

2023 - 2024 Energy Research Grants – Cycle 17 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 seventeenth competitive round of Energy Research Grants on March 21, 2022. The External Advisory Committee (EAC) met on December 9, 2022 and selected the following six energy research projects:

- Co-application of biochar and biosolids for carbon sequestration and sustainable soil management in urban-agricultural landscapes – Michael Kaiser, Assistant Professor for Applied Soil Chemistry, Agronomy & Horticulture
- Additive Manufacturing of Advanced Magnets for Power Systems ((AM)²PS) – Jeff Shield, Professor, Mechanical & Materials Engineering
- Photocatalytic Corrosive Nanostructured Electrode to Split Water – Ravi Saraf, Professor, Chemical and Biomolecular Engineering
- Smart Grid cybersecurity enhancement using smart authentication and intelligent threat detection - Byrav Ramamurthy, Professor, School of Computing, College of Engineering
- Biohydrogen systems for electricity and transportation – Paul Blum, Professor, School of Biological Sciences, College of Arts and Sciences
- Reducing energy to produce corn ethanol by optimizing fermenter operation and off gases treatment - Bruce Dvorak, Professor, Civil and Environmental Engineering