SHIQIANG (NICK) ZOU

Assistant Professor
shiqiang@auburn.edu

Professor Shiqiang (Nick) Zou leads the ZOU Lab at Auburn University. His research centers on applied electrochemistry to transform resource-intensive wastewater management into systems that supply valuable resources. He extends this expertise by integrating applied electrochemistry with selective separation and process engineering to develop engineering solutions that improve environmental quality. The ZOU Lab aims to (i) selectively recover critical resources from industrial, agricultural, and domestic wastewaters, (ii) fundamentally understand rate-limiting steps on the system level via thermodynamic and kinetic analysis, and (iii) identify scaling-up challenges to better design the wastewater treatment train.

EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA, United States
Ph.D. Civil Engineering, 2019
National University of Singapore, Singapore, Singapore
M.S. Chemistry, 2014
Peking University, Beijing, China
M.S. Environmental Engineering, 2014
Beijing Institute of Technology, Beijing, China
B.ENG. Environmental Engineering, 2011

ACADEMIC APPOINTMENTS

2021-present	Assistant Professor, Department of Civil and Environmental Engineering, Auburn University, AL
2019-2020	Postdoctoral Scholar, Department of Civil and Environmental Engineering, Leland Stanford Junior University, Stanford, CA
2019 summer	Research Assistant, Department of Civil and Environmental Engineering, Virginia Tech, VA
2019 spring	Via Teaching Scholar, Department of Civil and Environmental Engineering, Virginia Tech, VA
2014-2015	Research Fellow, Department of Chemistry, National University of Singapore, Singapore

SELECTED HONORS AND AWARDS

Member of the Month, National Alliance for Water Innovation, Dept of Energy, 2023
Early Career Travel Award, Industrial Electrochemistry & Electrochemical Engineering Division, ECS, 2022
ACS-ENVR Certificate of Merit Award, Environmental Chemistry Division, American Chemical Society, 2021
New Faculty Scholar, Biggio Center, Auburn University, 2021
Early Career Travel Award, Industrial Electrochemistry & Electrochemical Engineering Division, ECS, 2021
Outstanding Self-Financed Chinese Students, 2020
Outstanding Doctoral Student, Department of Civil and Environmental Engineering, Virginia Tech, 2019
Graduate Student Award in Environmental Chemistry, American Chemical Society, 2019
Virginia AWWA Graduate Student Scholarship, 2018
WaterJAM 2018 Young Professional "Fresh Ideas" Poster Contest - 1st Place, VA AWWA/VWEA, 2016-2018
Top Reviewer, Water Environment Research, 2017
Environmental Competition international (ECi) - 2nd Place, Air & Waste Management Association, 2016, 2017
Raymond and Madelyn Curry Fellowship, Dept of Civil and Environmental Engineering, Virginia Tech, 2015
Singapore-Peking-Oxford Research Scholarship, Singapore-Peking-Oxford Research Enterprise, 2011-2014

PEER-REVIEWED PUBLICATIONS IN JOURNALS

(* denotes the corresponding author; underline denotes students and postdoc primarily advised by S. Zou)

J34 Yang, Z., Martinez-Vargas, D.R., Xie, A., and **Zou, S.*** A three-dimensional packed bed electrochemical reactor for removing aquatic selenite. *In Preparation*, **2025**.

J33 Wang, D., Xie, A., Ma, S., Tong, W., **Zou, S.**, Jain, A.* Computational catalysis and machine learning applications to water treatment technologies. *Submitted*, **2025**.

J32 Zulfeqar, N., Khosravi, A.,* **Zou, S**.* Nano-Enhanced Electrokinetic Conditioning of Expansive Soils Using MgO Nanoparticles. *Submitted*, **2025**.

Published

J31 Hao, S., Feng, Y., Wang, D., Cho, J., Qiu, C., Wi, T., Xu, Z., Yu, Z., Sellers, C., **Zou, S.,*** Jain, A.,* Wang, H.* Electrochemical removal of Se(IV) from wastewater using RuO2-based catalysts. *Nano Letters*, **2025**.

J30 Xie, A. Martinez-Vargas, D.R., Yang, Z., and **Zou, S.*** Efficient selenate removal from impaired waters with TiO2-assisted electrocatalysis. *Water Research*, **2024,** 262, 122134.

J29 Zhao, J., Yang, Z., Alderman, B., **Zou, S.*** Mechanistic insight into electrooxidation of aminomethyl phosphonic acid (AMPA) in diluted water matrices. *Journal of Environmental Chemical Engineering*, **2024**, 12, 1, 111669.

J28 Chu, L., Song, Z., **Zou, S.,*** and Wang, D.* Effect of Carbonaceous Materials on Phosphorus Removal in Flow-Through Packed Column Systems. *Environmental Science and Pollution Research*, **2024,** 31, 60555-60567.

J27 Zheng, Y., Carter, E., **Zou, S.,** Chow, A.T., and Chen, H.* Using Syringe Filtration after Lab-scale Adsorption Processes Potentially Overestimates PFAS Adsorption Removal Efficiency from Non-conventional Irrigation Water. *Journal of Environmental Quality*, **2024,** 54, 1, 20-30.

J26 Yang, Z., Zhao, J., Sullivan, E.G., **Zou, S.*** Cost-effective cathode materials to electrochemically tackle aquatic selenite pollution. *ACS EST Engineering*, **2023**, 3, 4, 458–466.

J25 Ferby, M., **Zou, S.**, He, Z.* Effects of draw solutes on an integrated forward osmosis-microbial fuel cell system treating a synthetic wastewater. *Water Environment Research*, **2022**, 94 (11), e10802

J24 **Zou, S.** and Mauter, M.S.* Competing ion behavior in direct electrochemical selenite reduction. *ACS EST Engineering,* **2021**, 1, 6, 1028-1035.

J23 **Zou, S.** and Mauter, M.S.* Direct electrochemical pathways for selenium reduction in aqueous solutions. *ACS Sustainable Chemistry & Engineering*, **2021**, 9, 5, 2027-2036.

J22 Ferby, M., **Zou, S.**, He, Z.* Reduction of reverse solute flux induced salinity buildup in the feed solution of forward osmosis. *Environmental Science: Water Research & Technology*, **2020**, 6(3), 423-425.

J21 Li, M., Zhang, B.,* **Zou, S.**, Liu, Q., Yang, M. Highly selective adsorption of vanadium by nano-hydrous zirconium oxide-modified anion exchange resin. *Journal of Hazardous Materials*, **2020**, 384, 121386.

J20 **Zou, S.**, Smith, E., Martin, S.,* He, Z.* Mitigation of Bidirectional Solute Flux in Forward Osmosis via Membrane Surface Coating of Zwitterion Functionalized Carbon Nanotubes. *Environmental International*, **2019**, 131, 104970.

J19 **Zou, S.**, Qin, M., He, Z.* Tackle reverse solute flux in forward osmosis towards sustainable water recovery: reduction and perspectives. *Water Research*, **2019**, 49, 362-374.

J18 Wu, S., **Zou, S.**, Yang, Y., Qian, G.,* He, Z.* Enhancing the performance of an osmotic microbial fuel cell through self-buffering with reverse-fluxed sodium bicarbonate. *Chemical Engineering Journal*, **2018**, 349, 241-248.

J17 Cecconet, D., **Zou, S.**, Capodaglio, A.G.,* He, Z.* Evaluation of energy consumption of treating nitrate-contaminated groundwater by bioelectrochemical systems. *Science of the Total Environment*, **2018**, 636, 881-890.

