aurophilic interactions on photophysical properties of organogold(I) complexes bearing a benzothiazole-2,7-fluorenyl moiety"** ACS National Meeting & Exposition, Philadelphia, PA, USA; March 2020
10. **"General Chemistry Laboratory curricula and practices across borders"** ACS National Meeting & Exposition, Philadelphia, PA, USA; March 2020
9. **"Emergence of mindfulness and mindlessness in multiple, diverse laboratory environments and its impacts on evidence-based curricula design"** ACS National Meeting & Exposition, Orlando, FL, USA; March 2019
8. **"Analysis of diverse and independent laboratory learning environments using Lanager's mindfulness theory"** ACS National Meeting & Exposition, New Orleans, LA, USA; March 2018
7. **"Reform in general chemistry laboratory instruction: How do students experience change?"** IUPAC 45th World Chemistry Congress, Busan, South Korea; August 2015
6. **"Reform in general chemistry laboratory instruction: How do students experience change between an expository laboratory and a cooperative project-based laboratory?"** ACS National Meeting & Exposition, Denver, CO, USA; March 2015
5. **"3-dimensional 4,4 connected porphyrin based covalent-organic framework"** Southeast Regional ACS Meeting, Nashville, TN, USA; October 2014
4. **"3-dimensional 4,4 connected porphyrin based covalent-organic framework"** Florida Inorganic & Materials Symposium, Gainesville, FL, USA; October 2014
3. **"Interdisciplinary Research in Sciences (IRIS) – Designing an effective introductory level course to prepare future researchers"** Biennial Conference on Chemical Education, Allendale, MI, USA; August 2014
2. **"Interdisciplinary Research in Sciences (IRIS) – Designing an effective introductory level**

course to prepare future researchers” Florida Annual Meeting and Exposition, Innisbrook, FL, USA; May 2014

1. **“Three-Dimensional Porous Metal-Metalloporphyrin Framework Consisting of Nanoscopic Polyhedral Cages”** Florida Inorganic & Materials Symposium, Gainesville, FL, USA; October, 2011

NEWSPAPER & MEDIA PUBLICATIONS

- *USF students will SOAR to cross the Karman Line*, USF College of Arts and Science Newsletter, January 2020
- *The USF Society of Aeronautics and Rocketry has successful liftoff*, Tampa Bay Times, December 2013
- *It is rocket science: USF students build and launch ‘em*, The Tampa Tribune, December 2013
- *USF student group fires rockets*, The Oracle, January 2014
- Special Feature, Bay News 9, March 2014

PROFESSIONAL REFERENCES

Prof. Thomas Gray

P: 216.368.0991

E: tgray@case.edu

Prof. John Protasiewicz

P: 216.368.5060

E: protasiewicz@case.edu

Prof. Santiago Sandi-Urena

P: Available upon request

E: santiago.s.urena@gmail.com

John Seethoff

P: 707.224.1910

E: jseethoff@realmcellars.com

Dr. Philip Bishop

P: Available upon request

E: psbishop@gmail.com

Stephanie Collins

P: 347.924.5149

E: stephanie_collins@berkeley.edu