

## CRITICAL MATERIALS INSTITUTE PROJECTS

CMI projects sorted by location of project leader.

Project Leader	Location of leader	Project Title	FA	Thrust	Project Number
Windus, Theresa	Ames	Computational Prescreening of Ligands	1	1-2	1.2.4
Canfield, Paul	Ames	Reduced Rare Earth Content High Performance Magnets	2	2-1	2.1.1
Gschneidner, Karl	Ames	Direct Conversion of SM203 to SmCox Permanent Magnets	2	2-1	2.1.5
Antropov, Vladimir	Ames	Ab initio Theory of Temperature Dependent and Multi-Scale Phenomena in Magnets	4	4-1	4.1.1
Ott, Ryan	Ames	Rapid Assessment Methodologies	4	4-1	4.1.4
Anderson, Corby	CSM	Advanced Beneficiation Techniques	1	1-1	1.1.1
Mishra, Brajendra	CSM	Conversion to Metal, Alloys, and Materials	1	1-2	1.2.2
Mishra, Brajendra	CSM	Recovery and Reuse of Rare Earth Metals from Phosphor Dusts	3	3-1	3.1.1
Eggert, Rod	CSM	Criticality and Sustainability Assessment	4	4-3	4.3.1
Johnson, Frank	GE	Optimization of Grain Boundaries and Interfaces in Fine Particle Magnets	2	2-1	2.1.3
Hung, Steve	GE	Thermal Barrier Coat Revert and Future Opportunities	3	3-1	3.1.6
Herbst, Scott	INL	Enhanced Separation of Adjacent Rare Earth Elements	1	1-2	1.2.1
Fox, Bob	INL	Supercritical Fluid Beneficiation of Waste Streams	3	3-2	3.2.1
Reed, David	INL	Bioleaching for Recovery of Recycled REE	3	3-2	3.2.5
Lister, Tedd	INL	Recovery of Critical Materials from Consumer Devices	4	3-2	3.2.6
Klaehn, John	INL	Treatment of Mineral Processing Waste Streams and Recovery of Clean Water Using Sorption, I	4	4-2	4.2.1
Fujita, Yoshiko	INL	Rare Earth Effects on Biological Wastewater Treatment Systems	4	4-2	4.2.2
Cafferty, Kara	INL	Economic Analysis of CMI Research and Global Material Supply Chains	4	4-3	4.3.2
Collins, John	INL	National Technology Roadmap for Critical Materials	4	4-3	4.3.3
McCall, Scott	LLNL	Additive Manufacturing of Permanent Magnets	2	2-1	2.1.2
Turchi, Patrice	LLNL	Materials Design Simulator	2	2-1	2.1.6
Payne, Steve	LLNL	New Efficient Phosphors Without Critical Material Content for Lighting	2	2-2	2.2.4
Taylor, Patrick	Mines	Beneficiation of Photovoltaic (and other) Functional Coatings	3	3-1	3.1.4
DePaoli, David	ORNL	Recovery of REEs and Uranium from Phosphate Ore Processing	1	1-1	1.1.2
Dai, Sheng	ORNL	Ionic-Liquid Separation Processes	1	1-2	1.2.3
Rios, Orlando	ORNL	Development of High Cerium Content Aluminum Alloys	1	1-3	1.3.2
McGuire, Michael	ORNL	Thermo-Magnetic Processing of Rare Earth Magnets	2	2-1	2.1.4
McIntyre, Tim	ORNL	Transforming Reuse and Recycling of Rare Earth Magnets	3	3-1	3.1.5
Bhave, Ramesh	ORNL	Membrane Solvent Extraction for Rare Earth Separations	3	3-2	3.2.2
Riman, Richard	Rutgers	Fundamental Properties and Phase Diagrams	4	4-1	4.1.3
Harrison, Stephen	Simbol	Improved Methods for Lithium Extraction	1	1-1	1.1.3
tbd	tbd	Predicting, Controlling and Tailoring Crystal Electric Field Splitting for Magnetic Anisotropy in Rl	4	4-1	4.1.2