FASEB
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Science Research Conferences

The Protein Lipidation Conference: Enzymology, Signaling, and Therapeutics

Organizer Bio: James Hougland, PhD

Associate Professor, Chemistry, Syracuse University, NY, USA

Dr. Hougland's laboratory explores the chemistry and biology of protein post-translational modification, with these modifications linked to human diseases such as diabetes, obesity, cancer, and cardiovascular disease. Drawing from chemistry, biochemistry, and molecular biology, his research group investigates enzymes involved in post-translational modification to define how these enzymes and the modifications they perform control biological activity by altering protein structure, function, and localization.

Dr. Hougland's research focuses on enzymes involved in protein lipidation and examines how these enzymes recognize their substrates and catalyze reactions. His work also assesses the impact of the resulting hydrophobic modification(s) on protein function. Understanding how these enzymes select and modify protein targets will help identify novel substrates while potentially illuminating new targets for therapeutic intervention and inhibitor development. Dr. Hougland majored in in chemistry and integrated science at Northwestern University and pursued chemistry as a graduate student at the University of Chicago. There, he held a McCormick graduate fellowship and participated in the NIH Predoctoral Training Program in Chemistry & Biology. His doctoral research focused on studies of metal ion coordination and hydrogen bonds involved in catalysis of phosphoryl transfer reactions during RNA splicing by RNA-based enzymes (ribozymes).

An NIH Postdoctoral Fellowship supported his research with Carol Fierke at the University of Michigan, where he investigated the molecular interactions responsible for substrate specificity in protein farnesyltransferase (FTase). He joined the Department of Chemistry at Syracuse University in 2010.

Dr. Hougland holds adjunct appointments in the Department of Biology at Syracuse University and the Department of Biochemistry and Molecular Biology at the State University of New York (SUNY) Upstate Medical University.