J16 Wu, Z., **Zou, S.**, Zhang, B., Wang, L., He, Z.* Forward osmosis promoted in-situ formation of struvite with simultaneous water recovery from digested swine wastewater. *Chemical Engineering Journal*, **2018**, 342, 274-280.

J15 Qin, M., White, C., **Zou, S.**, He, Z.* Passive separation of recovered ammonia from catholyte for reduced energy consumption in microbial electrolysis cell. *Chemical Engineering Journal*, **2018**, 334, 2303-2307.

J14 Wu, S., **Zou, S.**, Liang, G., Qian, G., He, Z.* Enhancing recovery of magnesium as struvite from landfill leachate by treatment of calcium with simultaneous reduction of liquid volume via forward osmosis. *Science of the Total Environment*, **2018**, 610-611, 137-146.

J13 **Zou, S.**, Guan, L., Taylor, D.P., Kuhn, D., He, Z.* Nitrogen removal from water of a recirculating aquaculture system by a bioelectrochemical system. *Aquaculture*, **2018**, 497, 74-81.

J12 **Zou, S.** and He, Z.* Efficiently "pumping out" value-added resources from wastewater by bioelectrochemical systems: a review from energy perspectives. *Water Research*, **2018**, 131, 62-73.

J11 Zhang, B., **Zou, S.**, Cai, R., Li, M., He, Z.* High-efficient photocatalytic disinfection of Escherichia coli under visible light using carbon supported Vanadium Tetrasulfide nanocomposites. *Applied Catalysis B: Environmental*, **2018**, 224, 383-393.

J10 **Zou, S.**, Kanimba, E., Diller, T.E., Tian, Z., He, Z.* Modelling assisted evaluation of direct electricity generation from waste heat of wastewater via a thermoelectric generator. *Science of the Total Environment*, **2018**, 635, 1215-1224.

J9 Yang, Y., Chen, M., **Zou, S.**, Long, T., Yang, X., He, Z.* Efficient recovery of polyelectrolyte draw solutes in forward osmosis towards sustainable water treatment. *Desalination*, **2017**, 422, 134-141.

J8 Iskander, S., **Zou, S.**, Brazil, B., Novak, J., He, Z.* Energy consumption by forward osmosis treatment of landfill leachate for water recovery. *Waste Management*, **2017**, 63, 284-291

J7 Xiang, X., **Zou, S.**, He, Z.* Energy consumption of water recovery from wastewater in a submerged forward osmosis system with commercial liquid fertilizers as draw solutes. *Separation and Purification Technology*, **2017**, 174, 432-438

J6 **Zou, S.** and He, Z.* Electrodialysis recovery of reverse-fluxed fertilizer draw solute during forward osmosis water treatment. *Chemical Engineering Journal*, **2017**, 330, 550-558.

J5 **Zou, S.**, Qin, M., Moreau, Y., He, Z.* Nutrient-energy-water recovery from synthetic sidestream centrate using a microbial electrolysis cell - forward osmosis hybrid system. *Journal of Cleaner Production*, **2017**, 154, 16-25.

J4 **Zou, S.** and He, Z.* Electrolysis-assisted mitigation of reverse solute flux in a three-chamber forward osmosis system. *Water Research*, **2017**, 115, 111-119.

J3 **Zou, S.**, Yuan, H., Childress, A.,* He, Z.* Energy consumption by recirculation: a missing parameter when evaluating forward osmosis. *Environmental Science & Technology*, **2016**, 50, 6827-6829

J2 **Zou, S.** and He, Z.* Enhancing wastewater reuse by forward osmosis with self-diluted commercial fertilizers as draw solutes. *Water Research*, **2016**, 99, 1, 235-243.

J1 **Zou, S.**, Yao, S., Ni, J.R.* High-efficient nitrogen removal by coupling enriched autotrophic-nitrification and aerobic-denitrification consortiums at cold temperature. *Bioresource Technology*, **2014**, 161, 288-296.

OTHER WRITING

Conference Proceedings

C10 Zulfeqar, N., **Zou, S.,*** Khrosravi, A.* Innovative Electrokinetic Treatment of Expansive Soils: Evaluating $MgCl_2$ and $CaCl_2$ as Stabilizing Agents. Geo-Congress 2026, Salt Lake City, UT, 2026

C9 Zulfeqar, N., **Zou, S.,*** Khrosravi, A.* Exploring Physiochemical Properties of Expansive Soils through Electro-Kinetic Conditioning. Geo-Congress 2025, Louisville, KY, 2025

C8 Xie, A., Martinez-Vargas, D.R., Yang, Z., **Zou, S**.* Energy-efficient selenate removal from impaired waters with TiO2-assisted electrocatalysis. 2024 ECS Meeting Abstract, MA2024.

C7 Yang, Z., Xie, A., **Zou, S**.* Treatment of Se-impacted wastewater using a 3-dimensional packed bed electrochemical reactor. 2024 ECS Meeting Abstract, MA2024.

C6 Zulfeqar, N., **Zou, S.,*** Khrosravi, A.* Nanoparticle Mediated Soil Conditioning and Stability Enhancement: A Review of the Impacts on Hydro-Physico-Mechanical Characteristics. Geo-Congress 2024, Vancouver, 2024

C5 Zhao, J., Yang Z., Alderman, B., **Zou, S.*** Electrooxidation Pathway and Kinetics for Aminomethyl Phosphonic Acid (AMPA) Degradation in Diluted Water Matrices. 2022 ECS Meeting Abstract, MA2022-02, 1060.

C4 Yang, Z., Zhao, J., Sullivan, G., **Zou, S.*** Comprehensive Evaluation of Affordable Cathode Materials in Direct Electrochemical Selenite Reduction. 2022 ECS Meeting Abstract, MA2022-02, 1044.

C3 **Zou, S.** and Mauter, M.S.* Direct Electrochemical Reduction to Separate Selenium from Industrially Impacted Water. 2021 AICHE Annual Meeting Proceedings, American Institute of Chemical Engineers, Boston, MA, 2021.

C2 **Zou, S.** and Mauter, M.S.* Electrochemical Selenium Remediation: Direct Reduction Pathways and System Optimization. 2021 ECS Meeting Abstract, MA2021-02, 766

C1 **Zou, S.**, Smith, E.D., Martin, S., He, Z.* Mitigation of Bidirectional Solute Flux Via Membrane Surface Coating of Zwitterion Functionalized Carbon Nanotubes in Forward Osmosis Process. 2018 AIChE Annual Meeting, American Institute of Chemical Engineers, Pittsburgh, PA, 2018.

Book Chapters

B1 Jain, A., **Zou, S.,** He, Z. Integration of membranes into bioelectrochemical systems for enhanced treatment performance. *Current Trends and Future Developments on (Bio-) Membranes*, Elsevier, 2020.

INTELLECTUAL PROPERTY AND PATENTS

P5 **Zou, S.** and Yang, Z. Intercalative Method to Electrochemically Remove Selenium from Water. Provisional patent application, Auburn University, United States.

P4 Ni, J.R., **Zou, S.**, Yao, S. Application of psychrotolerant heterotrophic consortium capable of anoxic nitrogen removal in water treatment. Patent Number: CN 103342417 B, Peking University, China, 2014, Active till 2033.

