

**CRITICAL MINERALS & MATERIALS: CHEMICAL AND MATERIALS SCIENCES
RESEARCH ON RARE EARTH AND PLATINUM GROUP ELEMENTS
[FUNDING OPPORTUNITY ANNOUNCEMENT \(FOA\) NUMBER: DE-FOA-0002483](#)**

Award Selection (August 2021)

The Office of Science of the Department of Energy is pleased to announce that 13 projects (listed below) have been selected to receive funding as part of competition for research in Critical Minerals & Materials sponsored by the Office of Basic Energy Sciences. The research efforts will advance basic chemical and materials sciences that impacts the isolation of critical elements from natural and recycled resources to minimize supply risks and that provides the understanding for identification of substitutes to reduce or eliminate the need for critical elements without losing desired functionalities

Projects announced at this time are selections for negotiation of financial award. The final details for each award are subject to grant and contract negotiations between DOE and the awardees.

Principal Investigator	Institution	City, State	Proposal Title
Cargnello, Matteo	Stanford University	Redwood City, CA	Metal Encapsulation Strategies to Optimize and Minimize PGE Use in Heterogeneous Catalysts
Catalano, Jeffrey	Washington University	St. Louis, MO	Geochemical Mechanisms Controlling Rare Earth Element and Platinum Group Element Migration and Enrichment during Crustal Aqueous Alteration and Weathering
Gysi, Alexander	New Mexico Institute of Mining and Technology	Socorro, NM	Molecular Complexation of Rare Earth Elements (REE) in High Temperature and Pressure Supercritical Geologic Fluids
Jensen, Mark	Colorado School of Mines	Golden, CO	Driving Selectivity Among Rare Earth Elements through Phase Modifiers
Kilina, Svetlana	North Dakota State University	Fargo, ND	Data-Driven and Computationally Assisted Design of Near-Infrared Emissive Metal-Organic Complexes with Earth-Abundant Metals
Lewis, Laura	Northeastern University	Boston, MA	Designing Strong Stability in Non-Critical and Rare-Earth-Lean Magnetic Materials
Liu, Chong	The University of Chicago	Chicago, IL	Tailoring the Selective Transport Pathway of Rare Earth Elements in Solid Ionic Channels Guided by <i>in-situ</i> Characterization and Predictive Modeling
Lundstrom, Craig	University of Illinois	Champaign, IL	A Molecular Understanding of PGE Transport and Ore Formation through an Integrated Experimental, Computational and Thermodynamic Modeling Approach
Prozorov, Tanya	Ames Laboratory	Ames, IA	Geo-inspired Separation of Rare Earth Elements

Schurko, Robert	Florida State University	Tallahassee, FL	Unraveling the Mysteries of the Platinum Group Elements
Servis, Michael	Argonne National Laboratory (ANL)	Lemont, IL	Probing Phase Transitions and Mesoscale Aggregation in Liquid-Liquid Extraction of Rare Earth Elements
Stebe, Kathleen	University of Pennsylvania	Philadelphia, PA	Peptide Surfactants at Air-Aqueous Interfaces for Lanthanide Recovery
Sushko, Peter	Pacific Northwest National Laboratory (PNNL)	Richland, WA	Design of Structural Inhomogeneities to Control Functional Properties