

Catalysis Center for Energy Innovation
GUEST SEMINAR SPEAKER

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10:00 AM ■ 366 Colburn Lab



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Biography: Gregg T. Beckham is a Group Leader at NREL. He received his PhD in Chemical Engineering at MIT in 2007. He currently leads and works with an interdisciplinary team of biologists, chemists, and engineers at the National Renewable Energy Laboratory on conversion of biomass to fuels, chemicals, and materials including in metabolic engineering, fermentation, separations, catalysis, biopolymer and carbon fiber production, and lignin valorization.

“Hybrid biological and catalytic processes to produce chemicals and materials from biomass”

Abstract: Biomass conversion to fuels, chemicals, and materials has the potential to offset significant petroleum usage and represent a more sustainable approach to manufacture everyday products. To that end, our group focuses on developing integrated processes from both sugars and lignin to both direct and functional replacement products through the combination of biological and chemo-catalytic processes. This talk will review two recent developments from our group. The first part of the talk will focus on the production of PAN-based carbon fibers from sugar-derived building blocks through new catalytic transformations to acrylonitrile that exhibit significant process advantages over standard propylene ammoxidation. The second part of the talk will focus on the conversion of lignin to new monomers including for the production of new polymers and composite materials based on aromatic catabolism.

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