

FY09 LDRD Projects

LDRD Proj. No.	Project Title	P.I.	Dept./Bldg.
07-001	QCD Thermodynamics at Non-zero Temperature and Density	Karsch, F.	PHYS/510A
07-002	Lattice QCD Simulations on BlueGene/L	Karsch, F.	PHYS/510A
07-004	Proof-of-Principle Laser System for ILC Positron Source	Pogorelsky, I.	PHYS/820M
07-005	Sensitive Searches for CP-Violation in Hadronic Systems	Semertzidis, Y.	PHYS/510A
07-006	Feasibility and Design Studies for a Detector for e+p, e+A, p+p, p+A, and A+A Collisions at BNL	Ullrich, T.	PHYS/510A
07-007	A Novel and Compact Muon Telescope Detector for QCD Lab	Xu, Zhangbu	PHYS510A
07-010	Design Optimization of a Reactor Neutrino Experiment	Jaffe, D.	PHYS/510E
07-019	Development of Laser beam Shaper for Low Emittance Electron Beams	Rao, T.	INST/535B
07-023	Surface Engineered and Core-Shell Nanowires: Nanoscale Building Blocks for Third Generation Photovoltaics	Sutter, P.	CFN/555
07-025	Precision Assembly of Nano-Objects – Approaching Artificial Photosynthesis	Sherman, W.	CFN/463
07-027	Photocatalytic Carbon Dioxide Reduction to Methanol using Metal Complexes with an NADH Model Ligand	Fujita, E.	CHEM/555A
07-030	Structure of Mass-Size Selected Nanoparticles by Scanning Transmission Electron Microscopy	White, M.	CHEM/555A
07-032	Synthesis of Conjugated Polymers for Fundamental Questions in Solar Energy	Miller, J.	CHEM/555A
07-035	Ultra-thin Graphite Analog Compounds	Valla, T.	CMPMSD/480
07-036	Lipid-Coated Nanoparticles and Their Interactions with Lipid Membrane Surfaces	Fukuto, M.	CMPMSD/510B
07-038	Angle-Resolved Time-of-Flight Ion Scattering Spectroscopy from MBE-Grown Oxide Thin Film Surfaces	Gozar, A.	CMPMSD/480
07-047	Characterization of Enzymatic O-acylation to Facilitate Biomass and Bioenergy Production	Liu, C.-J.	BIO/463
07-048	Functional Neurochemistry	Tomasi, D.	MED/490

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07-054	Miniaturized RF Coil Arrays for MicroMRI	Smith, D.	MED/490
07-059	A Non-Fermentation Route to Convert Biomass to Bioalcohols	Mahajan, D.	ES&T/815
07-062	Fate and Reactivity of Carbon Nanoparticles (CNPs) Exposed to Aqueous Environmental Conditions	Panessa-Warren, B.	ES&T/475C
07-073	Development of Room-temperature CdMnTe Gamma-ray Detectors	Cui, Y.	NNS/535B
07-075	Developing a New Framework for Investigating Earth's Climate and Climate Change	Liu, Y.	ESD/815E
07-080	A Novel Approach for Efficient Biofuel Generation	Chidambaram, D.	ESD/490A
07-084	Investigations of Hygroscopic Growth and Phase Transitions of Atmospheric Particles by Noncontact Atomic Force Microscopy	Schwartz, S.	ESD/815E
07-089	Chemical Imaging of Living Cells in Real Time	Miller, L.	NSLS/725D
07-090	Coherent Bragg Rod Analysis of High-Tc Superconducting Epitaxial Films	Pindak, R.	NSLS/725D
07-091	Development of a Planar Device Technology for Hyperpure Germanium X-ray Detectors.	Siddons, D.P.	NSLS/725D
07-096	Study of Epigenetic Mechanisms in a Model of Depression	Henn, F.	MED/490
07-097	Polarized Electron SRF Gun	Ben-Zvi, I.	CAD/911B
07-101	High End Scientific Computing (BlueGene)	Davenport, J.	CSC/463B
08-001	How Does Color Flow in a Large Nucleus: Exploring the Chromo-Dynamics of QCD through Diffractive and Jet Measurements at eRHIC	Venugopalan, R.	PHYS/510A
08-002	Strongly Correlated Systems: From Graphene to Quark-Gluon Plasma	Kharzeev, D. & Tsvelik, A.	PHYS/CMP
08-004	Getting to Know Your Constituents: Studies of Partonic Matter at the EIC	Vogelsang, W.	PHYS/510A
08-005	Development of the Deuteron EDM Proposal	Semertzidis, Y.	PHYS/510A
08-008	Development of a Small Gap Magnets and Vacuum Chamber for eRHIC	Litvinenko, V.	C-AD/817
08-022	Novel Methods for Microcrystal Structure Determination at NSLS and NSLS-II	Orville, A. M.	BIO/463
08-025	Combined PET/MRI Multimodality Imaging Probe	Schlyer, D.	Med/490
08-028	Genomic DNA Methylation: The Epigenetic Response of <i>Arabidopsis Thaliana</i> Genome to Long-term Elevated Atmospheric Temperature and CO ₂ in Global Warming	Liu, Q.	MED/490 & BIO/463
08-034	Fabry-Perot Interferometer & Hard X-ray Photoemission	Vescovo, E.	NSLS/725D

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08-037	Ultrafast Electron Diffraction for Transient Structure and Phase Transition Studies At the NSLS SDL	Wang, X.	NSLS/725C
08-039	The Development of a Laser Based Photoemission Facility for Studies of Strongly Correlated Electron Systems	Johnson, P. D.	CMPMSD/510B
08-042	Theory of Electronic Excited States in Heterogeneous Nanosystems	Hybertsen, M. S.	CFN/480
08-043	Nanofabrication Methods Using Solution-Phase Nanomaterials	Black, C.	CFN/480
08-051	Identification of Organic Aerosols and their Effects on Radiative Forcing	Lee, Y.-N.	ESD/815E
08-060	Computational Climate Science	Vogelmann, A.	ESD/815E
08-062	A Novel Spintronic Room-Temperature High Purity Germanium X- and Gamma-Ray Spectrometer	Bolotnikov, A. E./Camarda, A.	NNS/197C
08-080	Tracer Development-Improving PET and MR Imaging	Fowler, J.	MED/555A
08-081	Development of MR Research at BNL	Henn, F.	LIFE/490
08-082	Biofuels and Nanotech for Improvement of Oil Heat Combustion Systems	Butcher, T. A.	ES&T/475C
08-083	Solar Water Splitting: Quantum Theory of Photocatalytic Processes at the Water/Semiconductor Interface	Allen, P. B.	Stony Brook/BNL
09-001	Nanoscale Anode Materials for Lithium Batteries	Graetz, J.	ES&T/ERD
09-002	Bioconversion of Lignocellulose to Ethanol and Butanol Facilitated by Ionic Liquid Preprocessing	Francis, A. J., Wishart, J. F., Dunn, J.	ES/Chem./Biology
09-003	Organic Photovoltaics: Nanostructure, Solvent Annealing and Performance	Ocko, B.	PM/510B
09-004	Surface Chemistry and Electrochemistry of Ethanol	Hrbek, J.	Chem./555
09-005	Synergistic Interactions Between Poplar and Endophytic Bacteria to Improve Plant Establishment and Feedstock Production on marginal Soils	van der Lelie, D.	BIO/463