



PRESIDENTIAL DREAM COURSE
The UNIVERSITY of OKLAHOMA

Engineering the Nature of Change

Featuring: Dr. Stephanie Lansing

6:30 PM March 30, 2023
David L. Boren Auditorium
National Weather Center

Ecological Engineering
and Restoring our
Circular Economy

Public attendance encouraged. Free parking available.

A sustainable, circular economy is integral to tackling the grand challenges of our time. A circular system takes outputs (waste) and creates inputs (fertilizer and energy) for further food and renewable energy production. Techniques and principles from the field of ecological engineering can be used in creating sustainable systems, with nature used as a model and inspiration for establishing cycles, creating ecosystem services, and tackling resource scarcity. The field of ecological engineering integrates technology and nature for the benefit of both the environment and human society. These society-inspired solutions are imperative for developing resiliency. One model for restoring a circular economy is by separating and valorizing food waste from municipal, solid waste (i.e., trash), creating channels for redirecting this food to meals to tackle food insecurity and/or directing unrecoverable food waste to anaerobic digestion to create energy and fertilizer, while reducing odors and greenhouse gas emissions associated with food waste. The integration of food waste reduction, food-to-table recovery, anaerobic digestion, bioplastic formation, and the importance of using nature-inspired solutions to reduce greenhouse gases from our food waste, manure, and sanitary waste and redirect these outputs into sustainable societal inputs will be discussed.

Engineering the Nature of Change is an in-depth exploration of Ecological Engineering, Engineering With Nature, Nature-Based Solutions, and Natural Infrastructure with world-renowned experts from academia, industry, government, and other sectors.

<https://www.ou.edu/dreamcourse/current-courses/engineering-the-nature-of-change>

Dr. Stephanie Lansing

Dr. Stephanie Lansing is a Professor and Associate Chair in the Department of Environmental Science & Technology at the University of Maryland, USA. Dr. Lansing is the President of the American Ecological Engineering Society, and the Co-Vice Chair of the Maryland Food Systems Resiliency Council, chairing the Environment and Production Committee. She leads the Bioenergy and Bioprocessing Technology Laboratory at the University of Maryland.



CREW

Center for Restoration of
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GALLOGLY COLLEGE OF ENGINEERING
SCHOOL OF CIVIL ENGINEERING
AND ENVIRONMENTAL SCIENCE
The UNIVERSITY of OKLAHOMA

For more information or accommodations, please contact Dayton M'Kenzie Dorman (dayton.m.dorman-1@ou.edu)