

## CRITICAL MATERIALS INSTITUTE PROJECTS

CMI Projects sorted by project leader last name

Project Leader	Location of leader	Project Title	Focus		Project Number
			Area	Thrust	
Anderson, Corby	CSM	Advanced Beneficiation Techniques	1	1-1	1.1.1
Antropov, Vladimir	Ames	Ab initio Theory of Temperature Dependent and Multi-Scale Phenomena in Magnets	4	4-1	4.1.1
Bhave, Ramesh	ORNL	Membrane Solvent Extraction for Rare Earth Separations	3	3-2	3.2.2
Bulatov, Vasily	LLNL	Quantitative Framework for Cost Efficient Material Development	2	2-3	2.3.1
Cafferty, Kara	INL	Economic Analysis of CMI Research and Global Material Supply Chains	4	4-3	4.3.2
Canfield, Paul	Ames	Reduced Rare Earth Content High Performance Magnets	2	2-1	2.1.1
Collins, John	INL	National Technology Roadmap for Critical Materials	4	4-3	4.3.3
Dai, Sheng	ORNL	Ionic-Liquid Separation Processes	1	1-2	1.2.3
DePaoli, David	ORNL	Recovery of REEs and Uranium from Phosphate Ore Processing	1	1-1	1.1.2
Eggert, Rod	CSM	Criticality and Sustainability Assessment	4	4-3	4.3.1
Fox, Bob	INL	Supercritical Fluid Beneficiation of Waste Streams	3	3-2	3.2.1
Fujita, Y.	INL	Rare Earth Effects on Biological Wastewater Treatment Systems	4	4-2	4.2.2
Gschneidner, Karl	Ames	Direct Conversion of SM203 to SmCox Permanent Magnets	2	2-1	2.1.5
Harmon, Bruce	Ames	Predicting, Controlling and Tailoring Crystal Electric Field Splitting for Magnetic Anisotropy in REE Systems and <i>d</i> -Impurities in Phosphors	4	4-1	4.1.2
Harrison, Stephen	Simbol	Improved Methods for Lithium Extraction	1	1-1	1.1.3
Herbst, Scott	INL	Enhanced Separation of Adjacent Rare Earth Elements	1	1-2	1.2.1
Hung, Steve	GE	Thermal Barrier Coat Revert and Future Opportunities	3	3-1	3.1.6
Johnson, Frank	GE	Optimization of Grain Boundaries and Interfaces in Fine Particle Magnets	2	2-1	2.1.3
Klaehn, John	INL	Treatment of Mineral Processing Waste Streams and Recovery of Clean Water Using Sorption, Passive, and Active Microfiltration Systems	4	4-2	4.2.1
Lister, Tedd	INL	Recovery of Critical Materials from Consumer Devices	3	3-2	3.2.6
McCall, Scott	LLNL	Additive Manufacturing of Permanent Magnets	2	2-1	2.1.2
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
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
Ott, Ryan	Ames	Rapid Assessment Methodologies	4	4-1	4.1.4
Payne, Steve	LLNL	New Efficient Phosphors Without Critical Material Content for Lighting	2	2-2	2.2.4
Reed, David	INL	Bioleaching for Recovery of Recycled REE	3	3-2	3.2.5
Riman, Richard	Rutgers	Fundamental Properties and Phase Diagrams	4	4-1	4.1.3
Rios, Orlando	ORNL	Development of High Cerium Content Aluminum Alloys	1	1-3	1.3.2
Sadow, Aaron	Ames	New Uses for Co-Mined Abundant Rare Earth Elements in Catalytic Applications	1	1-3	1.3.1
Taylor, Patrick	Mines	Beneficiation of Photovoltaic (and other) Functional Coatings	3	3-1	3.1.4
Turchi, Patrice	LLNL	Materials Design Simulator – Efficient Prototyping of Rare Earth-Based Alloys from ab initio Electronic Structure and Thermodynamics	2	2-3	2.3.2
Windus, Theresa	Ames	Computational Prescreening of Ligands	1	1-2	1.2.4