

**Department of Energy, Office of Science  
FY 2020 Energy Frontier Research Centers (EFRCs)**

Lead Institution	State	EFRC Name	EFRC Director	EFRC Objective
Arizona State University	AZ	Ultra Materials for a Resilient, Smart Electricity Grid (Ultra EFRC)	Nemanich, Robert	Understand fundamental phenomena in ultra-wide band gap materials including synthesis, defects, interfaces, electrical properties in high fields, and thermal transport.
University of Delaware	DE	Center for Plastics Innovation (CPI)	Korley, LaShanda	Develop a polymer upcycling strategy that combines fundamental discoveries in catalysis and chemical functionalization with innovations in polymer design and additive manufacturing.
Florida State University	FL	Center for Actinide Science & Technology (CAST)*	Albrecht-Schmitt, Thomas	Develop novel wasteforms and new separations for the actinide elements found in nuclear waste tanks.
Ames Laboratory	IA	Institute for Cooperative Upcycling of Plastics (iCOUP)	Sadow, Aaron	Uncover macromolecular and catalytic phenomena at the interface of molecular-scale chemistry and mesoscale materials science to enable upcycling of energy-rich plastics.
University of Illinois at Urbana-Champaign	IL	Energy Frontier Research Center for Quantum Sensing and Quantum Materials (QSQM)	Abbamonte, Peter	Develop and apply nontrivial quantum sensing to measure and unravel mysteries in three families of quantum materials: exotic superconductors, topological crystalline insulators, and strange metals.
Northwestern University	IL	Center for Molecular Quantum Transduction (CMQT)	Wasielowski, Michael	Develop and demonstrate quantum-to-quantum transduction in molecule-based systems through a bottom up synthetic approach to coherently couple quantum systems.
The Ohio State University	OH	Center for Performance and Design of Nuclear Waste Forms and Containers (WastePD)*	Frankel, Gerald	Understand the fundamental science of material performance in an aggressive aqueous environment to predict their lifetime and create new materials with improved corrosion properties.
The Pennsylvania State University	PA	Center for 3D Ferroelectric Microelectronics (3DFeM)	Trolier-McKinstry, Susan	Exploit ferroelectrics for local memory, logic in memory, digital/analog computation, and neuromorphic functionality in 3D microelectronics.
University of South Carolina	SC	Center for Hierarchical Waste Form Materials (CHWM)	zur Loye, Hans-Conrad	Develop the chemical understanding and hierarchical structure motifs needed to create materials that effectively immobilize nuclear waste species.
Pacific Northwest National Laboratory	WA	Interfacial Dynamics in Radioactive Environments and Materials (IDREAM)	Clark, Sue	Master fundamental interfacial chemistry in complex environments characterized by extremes in alkalinity and low-water activity, and chemical phenomena driven far from equilibrium by ionizing radiation.

Subject to award and contract negotiations.

Website: <https://science.osti.gov/bes/efrc/>

\* Two-Year Extension

July 1, 2020

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