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Public dissemination of research on technological potentials of novel bioresource materials for sustainable food, energy and water resource development

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University of Wyoming, USA (UW) is a part of a larger consortium of other USA Universities formed by Jackson State University (JSU), together with the University of Delaware (UD) and the University of Mississippi (UM). The research theme for the consortium is to study the fundamentals and technological potentials of novel bioresource materials for sustainable food, energy and water resource development. There are two multi-disciplinary and collaborative research tasks UW is involved in: 1) production of fuels and biochar from biomass materials and, 2) application of functionalized and photochemical and ultrasonic chemistry enhanced biochar for carbon dioxide (CO₂) capture, water treatment and food

production. This presentation provides a general overview of the main project and utilizes a series of examples of novel technological processes, such as transformational solar catalytic chemical looping biomass refinery (SCCLBR) for production of fuel and biochar from biomass as case studies for developing teaching and outreach modules. The main objective of this presentation is to share some of the ideas on the most impactful outreach tools that deliver information related to biofuel production from locally available bark beetle-killed pinewood to United States Forest Service (USFS) managers, private land owners and public and from post-harvest corn stover to the local farmers.

Biography

Urszula Norton has completed her PhD in 2000 from the University of Montana, USA and Postdoctoral Studies from the Department of Biology at Utah State University, Logan, Utah, USA and the Department of Land, Air and Water Resources at University of California, Davis, USA. Currently, she is the Associate Professor of Agroecology and Biogeochemistry in Plant Sciences Department at the University of Wyoming, USA. She has published more than 25 papers in reputed journals and has been serving as a reviewer of a number of journals of repute.

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