P3 Ni, J.R., Yao, S., **Zou, S.** Application of psychrotolerant autotrophic nitrifying consortium in wastewater treatment. Patent Number: CN 103319000 B, Peking University, China, 2014, Active till 2033.

P2 Ni, J.R., Chen, Q., Fu, D., **Zou, S.** Application of Comamonas testosteroni with denitrification and dephosphorization function. Patent Number: CN 102531202 B, Peking University, China, 2013, Active till 2032.

P1 Chen, Q., Ni, J.R., **Zou, S.** Application of Achromobacter xylosoxidans with denitrification and dephosphorization function. Patent Number: CN 102533623 B, Peking University, China, 2013, Active till 2032.

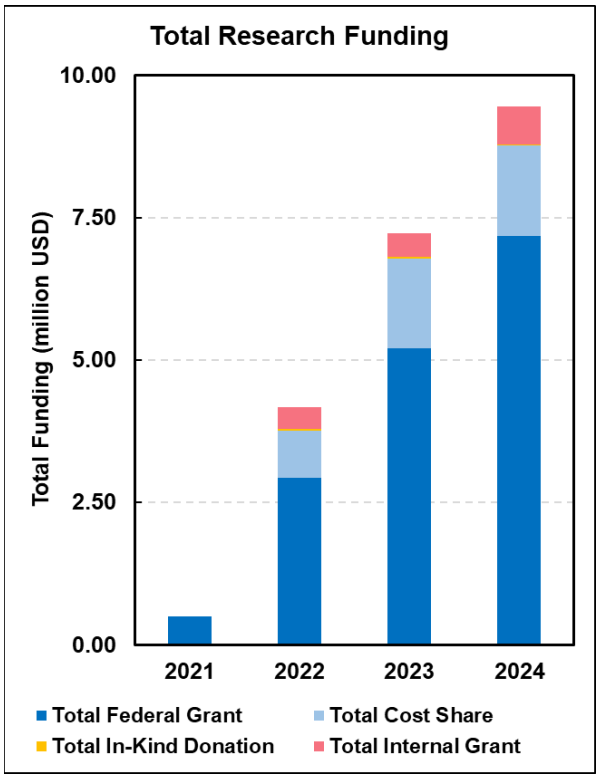
GRANT AWARDS (at Auburn University since 2021)

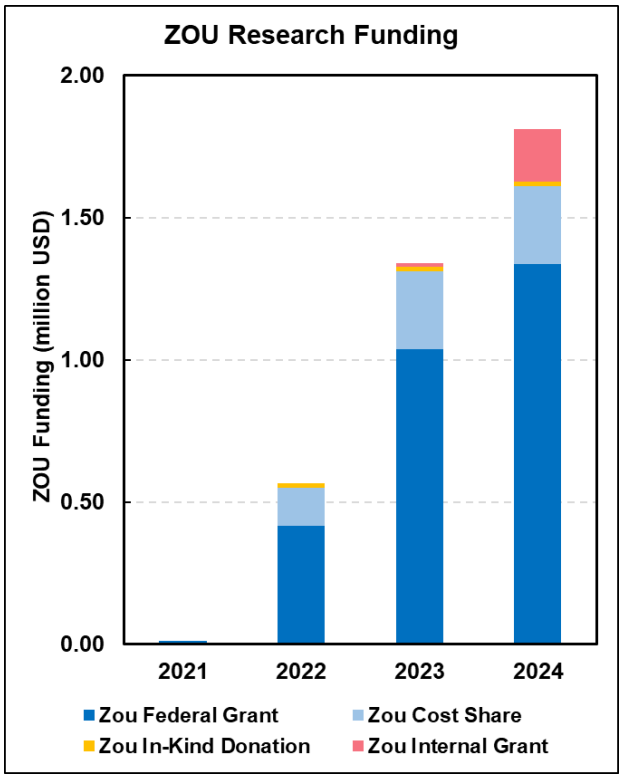
Total involved grants: **$ 9.46 million**

S. Zou as the PI at Auburn: **$ 2.95 million**

S. Zou's share: **$ 1.81 million**

The figures below show a funding breakdown of all grant awards:





GRANT AWARDS (on which ZOU is the **Principal Investigator, PI** at Auburn University)

Award Span	Grant Title	Agency	Investigators	Awards
2025-2027	Direct Electrochemical PFAS Destruction for In Situ Regeneration of Spent Granular Activated Carbon **(Lead PI)**	Department of Defense (DOD), Strategic Environmental Research and Development Program (SERDP)	S. Zou (**lead**), D. Wang (U of Florida), C. Impellitteri (Water Tower)	Auburn: $170,000 My share: 100% Total Award: $250,000

2025-2027	Metal Speciation Analyzer: Advancing metal fingerprinting for the future development of the Center for Metal Sustainability **(Lead PI)**	Auburn University Mission Enhancement Fund	S. Zou (**lead**), L. Beckingham, J. Maxcy-Brown, N. Sharma, R. Wang, A. Wilson, Y. Olshansky, R. Prasad, H. Chen	Total Award: $250,000 My share: 100%
2023-2025	Development of a flow-through intensified electrodialysis (FIELD) system to manage inland reverse osmosis concentrate **(Lead PI)**	Department of Energy (DOE); National Alliance for Water Innovation (NAWI) Cost Share: California Department of Water Resources	S. Zou (Auburn, **lead**), A. Jain (LBNL), H. Wang (Rice), J. Monnell (EPRI), C. Impellitteri (Water Tower)	Auburn: $490,000 My share: 100% Total Award: $1,492,000
2023-2026	Non-Woven Hybrid Geotextiles for Urban Stormwater Nutrient Management **(Auburn subcontract PI)**	U.S. Environmental Protection Agency (EPA); Gulf of Mexico Division (GMD)	K. Venkiteshwaran (U of South Alabama, **lead**), K. Young (Wake Forest), S. Zou, M. Perez (Auburn), C. Kistler (Mobile Bay Keeper)	Auburn: $420,000 My share: 60% Total Award: $1,305,379
2022-2024	Direct electrochemical reduction of selenium to achieve A-PRIME water treatment **(Auburn subcontract PI)**	Department of Energy (DOE); National Alliance for Water Innovation (NAWI) Cost Share: California Department of Water Resources	A. Jain (LBNL, **lead**), W. Tong (LBNL), H. Wang (Rice), S. Zou (Auburn), and M.S. Mauter (Stanford)	Auburn: $533,334 My share: 100% Total Award: $2,513,334

GRANT AWARDS (on which ZOU is the **co-Principal Investigator, co-PI** at Auburn University)

Award Span	**Grant Title**	**Agency**	**Investigators**	**Awards**
2024-2026	Innovate Alabama SBIR Phase II Supplemental Grant	Innovate Alabama	M. Perez (PI), S. Zou, W. Donald (co-PI)	$125,485 My share: 15%
2024-2026	SBIR Phase II: Development of a self-contained electrocoagulation device to achieve stormwater water quality goals	Alabama Department of Transportation	M. Perez (PI), S. Zou, W. Donald (co-PI)	$208,400 My share: 15%

