

Curriculum Vitae

Shelley D. Minteer

Missouri University of Science and Technology
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I. Educational Background

Ph.D., Analytical Chemistry, University of Iowa, 2000

Thesis: Magnetic Field Effects on Electron Transfer Reactions

Thesis Advisor: Johna Leddy

B.S., Chemistry, Western Illinois University, 1995

II. Professional Experience

July 2025- present	Ken Robertson Memorial Endowed Professor of Chemistry, Missouri University of Science and Technology
October 2023 – present	Director of the Kummer Institute Center for Resource Sustainability, Missouri University of Science and Technology
October 2023 – present	Distinguished Professor of Chemistry, Missouri University of Science and Technology
July 2022-2023	Distinguished Professor of Chemistry, University of Utah
September 2020- present	Director of the NSF Center for Synthetic Organic Electrochemistry
July 2019-June 2024	Dale and Susan Poulter Endowed Chair of Biological Chemistry, University of Utah
July 2011 – July 2019	USTAR Professor of Chemistry and Materials Science and Engineering, University of Utah
July 2008 – June 2011	College of Arts and Sciences Endowed Professor of Chemistry, Saint Louis University
May 2005 – May 2008	Associate Professor of Chemistry, Saint Louis University
December 2004 – June 2011	August 2000 – May 2005 Assistant Professor of Chemistry, Saint Louis University

III. Selected Awards and Honors

2024 Fellow of the American Chemical Society, 2024 Elected Member of the American Academy of Arts and Sciences, 2022 Fellow of the Royal Society of Chemistry, 2019 Fellow of the International Society of Electrochemistry, 2015 Luigi Galvani Prize of the Bioelectrochemical Society

IV. Selected Publications (>500 total)

1. H. Chen, F. Dong, and S.D. Minteer, “The progress and outlook of bioelectrocatalysis for the production of chemicals, fuels, and materials,” *Nature Catalysis*, 2020, 3, 225–244.
2. F. Dong, Y.S. Lee, E.M. Gaffney, M. Grattieri, H. Haddadin, S.D. Minteer, and H. Chen, “Engineering nitrogen fixation activity to a non-diazotrophic cyanobacterium for ammonia synthesis in a bioelectrochemical N₂ fixation (e-BNF) system,” *Cell Reports Physical Sciences*, 2021, 2, 100444.
3. N.S. Waliwatte, M. Grattieri, O. Simoska, Z. Rhodes, and S.D. Minteer, “Unbranched Hybrid Conducting-Redox Polymers for Intact Chloroplast-Based Photo-bioelectrocatalysis,” *Langmuir*, 2021, 37, 7821-7833.

4. M. Kummer, Y.S. Lee, M. Yuan, B. Alkotaini, J. Zhao, E. Blumenthal, and S.D. Minter, "Substrate Channeling by a Rational Designed Fusion Protein in a Biocatalytic Cascades," *JACS Au*, 2021, 1, 1187-1197.
5. H. Chen, Y. Lin, Y.T. Long, S.D. Minter, and Y.L. Ying, "Nanopore-based measurement of the interaction of P450cam monooxygenase and putidaredoxin at single-molecule level," *Faraday Discussions*, 2022, 233, 295-302.
6. N.S. Waliwatte and S.D. Minter, "Photo-bioelectrocatalytic CO₂ reduction for a circular energy landscape," *Joule*, 2021, 5(1), 2564-2592.
7. Z. Rhodes, O. Simoska, A. Dantanarayana, K. Stevenson, and S.D. Minter, "Using Structure-Function Relationships to Understand the Mechanism of Phenazine Mediated EET in *Escherichia coli*," *iScience*, 2021, 24(9), 103033.
8. N.S. Waliwatte, M. Grattieri, and S.D. Minter, "Rational design of artificial redox-mediating systems toward upgrading photobioelectrocatalysis," *Photochemical & Photobiological Sciences*, 2021, 20(10), 1333-1356.
9. E. Gaffney and S.D. Minter, "A silver assist for microbial fuel cell power," *Science*, 2021, 373, 1308-1309.
10. F. Dong, Y.S. Lee, E. Gaffney, W. Liou, and S.D. Minter, "Engineering cyanobacterium with transmembrane electron transfer ability for bioelectrochemical nitrogen fixation," *ACS Catalysis*, 2021, 11, 13169-13179.
11. H. Chen, T. Tang, C. Malapit, Y.S. Lee, M. Prater, N. Waliwatte, and S.D. Minter, "The one-pot bioelectrocatalytic conversion of chemically inert hydrocarbons to imines," *Journal of the American Chemical Society*, 2022, 144, 4047-4056.
12. E. Gaffney, A. Dantanarayana, O. Simoska, and S.D. Minter, "Investigating the Electroactivity of *Salinivibrio* sp. EAGSL, through Electroanalytical Techniques and Genomic Insights," *Journal of the Electrochemical Society*, 2022, 169, 025501.
13. N.S. Waliwatte, O. Simoska, M. Grattieri, D. Powell, M. Koh, Carol Korzeniewski, L. Whittaker-Brooks, and S.D. Minter, "Deconvoluting Charge Transfer Mechanisms in Conducting Redox Polymer-Based Photobioelectrocatalytic Systems," *Journal of the Electrochemical Society*, 2022, 169, 085501.
14. J. Antonio, J. Franco, P. Z. Almeida, M.T. M. Polizeli, S. D. Minter, and A. De Andrade, "Evaluation of TEMPO-NH₂ and Oxalate Oxidase Enzyme for Complete Ethylene Glycol Oxidation," *ChemElectroChem*, 2022, e202200181.
15. N. S. Waliwatte, H. Chen, T. Tang, and S.D. Minter, "Three-stage conversion of chemically inert n-heptane to alpha-hydrazino aldehyde based on bioelectrocatalytic C-H bond oxyfunctionalization," *ACS Catalysis*, 2023, 13, 56-572.
16. K. Beaver, A. Dantanayana, W. Loiu, M. Babst, and S.D. Minter, "Extracellular Poly(hydroxybutyrate) Bioplastic Production Using Surface Display Techniques," *ACS Materials Au*, 2024, 4, 174-178.
17. R. Gerulskis, W. El Hosseini, E. Bayarashov, M. Karimi, and S.D. Minter, "Unveiling Pseudocapacitance: A Kinetic Treatment of the Pseudo-capacitive Biosensor," *Chemical Communications*, 2025, 61(50), 9059-9062
18. A. Milam, R. Gerulskis, J.J. Intano, and S.D. Minter, "Tri-catalytic organocatalyst-enzyme hybrid cascade for improving complete oxidation of glucose to carbon dioxide," *ACS Catalysis*, 2025, 15, 11013-11021.
19. D. Das, W. El-Hosseini, M. Brachi, S.D. Minter, and A.F. Millter, "Electrochemical observation and pH dependence of all three expected redox-couples, in an extremophilic bifurcating electron transfer flavoprotein with fused subunits," *JACS Au*, 2025, 5 (4), 1689-1706.