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MORK FAMILY DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE

Wayman Handy Colloquium

Thursday, Nov. 7, 2013
ZHS 159 @ 12:45 PM

Professor Xiuzhi Susan Sun

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Biobased Materials and Bioenergy Co-Products

Abstract: The environment impact of persistent petroleum footprints is of growing global concerns. Global climate change is obvious because of carbon dioxide release from burning fossil fuels. There is an urgent task to research and engineer alternatives out of renewable biobased materials, including bioenergy co-products. This seminar will focus on new technologies of biobased chemicals and polymers from plant and grain molecules (i.e., protein, oil, sugar). Examples will be given to show how these biobased molecules can be converted into polymers with desirable functional properties that can be used for industry applications, particularly for adhesives and resins.

Dr. Xiuzhi Susan Sun is a University Distinguished Professor of Grain Science and Industry at Kansas State University. She focuses on converting agricultural feedstocks into environmentally safe materials. Her research interests include plant proteins extraction and modification; peptides and protein structures, adhesion, and self-assembly; biobased adhesives; poly(lactic acids) and its nanocomposites; bioenergy co-products; and thermodynamics and rheological properties of biobased polymers. She is the author and co-author of 140 referee journal articles and holds 8 patens. She co-authored a book “Biobased Polymers and Composite”. She is the Associate Editors of Journal of Biobased Materials and Bioenergy, and the Journal of Cereal Chemistry. She is currently a member of the AAAS, ACS, ASBAE, BEPS, and The Scientific Research Society Sigma Xi. She is the recipient of the 2012 Lifetime Achievement Award from Bioenvironmental Polymer Society, the 2011 Higuchi-KU Endowment Research Achievement Award, and the 2007 Sigma Xi Outstanding Senior Scientist Award. She was appointed as the USDA National Research Initiative Technical Panel Manager of Biobased Products and Bioenergy in 2004 and 2005. She serves on the committee of USDA multi-states project “Science and Engineering of Biorenewables and Bioeconomy”, Henkel Technology Advisory Board, United Soybean Board Technical Adhesive Panel. She received her Ph.D. in Agriculture and Biological Engineering from the University of Illinois at Urbana-Champaign.

The scientific community is cordially invited.