

FY17 Approved LDRD Projects

LDRD Project Number	Project Title	Principal Investigator	Department	Directorate
13-006	Time-Resolved Imaging of X-Rays and Charged Particles	Nomerotski, Andrei	PO	NPP
14-005	1st Light: Elucidating Solid-Solid Interfaces in Energy Storage Systems	Takeuchi, Esther	DC	EPS
14-036	Correlative Microscopy, Spectroscopy and Diffraction with a Micro-Reactor	Stach, Eric	NC	EPS
15-006	Design, Fabrication and Test of SRF Cavity Prototype for eRHIC ERL	Xu, Wencan	AD	NPP
15-009	Nanoconfined Polymer Electrolytes for Rechargeable Lithium-Metal Batteries	Black, Chuck	NC	EPS
15-010	Hydrocarbon Chemistry on Zeolite Model Systems: Towards a Detailed Understanding of Energy-Relevant Chemical Transformations Using In-Situ Techniques at NSLS-II, CFN and Chemistry Department	Boscoboinik, Anibal	NC	EPS
15-011	Revealing the Structure and Dynamics of Discrete Meso-Architectures	Gang, Oleg	NC	EPS
15-020	A New Frontier for Improving Processes for Regional and Global Climate Modeling	Lin, Wuyin	EE	EBNN
15-025	Growth of Self-Activated Scintillators for Dual Gamma and Neutron Detection	Roy, Utpal / Carmarda, Giuseppe	NN	EBNN
15-031	Inelastic X-Ray Scattering Determination of the Inter- and Intra-Particle Dynamics of Nanoparticle Superlattices: Key to the Development of THz Phononic Crystals	Cunsolo, Alessandro	PS	EPS
15-034	Searching and Sorting Haystacks	McSweeney, Sean	PS	EPS
15-037	In-Situ Microscopy Investigation of Complex Manganese Oxides for Energy Storage	Chu, Yong	PS	EPS
16-004	Chiral Magnetic Effect: From Quark-Gluon Plasma at RHIC to Dirac Semimetals at NSLS-II	Li, Qiang	PM	EPS
16-006	Serial Micro Crystallography at Full Flux	Fuchs, Martin	PS	EPS
16-007	3D Ptychography Imaging without Rotation Using Highly Convergent X-ray Beam	Huang, Xiaojing	PS	EPS
16-010	100fs Single-Shot Electron Beam Slicing Technology Towards Ultra-Fast Imaging	Yu, Li Hua; Zhu, Yimei; Shatan, Timur; Willeke, Ferdinand	PS	NPP
16-019	In Situ Synchrotron Studies of Subsurface Material Interfaces using X-Ray Fluorescence Mapping and X-Ray Tomography at NSLS-II	Gill, Simerjeet	NE	EBNN
16-021	Characterization of Photo-Cathodes and Photoelectrons in Liquid Noble Gases	Rao, Treveni	IO	NPP
16-022	Investigation of SIPMs for use in Nuclear and Particle Detectors	Tsang, Thomas; Woody, Craig	IO	NPP
16-023	ADC and Gbit/s Link in CMOS for Large Data Generation and In Operando Analysis	Li, Shaorui	IO	NPP
16-024	Improved X-ray Spectroscopy Detectors	Giacomini, Gabriele; Elliott, Donald	IO	NPP
16-026	Microwave Kinetic Inductance Detectors: from Cosmology to NSLS2	O'Connor, Paul	IO	NPP
16-027	Detector Calibration and Material Analysis - Expanding the Capabilities at NSLS II	Smedley, John	IO	NPP
16-029	Higher-Order-Mode (HOM) Damping for Full Luminosity of eRHIC	Xu, Wencan	AD	NPP
16-034	Advanced Silicon Detectors R&D	Lanni, Francesco	PO	NPP

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16-035	Resolving Technological Issues of a Compact Time Projection Chamber for Use at Both RHIC and a Future Electron Ion Collider	O'Brien,Edward	PO	NPP
16-037	Exploring Hadron Structure with Ab Initio Lattice QCD Calculations and Making Predictions for eRHIC	Izubuchi,Taku	PO	NPP
16-038	Preconceptual Design Study for Large Scale Structure Experiment post LSST/DESI	Slosar,Anze	PO	NPP
16-039	Machine Learning Assisted Material Discovery	Yoo,Shinjae	CC	CSI
16-041	Dynamic Visualization and Visual Analytics for Scientific Data at NSLS-II	Xu,Wei	CC	CSI
16-043	Deep Structured Analysis for Image Datasets from CFN and NSLS-II	Yager,Kevin	CC	CSI
16-045	Catalysis Program in CO2 Activation	Chen,Jingguang	CO	EPS
16-046	Strong-Strong Beam-Beam Interaction Studies for a Ring-Ring Based Electron Ion Collider	Willeke,Ferdinand	PS/AD	EPS/NPP
17-002	High-Powered Er-Doped Fiber Laser for 50 mA Highly Polarized Electron Beam	Zhao, Zhi	AD	NPP
17-003	Integrated Low-Noise and Low Drop-Out Voltage Regulator for Front-End ASIC	Li, Shaorui	IO	NPP
17-004	Next Generation Pad Readout for Neutron Detectors	Yu, Bo/Schaknowki, Neil	IO	NPP
17-005	Investigation of Novel Materials for Generating Polarized Electron Beams	Rao, Triveni/Johnson, Peter	IO	NPP
17-011	Engineered Protein Arrays for Structural and In-Operando Studies	Gang, Oleg	NC	EPS
17-013	Enabling Sustainable Ammonia Synthesis through Ambient and High Pressure Synchrotron Techniques	Rodriguez, Jose/Stavitski, E.	CO/PS	EPS
17-015	NSLS-II High Brightness Upgrade Design Studies	Blum, Eric	PS	EPS
17-016	Diffraction-Limited and Wavefront Preserving Reflective Optics Development	Idir, Mourad	PS	EPS
17-017	Development of Compact, High Efficiency Nanofocusing Optics for Hard X-Ray Nano-Imaging	Nazaretski, Evgeny	PS	EPS
17-018	Genomes to Predictive Biology: Machine Learning for the Integration of Inter-Species Functional Genomics Data	Blaby, Ian	BI	EBNN
17-023	Molecular Mechanisms of Alkane Hydroxylation	Liu, Qun	BI	EBNN
17-024	Development of a New Approach to Remotely Measure Limitations on Plant Growth	Rogers, Alistair	EE	EBNN
17-029	High Performance X-ray Diffraction Simulation Toolkit Using GPU and CPU Clusters	Xu, Wei / Lin, Meifeng	CC	CSI
17-035	Transitions in strongly correlated oxide materials	Robinson, Ian	PM	EPS