2023-2027	Abiotic and Biotic Transformation of PFAS Precursors at Oxic–Anoxic Transition Zones in AFFF-Impacted Soil and Groundwater	Dept of Defense (DOD); Strategic Environmental Research and Development Program (SERDP)	D. Wang (PI), S. Zou, P.G. Tratnyek, Y. Men, D. Fan, A.S. Danko (co-PI)	$1,394,747 My share: 1%
2023-2024	Innovate Alabama SBIR Supplemental Grant	Innovate Alabama	M. Perez (PI), S. Zou, W. Donald (co-PI)	$37,582.35 My share: 15%
2023-2024	SBIR: Development of a self-contained electrocoagulation device to achieve stormwater water quality goals	Department of Transportation	M. Perez (PI), S. Zou, W. Donald (co-PI)	$49,950 My share: 25%
2023-2024	Nano-conditioning of expansive soil using electroosmosis **(Internal grant)**	Auburn University Highway Research Center	A. Khosravi (PI), S. Zou (co-PI)	$35,000 My share: 40%
2022-2024	Mission Enhancement Fund for Center for Ecotoxicology and Risk Assessment **(Internal grant)**	Auburn University	T. Hoang (PI), J. Tomasso, D. Wang, A. Wilson, A. Ojeda, P. Lotsch, J. Davis, S. Zou, D. Blersch (co-PI)	$380,000 My share: 1%
2022-2026	A "trap-and-zap" technology for cost-effective removal and destruction of aqueous-phase per-and polyfluoroalkyl substances at DOD sites	Dept of Defense (DOD); Strategic Environmental Research and Development Program (SERDP)	D. Zhao (PI), S. Zou, L. Blaney (co-PI)	$750,000 My share: 1%
2021-2024	Assessing nutrient cycling and food safety of poultry processing wastewater for irrigation in controlled-environment agriculture	United States Department of Agriculture (USDA); National Institute for Food and Agriculture (NIFA)	B. Higgins (PI), D. Wells, D. Bourassa, R. Prasad, S. Zou (co-PI)	$499,576 My share: 3%
2020-2024	Development of predictive tools for assessment of natural attenuation capacity and treatment transition at chlorinated solvent sites	Dept of Defense (DOD); Strategic Environmental Research and Development Program (SERDP)	N. Capiro (PI), S. Zou (Auburn), M. Widdowson (VT), K. Pennell (Brown)	$1,051,986 My share: 1%

STUDENT ADVISING

Post-Doctoral Advisees

2 Dr. David Ricardo Martínez Vargas, Civil and Environmental Engineering, Auburn University, Fall 2023 - Present
- Ph.D. in Environmental Sciences, Instituto Potosino de Investigación Científica y Tecnológica

1 Dr. Ao Xie, Civil and Environmental Engineering, Auburn University, Summer 2022 - Present
- Ph.D. in Environmental Engineering and Science, Clemson University

Ph.D. Dissertation Chairs (Primary Advisees)

4 Jiagen Geng, Civil and Environmental Engineering, Auburn University, Fall 2023 - Present
- Dissertation title: In Progress
- Charles E. Gavin Fellowship

3 Najibullah Zulfeqar, Civil and Environmental Engineering, Auburn University, Spring 2023 - Present
- Dissertation title: In Progress
- Auburn University Fellowship

2 Jiaxiang Zhao, Civil and Environmental Engineering, Auburn University, Fall 2021 - Present
- Dissertation title: In Progress
- Student Travel Award, The Electrochemical Society, 2022
- Alabama-Mississippi Water Conference Student Poster Competition winner, 2022

1 Zilan Yang, Civil and Environmental Engineering, Auburn University, Summer 2021 - Present
- Dissertation title: In Progress
- Student Travel Award, Association of Environmental Engineering and Science Professors, 2023
- 100+ Women Strong Leadership Award, 2023
- Alabama-Mississippi Section of the American Water Works Association Scholarship, 2023
- Honorable Mention, Graduate Engineering Research Showcase, 2021
- Walt and Virginia Woltosz Fellowship
- Alabama-Mississippi Water Conference Student Poster Competition winner, 2021

Other Doctoral Students (with whom I serve as an Advisory Committee member)

8 Megan Armstrong, Civil and Environmental Engineering, Auburn University
- Primary Advisor: Michael Perez
- Dissertation title: In Progress

7 Vivian Chimezie Usha, Biosystems Engineering, Auburn University
- Primary Advisor: Hossein Jahromi
- Dissertation title: In Progress

6 Ziteng Song, Crop, Soil & Environmental Sciences, Auburn University
- Primary Advisor: Yaniv Olshansky
- Dissertation title: In Progress

5 Mohammad Kariminasab, Civil and Environmental Engineering, Auburn University
- Primary Advisor: Lauren Beckingham
- Dissertation title: In Progress

4 Mohammad Hossein Mehdi Pour, Chemical Engineering, Auburn University
- Primary Advisor: Cassandra Porter
- Dissertation title: In Progress

3 Abdullah Al Nahian, Civil and Environmental Engineering, Auburn University
- Primary Advisor: Lauren Beckingham
- Dissertation title: In Progress

2 Matthew F. Gladfelter, School of Fisheries, Aquaculture, and Aquatic Sciences, Auburn University
- Primary Advisor: Alan Wilson
- Dissertation title: A multi-faceted approach to examining the role of trace metals in freshwater phytoplankton communities

1 Sheng Dong, Civil and Environmental Engineering, Auburn University
- Primary Advisor: Natalie Capiro

- Dissertation title: Transformation of Polyfluoroalkyl Substances in Aqueous Film-Forming Foam-Impacted Soils and In-situ Remediation of Mixed Perfluorinated Chemicals and Chlorinated Ethenes-Impacted Groundwater
- Next Position: Postdoctoral Scholar, Cornell University

Other Doctoral Students (with whom I serve as a University Reader)

4 Rezoanul Islam, Chemistry and Biochemistry, Auburn University
- Primary Advisor: Byron Farnum
- Dissertation title: Role of Solvent Coordination and Ligand Structure on the Electrochemical Redox Cycle of Nickel (II) bis(dithiocarbamate) Complexes for Energy Storage Applications
- Next Position: Postdoctoral Scholar, UNC-Greensboro

3 Antara Mazumder, Chemical Engineering, Auburn University
- Primary Advisor: Bryan Beckingham
- Dissertation title: Multi-component Transport Through Acrylate Based Side Chain Containing Membranes
- Next Position: Postdoctoral Scholar, Georgia Tech

2 Md Monir Hossain, Industrial and System Engineering, Auburn University
- Primary Advisor: Gregory Purdy
- Dissertation title: Integration of lean and industry 4.0 for smart manufacturing
- Next Position: Faculty member in Bangladesh

1 Jung Min (Luca) Kim, Chemical Engineering, Auburn University
- Primary Advisor: Bryan Beckingham
- Dissertation title: Understanding multi-solute transport behavior in ion exchange membranes and developing novel ion exchange membranes
- Next Position: Postdoctoral Scholar, Chemical Engineering, University of Virginia

Master Thesis Chairs (* indicates co-authorship on a peer reviewed publication)

2 Aline Christine Bernegossi, Civil and Environmental Engineering, Auburn University, Spring 2024 – Present
- Thesis title: In Progress

1 Lingyang Chu,* Civil and Environmental Engineering, Auburn University, Fall 2023 - Present
- Thesis title: In Progress

Other Master Students (with whom I serve as an Advisory Committee Member)

4 Carey Clark, Civil and Environmental Engineering, Auburn University, Summer 2023
- Primary Advisor: Mark Barnett
- Thesis title: A Case Study of Uniontown, Alabama's Spray Field: A Failing Land Application within the Black Belt of Alabama

