Megan M. Moyer

(née Otting)
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Education

Colorado School of Mines Golden, CO
Ph.D., Applied Chemistry, August 2018.

Colorado School of Mines Golden, CO
B.S., Chemistry with a specialty in Biochemistry, May 2013.

Teaching Experience

The Citadel Department of Chemistry Charleston, SC
Assistant Professor of Chemistry; General Chemistry 1 and 2 and associated labs, Inorganic Chemistry. (July 2020-Present)

Carthage College Chemistry Department Kenosha, WI
Assistant Professor of Chemistry – contract position; General Chemistry 1 and 2 and associated labs, Chemistry for non-majors. (August 2018-May 2020)

Colorado School of Mines Department of Chemistry Golden, CO
Teaching assistant for General Chemistry 1 and 2 labs, General Chemistry 1 lecture, Biochemistry lab, and Chemistry Field Session. (2013-2018)

Research Experience

Carthage College Department of Chemistry, Primary Investigator
Students advised: S. Katt and G. Tews; sophomore/junior undergraduates
Synthesized and characterized cost effective and environmentally friendly metal organic frameworks (MOFs) for application in water filtration systems. MOF materials carbonized for future applications. Students presented their work to the department and the school August/September 2019, at the Midstates Consortium for Math and Science (November 2019) and ACS National Conference (March 2020). (March 2018-December 2020)

Colorado School of Mines Department of Chemistry, Graduate
Advisor: Brian Trewyn
Developed methods for tandem catalysis employing inorganic metal nanoparticles and bio-catalysts on silica supports for one-pot reactions. Examined naphthalene cracking under various catalytic conditions in association with methane dehydroaromatization. Hard-templated mesoporous carbon supports for single-site catalysis. (May 2013-August 2018)

National Renewable Energy Laboratory, Graduate
Advisors: Tom Gennett and Brian Trewyn
Synthesized, characterized and tested high surface area mesoporous carbon nitride materials for gas storage. (June 2018-August 2018)

Colorado School of Mines Department of Chemistry, Undergraduate
Advisors: Ryan Richards and Brian Trewyn
Synthesized highly ordered mesoporous carbon from inorganic silica templates for applications in catalysis, focusing on single-site catalytic systems. (2012-2013)

Funding

Research, Scholarship, and Creativity grant for "Synthesis of Microporous Carbon Materials from Metal Organic Frameworks to Improve Water Quality" through Carthage College, (2018-2019). Summer Undergraduate Research Experience (SURE) program funded for two undergraduate students through Carthage College, (2019).

Service

Certified in Adult Mental Health First Aid (effective August 2019-2022). Senior thesis advisor for three students investigating materials and inorganic chemistry (2018-2019). Volunteer faculty for inaugural SPARK summer STEM camp for girls in Kenosha, WI, to generate interest in science at the middle school level (July 2019). Pike River Project volunteer, assisted local elementary students investigate water quality (2019). Member, American Chemical Society (2013-Present). Student advisor for the inaugural Student Invited Seminar Series at Colorado School of Mines, Chemistry Department (2017-2018).

Presentations

"Synthesis of Hard-Templated Ordered Mesoporous Carbons Using Simple Kitchen Utensils to Scale Up OMC Production." **M.M. Moyer,** M. Davidson, N. Kovach, N. Leick, T. Evans, T. Gennett, B.G. Trewyn. *NAM26 North American Catalysis Society Meeting,* Chicago, IL, June 2019.

"A Supported Palladium/Gold Tandem Catalyst for the Oxidative Esterification of Allyl Alcohol." **M.M. Moyer**, B.G. Trewyn. PhD level Departmental Seminar, March 2018; *Graduate Research and Discovery Symposium*, Colorado School of Mines, April 2018.

"A Tandem Catalytic System Comprised of Gold Nanoparticles and Alcohol Dehydrogenase Enzyme Tethered to Mesoporous Silica Support for One-Pot Oxidative Esterification of Allyl Alcohol." **M.M. Moyer**, B.G. Trewyn. *41st Annual IPMI Conference* in Orlando, FL. June 2017; *245th ACS National Meeting* in Washington, D.C., August 2017.

"Molybenum/Zeolite Bi-Functional Catalyst for Methane Dehydroaromatization." **M.M. Moyer**, C. Karakaya, B.G. Trewyn. *Graduate Research and Discovery Symposium* at Colorado School of Mines, April 2016.

"Incorporating Enzyme and Metal Nanoparticle Catalysts on Mesoporous Silica Supports for Tandem Reactions." **M.M. Otting**, X. Sun, B.G. Trewyn. *ACS National Conference* in Denver, CO, March 2015.

Publications

Moyer, M.M.; Leick, N.; Davidson, M.; Evans, T.; Trewyn, B.G. A Supported Palladium/Gold Tandem Catalyst for the Direct Oxidative Esterification of Allyl Alcohol, *In Preparation*, 2020.

Moyer, M.M.; Trewyn, B.G. Synthesis and Application of Porous Materials as Supports for Nanoparticle, Single-Site, and Biomolecule Heterogeneous Catalysts, *Colorado School of Mines Thesis*, **2018**.

Moyer, M.M.; Karakaya, C.; Kee, R.J.; Trewyn, B.G. *In Situ* Formation of Metal Carbide Catalysts, *ChemCatChem*, **2017**, *9*, 3090-3010.

Munz, D.; Wang, D.; **Moyer, M.M.**; Webster-Gardiner, M.S.; Kunal, P.; Watts, D.; Trewyn, B.G.; Vedernikov, A.N.; Gunnoe, T.B. Aerobic Epoxidation of Olefin by Platinum Catalysts Supported on Mesoporous Silica Nanoparticles, *ACS Catal.*, **2016**, *6 (7)*, 4584-4593.

Publications (continued)

Otting, M.M.; Ji, Y.; Richards, R.M.; Trewyn, B.G. Chemistry in Confined Pore Domains. In *Pore Scale Phenomena: Frontiers in Energy and Environment*, Poate, J. Ed., *World Scientific Series in Nanoscience and Nanotechnology*, **2015**.

Joglekar, M.; Pylypenko, S.; **Otting, M.M.**; Valenstein, J.S.; Trewyn, B.G. Universal and Versatile Route for Selective Covalent Tethering of Single-Site Catalysts and Functional Groups on the Surface of Ordered Mesoporous Carbons, *Chem. Mater.*, **2014**, *26*, 2873-2882.

Awards

Most Outstanding Teaching Assistant in Chemistry (2018), Biotechnology and Catalysis Symposium Top Presenter GRADS Conference (2018), IPMI New York Chapter Student Award (2017), Inaugural CoorsTek Fellow (2014-2016), Outstanding Graduate Student Seminar (2014).