



2016/2017 Energy Research Grants – Cycle 10

NCESR. The Nebraska Center for Energy Sciences Research (NCESR), a collaboration between the Nebraska Public Power District (NPPD) and the University of Nebraska-Lincoln (UNL), was established in April 2006 to conduct research on renewable energy sources, energy efficiency and energy conservation; and to expand economic opportunities and improve quality of life for Nebraska and the nation.

Goal. The overall goal of the NCESR is to foster research and education in energy sciences by providing funding to support innovative research and collaboration among University of Nebraska-Lincoln faculty and other public- and private-sector organizations and businesses working in energy sciences.

Request for Proposals. The NCESR released the Request for Proposals (RFP) for its tenth competitive round of Energy Research Grants on April 1, 2015.

Selections. The External Advisory Committee (EAC) met on December 14, 2015 and selected the following six energy research projects:

- Toward High Value-Added Products from Lignin: A Hybrid Chemo/Biocatalytic Approach
– David Berkowitz, Professor, Department of Chemistry
- Biochemical Analysis of Microalgae for Enhanced Oil Synthesis and Biomass in a Waste Water System
– Paul Black, Professor, Department of Biochemistry
- Passivated Liquid Alloy as Hybrid Anode for Membrane-Free, Non-Aqueous Redox Flow Batteries
– Li Tan, Associate Professor, Department of Mechanical and Materials Engineering
- Novel Irradiation and Stress Corrosion Cracking Resistant Oxide-Dispersion-Strengthened Alloys
– Bai Cui, Assistant Professor, Department of Mechanical and Materials Engineering
- Interface-Engineered Materials for High-Efficiency All-Organics Solar Cells
– Axel Enders, Associate Professor, Department of Physics and Astronomy
- Artificial Photosynthesis: Mimicking Nature’s Electronics in a Physical System for CO₂ Fixation of Light
– Ravi Saraf, Professor, Department of Chemical and Biomolecular Engineering

Project Period. Each project is intended to cover the two-year period of January 1, 2016 through December 31, 2018. Funding was provided for the first year. Funding for the second year is provisional and based on project performance.

January 2016