3 Elnur Jabiyev, Chemical Engineering, Auburn University, Spring 2023
- Primary Advisor: Cassandra Porter
- Thesis title: Green TEAM: Surface-Initiated Free Radical Polymerization of Tethered Electrolyte Active-Layer

2 Spencer Cothran, Civil and Environmental Engineering, Auburn University, Spring 2023
- Primary Advisor: Natalie Capiro
- Thesis title: Assessment of Bioenhanced Back Diffusion and Reductive Dehalogenase Gene Abundance in an Aquifer Cell Packed with Heterogeneous Soils

1 Najibullah Zulfeqar, Civil and Environmental Engineering, Auburn University, Fall 2022
- Primary Advisor: Dongye Zhao
- Thesis title: A "concentrate-&-degrade" technology for cost-effective adsorption and photodegradation of per- and polyfluoroalkyl substances in municipal landfill leachate
- Fulbright Program (Afghanistan)

Undergraduate Advisee (* indicates co-authorship on a peer reviewed publication)

9 Evan Segrest, Biomedical Sciences, Auburn University
- Duration: Fall 2024 - Present

8 T. Excie Guillot, Civil and Environmental Engineering, Auburn University
- Duration: Spring 2024

7 Jacob Hurst, Civil and Environmental Engineering, Auburn University
   - Duration: Fall 2023

6 Hannah Schmucker, Chemical Engineering, Auburn University
   - Duration: Fall 2023

5 Garrett Huddleston, Civil and Environmental Engineering, Auburn University
   - Duration: Summer 2023 - Fall 2023

4 Phoebe Judkins, Civil and Environmental Engineering, Auburn University
   - Duration: Spring 2023 - Spring 2024

3 Zetong Li, Civil and Environmental Engineering, Auburn University
   - Duration: Fall 2022

2 Brandon Alderman,* Civil and Environmental Engineering, Auburn University
   - Duration: Spring 2022 - Spring 2023

1 E. Graf Sullivan,* Civil and Environmental Engineering, Auburn University
   - Duration: Spring 2021 - Spring 2022
   - Auburn CEE Stone Leadership Awards

K-12 Students

1 Benjamin Tzou, Rising Senior, Auburn High School, Summer 2022

INVITED SEMINAR, LECTURE, AND WORKSHOP PRESENTATIONS

I16 *Translating electroplating knowledge to tackle aquatic selenite pollution.* **Invited seminar at North Dakota State University**, Fargo, ND, 2023

I15 *Electrifying the wastewater treatment to sustainably extract value-added resources.* **Invited seminar at Marquette University**, Milwaukee, WI, 2023

I14 *NAWI NextGen Panel Discussion: Early-Career Professors.* **Invited panelist at NAWI NextGen Career Workshop**, Online Event, 2022.

I13 *Electrooxidation Pathway and Kinetics for Aminomethyl Phosphonic Acid (AMPA) Degradation in Diluted Water Matrices.* **Invited talk at 242nd ECS Meeting**, Atlanta, GA, 2022

I12 *Harnessing Electric Driving Force to Recover NEW Resources from Wastewater*, **Invited seminar at Ohio University**, Athens, OH, 2022

I11 *Advancing forward osmosis for energy-efficient wastewater treatment towards enhanced water reuse and resource recovery*, **Invited talk at Southeastern Regional Meeting of the American Chemical Society (SERMACS)**, Birmingham, AL, 2021.

I10 *Direct electrochemical reduction to separate selenium from industrially impacted water*, **Invited talk at 2021 AIChE Annual Meeting**, Boston, MA, 2021.

I9 *Harnessing electric driving force to recover NEW resources from wastewater*, **Invited seminar at Georgia Tech**, Atlanta, GA, 2021

I8 *Electrochemical Selenium Remediation: Direct Reduction Pathways and System Optimization*, **Invited talk at 240th ECS Meeting**, Orlando, FL, 2021.

I7 *How to Standout in the Interview*, Preparing Future Faculty Workshop, **Invited panelist at Auburn University**, Auburn, AL, 2021 Spring and Fall.

I6 *Harnessing electric driving forces for energy-efficient NEW resource recovery from wastewater*, **Invited talk at University of Toronto**, Canada, 2020. (Delivered virtually due to COVID-19)

I5 *Osmotic, electric, and biologic driving forces to recover NEW resource from wastewater*, **Invited talk at Auburn University**, Auburn, AL, 2020. (Delivered virtually due to COVID-19)

I4 *Advancing Forward Osmosis for Non-Potable Water Reuse: Opportunities, Challenges, and Perspectives*, **Invited talk at Carnegie Mellon University**, Pittsburgh, PA, 2019.

I3 *Energy analysis of bioelectrochemical systems,* **Invited lecture at University of Tampere (Finland)**, 2018.

I2 *Advancing forward osmosis for energy-efficient wastewater treatment towards enhanced water reuse,* **Invited lecture at University of Tampere**, Finland, 2018.

I1 *Optimizing forward osmosis process for enhanced water reuse*, **Invited talk at Nanjing Agricultural University**, China, 2018.

GENERAL CONFERENCE PRESENTATIONS

(* denotes the presenting author; underline denotes students and postdocs primarily advised by S. Zou)

Oral Presentation

O27 Najibullah Zulfeqar,* Ali Khosravi, **Shiqiang Zou**. Evaluating Physiochemical Properties of Expansive Soils through Electrokinetic Conditioning. InterPore2025 Conference, Albuquerque, NM, 2025.

O26 Anubhav Jain,* Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Duo Wang, Shengcun Ma, Shaoyun Hao, Ao Xie, Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI annual project meeting, online, 2024.

O25 **Shiqiang Zou**,* Anubhav Jain, Haotian Wang, Jason Monnell, Chris Impellitteri, Jiaxiang Zhao, David Ricardo Martinez Vargas, Duo Wang, Sushanth Ashokkumar. *Development of a Flow-through Intensified ELectroDialysis (FIELD) system to manage inland reverse osmosis concentrate*. NAWI fall project meeting, online, 2024.

O24 Zilan Yang,* Ao Xie, **Shiqiang Zou**. *Treatment of Se-impacted wastewater using a 3-dimensional packed bed electrochemical reactor*. EPRI Selenium Summit, Dublin, Ireland, 2024.

O23 Ao Xie,* David Ricardo Martinez-Vargas, Zilan Yang, **Shiqiang Zou**. *Energy-efficient selenate removal from impaired waters with TiO2-assisted electrocatalysis*. 245th ECS Meeting, San Francisco, CA, 2024.

O22 Zilan Yang,* Ao Xie, **Shiqiang Zou**. *Treatment of Se-impacted wastewater using a 3-dimensional packed bed electrochemical reactor*. 245th ECS Meeting, San Francisco, CA, 2024.

O21 David Ricardo Martinez Vargas,* **Shiqiang Zou**. *Metal recovery from reverse osmosis concentrates*. AL/ML Water Conference, Mobile, AL, 2024.

Duo Wang,* Anubhav Jain, Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Shengcun Ma, Shaoyun Hao, Ao Xie, Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI fall project meeting, Denver, CO, 2024.

O20 **Shiqiang Zou**,* Anubhav Jain, Haotian Wang, Jason Monnell, Chris Impellitteri, Jiaxiang Zhao, David Ricardo Martinez Vargas, Duo Wang, Sushanth Ashokkumar. *Development of a Flow-through Intensified ELectroDialysis (FIELD) system to manage inland reverse osmosis concentrate*. NAWI annual project meeting, Denver, CO, 2024.

