**Products from Biomass Residues in the Desert Southwest**

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Abstract
In the southwestern US, the semi-arid and arid environments support a surprisingly large amount of potential biomass resources: pecan shells, guayule bagasse, cotton gin trash, forest residues, yard waste, manure, algae, and invasive species like tumbleweed and salt cedar. Work in the last five years at NMSU has focused on identification of value-added applications for these biomass resources, specifically the development of appropriate thermochemical conversion methods (torrefaction, slow pyrolysis, hydrothermal liquefaction/carbonization) for energy, water quality, and agricultural applications. Dr. Brewer will highlight some of her group's ongoing projects: hydrothermal liquefaction of algae grown on wastewater, production of activated carbons for removal of NDMA from water and $H_2S$ from gases, characterization of new hop varieties, and conversion of bagasse from guayule rubber production.

Biographical Information
Catherine "Catie" Brewer received a B.S. in Chemistry from Indiana U. of Pennsylvania and a Ph.D. in Chemical Engineering and Biorenewable Resources & Technology from Iowa State University (2012). Prior to joining the Chemical & Materials Engineering faculty at New Mexico State University in 2013, she completed a postdoc at Rice University. She also serves as an affiliate faculty member for NMSU's Water Science & Management program and is one of the instructors for NMSU's new Brewery Engineering program. She was the recipient of the 2017 NMSU University Research Council's Early Career Research & Creative Activity Award and the 2018 Patricia Christmore Faculty Teaching Award. Her research interests include waste biomass utilization, biochar, pyrolysis, hydrothermal liquefaction, renewable fuels, local beer ingredients, and sustainable agriculture.