
CURRICULM VITAE

NATASHA SIEPSE

Graduate Student/Ph.D. Candidate

nsiepser@iu.edu

[linkedin.com/in/natasha-siepser-29bb091bb](https://www.linkedin.com/in/natasha-siepser-29bb091bb)

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Indiana University (Bloomington, IN)	Ph.D.	Expected Fall 2021	Analytical Chemistry
Western Washington University (Bellingham, WA)	B.S.	06/2016	Chemistry

A. Personal Statement

Currently, I am working towards my Ph.D. in analytical chemistry at Indiana University under the mentorship of Dr. Lane A. Baker. My research project is to develop methods that utilize micro-/nano- size probes for studying single-entity electrochemistry at an electrocatalyst surface. Present efforts to incorporate local chemical measurements at catalytic surfaces are conducted via scanning electrochemical cell microscopy.

Previously, I graduated from Western Washington University with a bachelor of science in chemistry and a minor in materials science. As an undergraduate researcher, I investigated layer by layer thin film assembly of polymer capped nanoparticles for catalysis applications in Dr. David Rider's laboratory in the Department of Chemistry.

B. Positions and Honors**Professional Employment**

Fall 2018 - present Research Assistant, Indiana University, Department of Chemistry
Fall 2016 - Fall 2018 Associate Instructor, Indiana University, Department of Chemistry

Honors and Awards

2019 Annual Symposium on Materials Research Best Oral Presentation Award
2019 Carroll Family Fellowship
2018 IUB Provost's Travel Award for Women in Science
2016 IU Chemistry Department Fellowship
2016 WWU Outstanding Graduate in Chemistry
2016 WWU Scholars Week Poster Award
2016 RSP Creative Opportunities Research Grant
2015 Henry Dreyfus- Scholar Award Travel Grant
2015 Denise (Ambrose) Hougen Chemistry Undergraduate Fellowship
2015 Analytical Chemistry Student of the Year
2015 RSP Creative Opportunities Research Grant
2013 CRC Press Freshman General Chemistry Award

Professional Activities

2020 - present Member- International Society of Electrochemistry

- 2019 - 2020 President- IU Student Chapter of The Electrochemical Society
 2018 - 2019 Vice President- IU Student Chapter of The Electrochemical Society
 2018 Co-organizer- "New Paradigms in Nanoscale Electrocatalysis and Sensing"
 Student Organized Symposium at 256th ACS National Meeting & Exposition
 Boston, MA, Aug. 2018.
 2018 - present Member- The Electrochemical Society
 2018 - present Member- Society of Electroanalytical Chemistry
 2015 - present Member- American Chemical Society

C. Publications

4. Zhu, C.; Huang, K.; Siepser, N.P.; Baker, L.A. Scanning Ion Conductance Microscopy. *Chem. Rev.* **2020**, accepted. (DOI: 10.1021/acs.chemrev.0c00962)
3. Alden, S.E., Siepser, N.P., Patterson, J.A., Jagdale, G.S., Choi, M., Baker, L.A. Array Microcell Method (AMCM) for Serial Electroanalysis. *ChemElectroChem* **2020**, 7 (5), 1084. (DOI: 10.1002/celec.201901976)
2. Choi, M.; Siepser, N.P.; Jeong, S.; Wang, Yi.; Jagdale, G.S.; Ye, X.; Baker, L.A. Probing Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals. *Nanoletters* **2020**, 20 (2), 1233-1239. (DOI: 10.1021/acs.nanolett.9b04640)
1. Coceancigh, H.; Tran-Ba, K.H.; Siepser, N.; Baker, L.A.; Ito, Takashi Longitudinally Controlled Modification of Cylindrical and Conical Track-Etched Poly(ethylene terephthalate) Pores Using an Electrochemically Assisted Click Reaction. *Langmuir* **2017**, 33 (43), 11998-12006. (DOI: 10.1021/acs.langmuir.7b02778)

D. Presentations

Oral Presentations

3. Siepser, N.P.; Baker, L.A. "Single-Entity Electrocatalysis on Nanoparticle Ensembles Prepared by Template Synthesis." 2021 Pittsburgh Conference Online, Mar. 2021.
2. Siepser, N.P.; Choi, M.; Jeong, S.; Wang, Yi.; Jagdale, G.S.; Ye, X.; Baker, L.A. "Measuring Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals." 6th Annual Symposium on Materials Research Indiana University Bloomington, IN, July 2019.
1. Siepser, N.P.; Rider, D.A. "Layer-by-Layer Thin Film Assembly and Catalysis using Polymer-Capped Nanoparticles." 24th Annual Murdock College Science Research Conference Vancouver, WA, Nov. 2015.

Poster Presentations

10. Siepser, N.P.; Choi, M.; Jeong, S.; Wang, Yi.; Jagdale, G.S.; Ye, X.; Baker, L.A. "Probing Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals." 71st Annual Meeting of the International Society of Electrochemistry Belgrade Online, Sept. 2020.
9. Siepser, N.P.; Choi, M.; Jeong, S.; Wang, Yi.; Jagdale, G.S.; Ye, X.; Baker, L.A. "Probing Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals." 2020 Pittsburgh Conference Chicago, IL, Feb. 2020.
8. Siepser, N.P.; Choi, M.; Jeong, S.; Wang, Yi.; Jagdale, G.S.; Ye, X.; Baker, L.A. "Measuring Single-Particle Electrocatalytic Activity at Facet-Controlled Gold Nanocrystals." Turkey Run Analytical Chemistry Conference Marshall, IN, Sept. 2019.
7. Siepser, N.P.; Choi, M.; Jeong, S.; Ye, X.; Baker, L.A. "Nanoscale Imaging and Electrochemical Water Oxidation of Copper Nanowires." 256th ACS National Meeting & Exposition Boston, MA, Aug. 2018.

6. Siepser, N.P.; Choi, M.; Jeong, S.; Ye, X.; Baker, L.A. "Electrochemical Reactions at Catalytic Surfaces." 5th Annual Materials Symposium Bloomington, IN, July 2018.
5. Siepser, N.P.; Jagdale, G.; Jeong, S.; Ye, X.; Baker, L.A. "Analysis of Products from CO₂ Electroreduction using Micro- and Nano- Probes." 2018 Pittsburgh Conference Orlando, FL, Feb. 2018.
4. Siepser, N.P.; Rider, D. A. "Layer-By-Layer Assembly and Catalysis from Polymer-Capped Au Nanoparticles." WWU Scholars Week Undergraduate Research Symposium Bellingham, WA, May 2016.
3. Siepser, N.P.; Rider, D. A. "Layer-By-Layer Assembly and Catalysis from Polymer-Capped Au Nanoparticles." 251st ACS National Meeting & Exposition San Diego, CA, Mar. 2016.
2. Siepser, N.P.; Rider, D. A. "Polymer capped Au/Pd nanoparticles for catalysis reactions." WWU Scholars Week Undergraduate Research Symposium Bellingham, WA; May 2015.
1. Siepser, N.P.; Rider, D. A. "Polymer capped Au/Pd nanoparticles for catalysis reactions." ACS Puget Sound Conference Tacoma, WA; Apr. 2015.