O19 Dengjun Wang,* Jianzhou He, Ziteng Song; Chongyang Wang, Lingyang Chu, and **Shiqiang Zou**. *Biochar and Surfactant Synergistically Enhanced PFAS Destruction in UV/Sulfite System at Neutral pH*. Thirteenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Denver, CO, 2024.

O18 Anubhav Jain,* Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Duo Wang, Shengcun Ma, Shaoyun Hao, Ao Xie, Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI fall project meeting, Online, 2023.

O17 Ao Xie,* **Shiqiang Zou**. *Electrocalaytic selenate reduction and removal using commercial and easily synthesized catalysts*. EPRI Selenium Summit, 2023.

O16 Jiaxiang Zhao,* **Shiqiang Zou**. *A stepwise potential fast chronoamperometry technique to degrade aminomethyl phosphonic acid (AMPA)*. AEESP 2023, AEESP Research and Education Conference, Boston, MA, 2023

O15 Zilan Yang,* **Shiqiang Zou**. *Translating electroplating knowledge to tackle aquatic selenite pollution*. AEESP 2023, AEESP Research and Education Conference, Boston, MA, 2023

O14 **Shiqiang Zou.*** *Electricity generation from waste heat of wastewater using a thermoelectric generator.* AL/ML Water Conference, Mobile, AL, 2023.

O13 Jiaxiang Zhao,* Zilan Yang, Brandon Alderman, **Shiqiang Zou**. *Electrooxidation pathway and kinetics for aminomethyl phosphonic acid (AMPA) degradation in diluted water matrices*. AL/ML Water Conference, Mobile, AL, 2023.

O12 Zilan Yang,* Jiaxiang Zhao, Graf Sullivan, **Shiqiang Zou**. *Direct electrochemical reduction of selenite*. AL/ML Water Conference, Mobile, AL, 2023.

O11 Anubhav Jain,* Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Duo Wang, Shengcun Ma, Shaoyun Hao, Ao Xie, Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI annual project meeting, Denver, CO, 2023.

O10 Zilan Yang,* Jiaxiang Zhao, Graf Sullivan, **Shiqiang Zou**. *Comprehensive Evaluation of Affordable Cathode Materials in Direct Electrochemical Selenite Reduction*. EPRI Selenium Summit, 2022.

O9 Zilan Yang, Jiaxiang Zhao, Graf Sullivan, **Shiqiang Zou**.* *Comprehensive Evaluation of Affordable Cathode Materials in Direct Electrochemical Selenite Reduction*. 242nd ECS Meeting, Atlanta, GA, 2022.

O8 **Shiqiang Zou.** *Advancing Forward Osmosis for Decentralized Wastewater Treatment towards Non-potable Water Reuse.* AL/ML Water Conference, Mobile, AL, 2022.

O7 **Shiqiang Zou*** and Meagan Mauter. Managing Aquatic Selenium Pollution through Direct Electrochemical Reduction. 2021 ACS Fall Meeting, American Chemical Society, Atlanta, GA, 2021.

O6 **Shiqiang Zou***. Managing Aquatic Selenium Pollution through Direct Electrochemical Reduction. AL/ML Water Conference, Mobile, AL, 2021.

O5 **Shiqiang Zou*** and Zhen He. *Efficiently "Pumping Out" Value-added Resources from Wastewater by Bioelectrochemical Systems: A Review from Energy Perspective*, WaterJAM 2018, VA AWWA/VWEA Joint Annual Meeting, Virginia Beach, VA, 2018.

O4 **Shiqiang Zou*** and Zhen He. *Advancing Forward Osmosis for Energy-Efficient Wastewater Treatment towards Enhanced Water Reuse*, AWWA Annual Conference and Exposition 2018, American Water Works Association, Las Vegas, NV, 2018

O3 **Shiqiang Zou*** and Zhen He. *Nutrient-Energy-Water Recovery from Sidestream Centrate via Microbial Electrolysis Cell - Forward Osmosis Hybrid System*, AWWA Annual Conference and Exposition 2018, American Water Works Association, Las Vegas, NV, 2018

O2 **Shiqiang Zou*** and Zhen He. *Advancing forward osmosis for energy-efficient wastewater treatment towards enhanced water reuse*, WaterJAM 2017, VA AWWA/VWEA Joint Annual Meeting, Hampton, VA, 2017.

O1 **Shiqiang Zou*** and Zhen He**.** *NEW recovery from sidestream centrate via a microbial electrolysis cell — forward osmosis hybrid system*, 2nd International Resource Recovery Conference, International Water Association, New York, NY, 2017

Poster Presentation

P39 Najibullah Zulfeqar,* Ali Khosravi, **Shiqiang Zou**. Nano-Enhanced Electrokinetic Conditioning of Expansive Soils Using MgO Nanoparticles. Auburn University Research Symposium, AL, 2025.

P38 Ao Xie,* David Ricardo Martinez Vargas, Zilan Yang, **Shiqiang Zou**. Electrocatalytic selenate reduction and removal using commercial and easily synthesized catalysts. AEESP Distinguished Lecture Series, Georgia Tech, GA, 2024.

P37 Zilan Yang,* Ao Xie, **Shiqiang Zou**. Electrified selenium management towards a circular selenium economy. AEESP Distinguished Lecture Series, Georgia Tech, GA, 2024.

P36 Aline Christine Bernegossi,* Jiagen Geng, **Shiqiang Zou**. Enhancing Phosphorus Capture in Hybrid Geotextile Field Experiments. AEESP Distinguished Lecture Series, Georgia Tech, GA, 2024.

P35 Najibullah Zulfeqar,* Garrett Huddleston, Ali Khosravi, **Shiqiang Zou.** Nano-conditioning of expansive soil using electro-kinetics. AEESP Distinguished Lecture Series, Georgia Tech, GA, 2024.

P34 David Ricardo Martinez Vargas,* **Shiqiang Zou**. Flow-through Intensified ElectroDialysis (FIELD) System to Manage Inland Brine. AEESP Distinguished Lecture Series, Georgia Tech, GA, 2024.

P33 Jiagen Geng,* Megan Amstrong, Michael Perez, **Shiqiang Zou**. Electrocoagulation of the tire wear particle-derived 6PPD & 6PPD quinone in the urban runoff. AL/ML Water Conference, Mobile, AL, 2024.

P32 Aline Christine Bernegossi,* Jiagen Geng, **Shiqiang Zou**. Enhancing phosphorus capture: Preliminary ideas for hybrid geotextile field experiments. AL/ML Water Conference, Mobile, AL, 2024.

P31 Tamino Shoeffer,* **Shiqiang Zou**. Titanium mining in the Okefenokee: Assessing aquatic environmental impact. AL/ML Water Conference, Mobile, AL, 2024.

P30 Najibullah Zulfeqar,* Garrett Huddleston, Ali Khosravi, **Shiqiang Zou.** Nano-conditioning of expansive soil using electro-kinetics. AL/ML Water Conference, Mobile, AL, 2024.

P29 Phoebe Judkins,* Zilan Yang, **Shiqiang Zou**. An electrochemical platform to manage aquatic selenium pollution. AL/ML Water Conference, Mobile, AL, 2024.

P28 Ao Xie,* **Shiqiang Zou**. Combining biochemical and electro- driving forces to extract precious metals in urban mining. Rice University, 2024 NA-ISMET Conference, International Society of Microbial Electrochemical Technology, Houston, TX, 2024.

