

Gerardine G. Botte, Ph.D.

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Gerardine (Gerri) Botte is a Professor and the Whitacre Department Chair in Chemical Engineering at Texas Tech University with over 21 years of experience in the development of electrochemical processes and advanced water treatment systems. She is a visionary and a recognized leader in electrochemical science and technology. She has served in leadership roles for the Electrochemical Society and is currently the Chair of the Electrochemical Processes Engineering and Technology Division of the International Society of Electrochemistry. She is also the Editor in Chief of the Journal of Applied Electrochemistry. In 2014, she was named a Fellow of the Electrochemical Society for her contributions and innovation in electrochemical processes and engineering. She became a Chapter Fellow of the National Academy of Inventors in 2012. In 2010, she was named a Fellow of the World Technology Network for her contributions on the development of sustainable and environmental technologies. Previous to Texas Tech, Dr. Botte was University Distinguished Professor and Russ Professor of Chemical and Biomolecular Engineering at Ohio University, the founder and Director of Ohio University's Center for Electrochemical Engineering Research (CEER), and the founder and Director of the Consortium for Electrochemical Processes and Technology (CEProTECH) -an Industry University Cooperative Research Center. Dr. Botte has 189 publications including peer-reviewed journals, book chapters, and 58 granted patents. Dr. Botte and members of her research group are working on the foundation of applying electrochemical engineering principles for advanced and sustainable manufacturing, process intensification, food/energy/water sustainability, and nanomaterials with expertise in electrosynthesis, batteries, electrolyzers, sensors, fuel cells, mathematical modeling, and electrocatalysis. Example projects include: electrochemical extraction of/and recovery of rare earth elements from solid fuels and produced water, hydrogen production from ammonia, biomass, urea, coal, and pet-coke, synthesis of carbon nanotubes and graphene, water remediation and disinfection, selective catalytic reduction, ammonia synthesis, electrochemical conversion of CO₂ to high value products, novel electrolytes for thermal batteries, advanced electrowinning, and electrochemical microbial sensors. Dr. Botte is also an entrepreneur, she has been involved in the commercialization of technologies and has founded and co-founded companies. She received her Ph.D. in 2000 (under the direction of Dr. Ralph E. White) and M.E. in 1998, both in Chemical Engineering, from the University of South Carolina. Prior to graduate school, Dr. Botte worked as a process engineer in a petrochemical plant; she was involved in the production of fertilizers and polymers. Dr. Botte received her B.S. in Chemical Engineering from Universidad de Carabobo (Venezuela) in 1994. She can be reached at Gerri.Botte@ttu.edu