

Benjamin Harry Robert Gerroll

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Education

Indiana University2015–2020 (*anticipated*)

Bloomington, IN 47401

Ph.D. Candidate: Analytical Chemistry

Focus: Electroanalytical chemistry, Bioelectrochemistry

Indiana University2007–2012

Bloomington, IN 47401

B.S. Biology

Research Experience

Graduate Research Assistant

Indiana University

Advisors – Dr. Dennis G. Peters, Dr. Lane A. Baker

- Electrochemical preparation and characterization of metal oxide semiconductor electrodes.
- Measurement of metalloprotein electrochemistry at novel semiconductor electrodes.
- Mechanistic study of direct and catalytic haloalkyl reduction at carbon and silver cathodes.

Undergraduate Research Assistant

Indiana University

Advisor – Dr. Troy Smith

- Applied immunohistochemical and fluorescence microscopy to look at localization of serotonin in ghost knifefish (apteronidae) brain
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Teaching Experience

Associate Instructor

Indiana University

- CHEM-N 330 Intermediate Inorganic Chemistry: Lab Fall 2015
 - CHEM-N 330 Intermediate Inorganic Chemistry: Lab Fall 2016
 - CHEM-C 383 Chemistry of Living Systems: Lecture.....Spring 2016
 - CHEM-C 122 Elementary Chemistry Lab.....Spring 2017
 - CHEM-C 117 Principles of Chemistry and Biochemistry: Lecture Fall 2018
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Publications

Barnes, J. T.; Gerroll, B. H. R.; Griffith, K. J.; Beeler, J. A.; Couto Petro, A. G.; Williams, C. G.; Siedle, A. R.; Tait, S. L.; Peters, D. G., “X-ray Photoelectron Spectroscopic Studies of Alkyl-Group Grafting onto Glassy Carbon Electrodes via Reduction of Primary Haloalkanes” *J. Electroanal. Chem.*, **2020**, 856, 113531.

Gerroll, B. H. R., Bird, S. P., Martin, E. T., Mubarak, M. S., Peters, D. G., “Cyclohexyl Bromide and Iodide: Direct Reduction at Vitreous Carbon Cathodes together with Nickel(I) Salen- and Cobalt(I) salen-Catalyzed Reductions in Dimethylformamide” *ChemElectroChem.*, **2018**, *5*, 902–910.

AlDamen, M. A., Al-hunaiti, A., Eronen, A., Mubarak, M. S., Gerroll, B. H. R., Peters, D. G., “Na₁₄[(H₂P₄W₆O₃₄)₂Co₂Na₂(H₂O)₂].26H₂O: A New, Carbon-Free, Polyoxometalate Catalyst for Water Oxidation” *J. Clust. Sci.* **2017**, *28*, 3087–3101.

Wagoner, E. R., Baumberger, C. P., Gerroll, B. H. R., Peters, D. G., “Catalytic reduction of 1,2,5,6,9,10-hexabromocyclododecane by nickel(I) salen electrogenerated at vitreous carbon cathodes in dimethylformamide” *Electrochim. Acta.* **2014**, *132*, 545–550.

Conferences and Presentations

Oral Presentations

ECS Meeting Dallas, TX May 2019. Benjamin H. R. Gerroll, Dennis G. Peters “Protein Film, and Diffusion-Controlled Voltammetry of Hemeproteins on a Single Surface”

ECS Meeting New Orleans, LA 2017. Benjamin H. R. Gerroll, Dennis G. Peters “Electrodeposited Cadmium Oxide Semiconductor Electrodes for Protein Redox Characterization”

ECS Meeting Chicago, IL 2015. Benjamin H. R. Gerroll, Dennis G. Peters “Electrochemical Reduction of 2,2',6,6'-Tetrabromobisphenol A at Silver Cathodes in Dimethylformamide”

Poster Presentations

Turkey Run Analytical Conference Marshall, IN 2016. Benjamin H. R. Gerroll, Dennis G. Peters “Electrodeposited Cadmium Oxide Semiconductors for Protein Redox Characterization”

Turkey Run Analytical Conference Marshall, IN 2014. Benjamin H. R. Gerroll, Dennis G. Peters “Electrochemical Behavior of 1,2,3-Trichloro-5-((4-chlorophenyl)sulfonyl)benzene (Tetradifon) at Carbon Cathodes”

Brominated Flame Retardant Conference Indianapolis, IN 2014. Benjamin H. R. Gerroll, Dennis G. Peters. “Electrochemical Reduction of 2,2',6,6'-Tetrabromobisphenol A”

Undergraduate Students Mentored

Michael Pence

Indiana University B.S. Chemistry2016–2020

University of Illinois Urbana Champaign Ph.D..... 2020–2025 (anticipated)

Project:

- Electrochemically induced halogen rearrangement

Josh Beeler

Indiana University B.S. Chemistry 2017–2021 (anticipated)

Projects:

- Alkyl grafting onto carbon cathodes by means of alkyl iodide reduction.
- Self-assembled monolayers of thiols onto gold for metalloprotein redox measurement.
- Electrodeposition of cadmium oxide and tin doped cadmium oxide for metalloprotein redox measurement.

Affiliations and Memberships

Electrochemical Society

- Member 2014–present
- Student Chapter Secretary 2015–2019

Volunteering and Interests

Indiana University Men's Ultimate Frisbee Coach

Planned and organized practices, and tournament schedules.

Facilitated student athlete successes on and off the field.

Bloomington Ultimate

Organized and led a community wide forum to discuss gender equity.

Took on leadership positions for community leagues to help new players feel welcome.

Interests

Strength training, athletics, hiking, camping, and piano.