P27 **Shiqiang Zou**, Anubhav Jain, Haotian Wang, Jason Monnell, Chris Impellitteri, Jiaxiang Zhao, David Ricardo Martinez Vargas*, Duo Wang, Sushanth Ashokkumar. Development of a Flow-through Intensified ELectroDialysis (FIELD) system to manage inland reverse osmosis concentrate. NAWI annual project meeting, Denver, CO, 2024.

P26 Anubhav Jain, Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Duo Wang,* Shengcun Ma, Shaoyun Hao, Ao Xie,* Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI annual project meeting, Denver, CO, 2024.

P25 Ao Xie,* **Shiqiang Zou**. Electrocalaytic selenate reduction and removal using commercial and easily synthesized catalysts. AEESP Distinguished Lecture Series, Clemson, SC, 2024

P24 Zilan Yang*, **Shiqiang Zou**. Translating electroplating knowledge to tackle aquatic selenite pollution. AEESP Distinguished Lecture Series, Clemson, SC, 2024.

P23 Najibullah Zulfeqar*, Rayees Ahmad Rather, **Shiqiang Zou**, Dongye Zhao. A concentrate & destroy technology for removal and destruction of municipal landfill leachate. AEESP Distinguished Lecture Series, Clemson, SC, 2024.

P22 Dengjun Wang*, Ansley Hamid, Lingyang Chu, **Shiqiang Zou**. Phosphorus Removal by Cost-Effective Gypsum from Water. AGU 23, American Geophysical Union, San Francisco, CA, 2023.

P21 Ao Xie*, **Shiqiang Zou**. Precision selenate management in the aquatic environment: Need, challenges, and opportunities. AEESP 2023, AEESP Research and Education Conference, Boston, MA, 2023

P20 Jiaxiang Zhao*, Zilan Yang, **Shiqiang Zou**. Electrochemical degradation of aminomethyl phosphonic acid (AMPA) in water matrices. 26th Triennial Borchardt Conference, Ann Arbor, MI, 2023.

P19 Zilan Yang*, Ao Xie, **Shiqiang Zou**. Precision electrochemical management of selenium in the aquatic environment: Needs, challenges, and opportunities. 26th Triennial Borchardt Conference, Ann Arbor, MI, 2023.

P18 Ao Xie*, **Shiqiang Zou**. Precision selenate management in aquatic environment: Need, challenges, and opportunities. AL/ML Water Conference, Mobile, AL, 2023.

P17 Najibullah Zulfeqar*, Rayees Ahmad Rather, **Shiqiang Zou**, Dongye Zhao. A concentrate & destroy technology for removal and destruction of municipal landfill leachate. AL/ML Water Conference, Mobile, AL, 2023.

P16 Anubhav Jain, Wei Tong, Haotian Wang, **Shiqiang Zou**, Meagan Mauter, Jason Monnell, Duo Wang,* Shengcun Ma, Shaoyun Hao, Ao Xie, Zilan Yang, Charlie Merriam. Direct electrochemical reduction of selenium to achieve A-PRIME water treatment. NAWI annual project meeting, Denver, CO, 2023.

P15 Jiaxiang Zhao*, Zilan Yang, Brandon Alderman, **Shiqiang Zou**. Electrochemical pathway and kinetics of aminomethyl phosphonic acid (AMPA). Sustainable Phosphorus Summit, Raleigh, NC, 2022.

P14 Shiqiang Zou*, Zilan Yang, Graf Sullivan, Jiaxiang Zhao. Harnessing electric driving force to manage aquatic selenium pollution. AEESP 2022, AEESP Research and Education Conference, St. Louis, MO, 2022

P13 Jiaxiang Zhao*, Zilan Yang, Brandon Alderman, **Shiqiang Zou**. Electrochemical oxidation of organophosphorus herbicide in aquatic environment. AL/ML Water Conference, Mobile, AL, 2022.

P12 Zilan Yang*, Jiaxiang Zhao, Graf Sullivan, **Shiqiang Zou**. An electrochemical platform to manage aquatic selenium pollution. Graduate Engineering Research Showcase, College of Engineering, Auburn University, AL, 2021.

P11 Jiaxiang Zhao*, Zilan Yang, **Shiqiang Zou**. Managing phosphorus at its aquatic sink using an electrochemical adsorption system. Graduate Engineering Research Showcase, College of Engineering, Auburn University, AL, 2021.

P10 Zilan Yang*, Jiaxiang Zhao, Graf Sullivan, **Shiqiang Zou**. An electrochemical platform to manage aquatic selenium pollution. AL/ML Water Conference, Mobile, AL, 2021.

P9 **Shiqiang Zou*** and Zhen He. *Towards Sustainable Desalination: Mitigation of Bidirectional Solute Flux in Forward Osmosis Process*, AWWA Annual Conference and Exposition 2019, American Water Works Association, Denver, CO, 2019

P8 **Shiqiang Zou**,* Ethan Smith, Stephen Martin, Zhen He. *Mitigation of Bidirectional Solute Flux in Forward Osmosis via Surface Coating of Zwitterion Functionalized Carbon Nanotubes*, AEESP 2019, AEESP Research and Education Conference, Tempe, AZ, 2019

P8 **Shiqiang Zou**, Ethan Smith,* Stephen Martin, Zhen He. *Mitigation of Bidirectional Solute Flux in Forward Osmosis via Surface Coating of Zwitterion Functionalized Carbon Nanotubes*, AlChE Annual Meeting, American Institute of Chemical Engineers, Pittsburgh, PA, 2018

P7 Daniele Cecconet,* **Shiqiang Zou**, Andrea G. Capodaglio, Zhen He. *Evaluation of Energy Consumption of Treating Nitrate-Contaminated Groundwater by Bioelectrochemical Systems*, 4th ISMET European Meeting, Newcastle, England, 2018

P6 **Shiqiang Zou*** and Zhen He. *Towards Sustainable Desalination: Mitigation of Bidirectional Solute Flux in Forward Osmosis Process*, WaterJAM 2018, VA AWWA/VWEA Joint Annual Meeting, Virginia Beach, VA, 2018.

P5 **Shiqiang Zou**,* Eurydice Kanimba, Thomas E Diller, Zhiting Tian, Zhen He. *Direct electricity generation from waste heat in water via thermoelectric generator*, AWWA Annual Conference and Exposition 2018, American Water Works Association, Las Vegas, NV, 2018

P4 **Shiqiang Zou**,* Eurydice Kanimba, Thomas E Diller, Zhiting Tian, Zhen He. *Direct electricity generation from waste heat in water via thermoelectric generator*, WaterJAM 2017, VA AWWA/VWEA Joint Annual Meeting, Hampton, VA, 2017.

P3 **Shiqiang Zou*** and Zhen He**.** *Electrolysis-assisted mitigation of reverse solute flux in a three-chamber forward osmosis system*, AEESP 2017, AEESP Research and Education Conference, Ann Arbor, MI, 2017

P2 **Shiqiang Zou*** and Zhen He**.** *Nutrient-Energy-Water recovery from synthetic sidestream centrate using a microbial electrolysis cell - forward osmosis hybrid system*, Borchardt 2017 Conference, 24th Triennial Symposium on Advancements in Water and Wastewater, Ann Arbor, MI, 2017

P1 **Shiqiang Zou*** and Zhen He**.** *Closed-loop nutrient-energy-water (NEW) recovery from synthetic sidestream centrate using a microbial electrolysis cell - forward osmosis hybrid system*, WaterJAM 2016, VA AWWA/VWEA Joint Annual Meeting, Virginia Beach, VA, 2016.

PROFESSIONAL LEADERSHIP AND SERVICE

Review Activity (> 100 reviews)

Regularly peer review for *Nature Water*, *Water Research, Environmental Science & Technology, ACS Sustainable Chemistry & Engineering, ACS ES&T Water, ACS ES&T Engineering, ACS Applied Materials & Interfaces, Science of the Total Environment, Journal of Membrane Science, Desalination, Environmental Science: Water Research & Technology, Journal of Hazardous Materials, Resources, Conservation & Recycling, Journal of Environmental Management, Journal of Cleaner Production, Langmuir, Bioresource Technology, Water Science & Technology, Chemosphere, International Journal of Hydrogen Energy, RSC Advances, Electrocheminica Acta, Water Environment Research, Environmental Engineering Science, Separation and Purification Technology, Advanced Powder Technology, Desalination and Water Treatment,* and *Trends in Food Science & Technology*.

Grant Review Panelist

University of Wisconsin Sea Grant College Program	2023
Environmental Research & Education Foundation	2022
State of Wisconsin Groundwater Research and Monitoring Program	2022
National Science Foundation CBET Division	2021-present

Conference Organizing and Services

Session Chair, Resource Recovery from Waste Streams, AEESP 2025	2025
Session Chair, I06- Energy Conversion Based on Nutrients, 247th ECS Meeting	2025
Session Organizer, Electrified Wastewater Management, ACS 2025 Spring Meeting	2025
Conference abstract reviewer, WEF Innovation in Treatment Technology 2025	2024
Session Chair, Z03- Electrochemical Recovery of Critical Materials, 245th ECS Meeting	2024
Session Chair, Electrified Membrane Processes, IWA Membrane Technology Conference	2023
Faculty Judge, AEESP Student and Postdoc Poster Session	2023
Panelist, NAWI NextGen Panel Discussion: Early-Career Professors	2022
Session Chair, F02-Desalination and Water Treatment, 242nd ECS Meeting	2022
Session Chair, F02-Element Recovery, 242nd ECS Meeting	2022

Professional Societies

American Chemical Society (ACS)
The Electrochemical Society (ECS)
Water Environment Federation (WEF)
American Water Works Association (AWWA)
Association of Environmental Engineering & Science Professors (AEESP)
International Society of Microbial Electrochemical Technologies (ISMET)
Chinese-American Professors in Environmental Engineering and Science (CAPEES)

Editorial Service

Associate Editor, Desalination and Water Treatment, Elsevier	2024-present

National Service

Auburn Site Representative, National Alliance for Water Innovation	2022-present

University Service

Faculty Judge, Auburn Postdoctoral Research Symposium	2022
Faculty Judge, Auburn Research Symposium	2022-present
Faculty Panelist, Preparing Future Faculty Workshop	2021-present

College of Engineering Service

Committee Member, College of Engineering Colloquium	2022-present
Faculty Advisor, Engineers without Borders (domestic team)	2022-2023
Faculty Judge, Auburn Graduate Engineering Research Showcase	2022-present

CEE Departmental Service

Committee Member, CEE Graduate Program Committee	2024-present
Committee Member, Environmental Faculty Search Committee	2023-2024
Committee Member, Environmental Faculty Search Committee	2022-2023
Faculty Advisor, Water and Environmental Student Association	2022-present
Committee Member, CEE Computer Labs Committee	2021-2024
Committee Member, CEE Seminar Committee	2021-2024

TEACHING

Teaching Training and Professional Certification

ASCE ExCEEd Teaching Fellow, American Society of Civil Engineers	2023
New Faculty Scholar, Biggio Center, Auburn University	2021-2022
Preparing Future Professoriate Program, Virginia Tech	2016-2018
Engineering Futures Program, Tau Beta Pi Honor Society	2016-2018

Courses Taught at Auburn University:

CIVL5250/6250 Biological Principles of Environmental Engineering

- Spring 2025 — Student evaluation score: -/6.00
- Spring 2024 — Student evaluation score: 5.47/6.00

CIVL6970 Electrified Water Treatment

- Spring 2024 — Student evaluation score: 5.61/6.00
- Fall 2022 — Student evaluation score: 5.52/6.00

CIVL7250 Biological Wastewater Treatment

- Fall 2024 — Student evaluation score: 5.75/6.00
- Spring 2023 — Student evaluation score: 5.66/6.00
- Spring 2022 — Student evaluation score: 5.68/6.00

CIVL3010 Civil Engineering Analysis

- Spring 2025 — Student evaluation score: -/6.00
- Fall 2023 — Student evaluation score: 5.41/6.00
- Spring 2023 — Student evaluation score: 5.65/6.00
- Spring 2022 — Student evaluation score: 5.48/6.00
- Spring 2021 — Student evaluation score: 5.51/6.00

Courses Taught at Virginia Tech

CEE3010 Introduction to Environmental Engineering

- Spring 2019 — Student evaluation score: 5.60/6.00

Guest Lectures

Auburn University

- Spring 2025 — ENGR1110 Intro to Civil Engineering
- Fall 2024 — ENGR1110 Intro to Civil Engineering
- Spring 2024 — ENGR1110 Intro to Civil Engineering
- Fall 2023 — ENGR1110 Intro to Civil Engineering
- Spring 2023 — ENGR1110 Intro to Chemical Engineering
  ENGR1110 Intro to Civil Engineering
- Fall 2022 — ENGR1110 Intro to Chemical Engineering

Michigan State University

- Fall 2022 — ENE 481 Environmental Chemistry

OUTREACH

Senior Tigers Summer Camp

- Summer 2023 — 30 high school rising seniors
- Summer 2022 — 30 high school rising seniors

MEDIA COVERAGE

- "CEE assistant professor and Stormwater Research Facility part of $1.3M grant to safeguard Gulf Coast ecosystem" Sep, 2024, Auburn University
  https://eng.auburn.edu/news/2023/09/stormwater-facility-gulf-coast-grant.html
- "#GINNing Podcast: Brine of the Times" May, 2023, Auburn University
  https://eng.auburn.edu/news/2023/05/ginning-podcast-nick-zou
- "DOE, NAWI tap Auburn team for $1.5M advance reverse osmosis brine management project" April, 2023, Auburn University.
  https://www.eng.auburn.edu/news/2023/04/doe-nawi-grant-zou-team
- "DOE Awards $9 Million to 12 Projects to Advance Desalination and Water Reuse Technologies Across the U.S." Mar, 2023, National Alliance for Water Innovation.
  https://www.nawihub.org/doe-awards-9-million-to-12-projects-to-advance-desalination-and-water-reuse-technologies-across-the-u-s/
- "DOE Awards $9 Million to 12 Projects to Advance Desalination and Water Reuse Technologies Across the U.S." Mar, 2023, Department of Energy.
  https://www.energy.gov/eere/amo/doe-awards-9-million-12-projects-advance-desalination-and-water-reuse-technologies-across
- "NAWI Member of the Month" Feb, 2023, National Alliance for Water Innovation.
  https://mailchi.mp/lbl/february-nawi-dispatch?e=cc22ea0bce
- "Civil and environmental engineering assistant professor receives grant to tackle selenium pollution in water" May 2, 2022, Auburn University.
  https://eng.auburn.edu/news/2022/05/zou-selenium-pollution-in-water-grant