

FY2002 Awards for the Defense Experimental Program to Stimulate Competitive Research (DEPSCoR)					
PRINCIPAL INVESTIGATOR	INSTITUTION	DEPARTMENT	STATE	PROPOSAL TITLE	SPONSOR
Eric R. Abraham	University of Oklahoma	Physics and Astronomy	OK	Development of Methods to Cool and Trap Atoms and Molecules	NV
Ajay K. Agrawal	University of Oklahoma	Aerospace and Mechanical Engineering	OK	Porous Media Combustor Concepts for Propulsion Gas Turbines	AR
Mohammad S. Alam	University of South Alabama	Electrical and Computer	AL	Automatic Target Recognition and Tracking	AR
Dennis R. Alexander	University of Nebraska-Lincoln	Electrical Engineering	NE	Improved Optical Communications: Femtosecond and Attosecond Laser Pulse Propagation in the Atmosphere	NV
Plamen B. Atanassov	University of New Mexico	Chemical and Nuclear Engineering	NM	Non-Platinum Electrocatalysts for Fuel Cells	AR
Recep Avci	Montana State University	Physics	MT	Determination of Adhesion and Friction Forces in Marine Biofilm Systems using Chemical Force Microscopy	NV
WM. Randall Babbitt	Montana State University	Physics	MT	Applications of Optical Coherent Transient Technology: Plus Shaping, Spectral Filtering, Arbitrary Waveform Generation, and RF Beamforming	AF
Herman Batelaan	University of Nebraska-Lincoln	Physics	NE	Matter Interferometry with Charged Particles	AR
Rodney D. W. Bowersox	University of Alabama	Aerospace Engineering and Mechanics	AL	Influence of Surface Roughness and Freestream Turbulence on the Second Order Transport of Turbulence in Non-Equilibrium Surfaces	AF
Douglas S. Cairns	Montana State University	Mechanical and Industrial Engineering	MT	Cost Efficient Composite Materials and Structure for DoD Applications	NV
Kuang-Hua Chang	University of Oklahoma	School of Aerospace and Mechanical Engineering	OK	Re-Engineering and Fast Prototyping for Fatigue and Fracture in Aging Aircraft	AF
Tar-pin Chen	University of North Dakota	Physics	ND	Fabrication of tunneling and transport studies on SIS Josephsons and SQUIDS using PrBa ₂ (Cu _{1-x} A _{1x}) ₃ O ₇ for I-layer	MD
Kenneth D. Clinkenbeard	Oklahoma State University	Veterinary Pathobiology	OK	Development of Aptamer Beacons to Lippolysaccharide for the Real-time Sensing of Biological Warfare Agents	AR
Laurence D. Fechter	Univ. of Oklahoma Health Sciences	Pharmaceutical Sciences/Pharmacy	OK	Potential of Noise-Induced Hearing Loss by JP-8 Jet Fuel	AF
Richard L. Fork	University of Alabama in Huntsville	Electrical & Computer Engineering	AL	Surface High Energy Laser	AR
Julio Gea-Banacloche	University of Arkansas	Physics	AR	Quantum Error Correction in the Presence of Environmental Noise	AR
Larry E. Halliburton	West Virginia University	Physics	WV	Optical and Magnetic Resonance Characterization of Donors and Acceptors in ZnO	AF
Harumi Hattori	West Virginia University	Mathematics	WV	Mathematical Study of Phase Transition Problems	AR
Jan M. H. Hendrixx	New Mexico Tech	Earth and Environmental Science	NM	Land Mine Detection: Dealing with Spatial and Temporal Soil Variability	AR
Joan M. Henson	Montana State University	Microbiology	MT	Fungal-Plant Mutualism for Protein from Acidic, Thermal Soil in Yellowstone National Park	AR
Bruce J. Hinds	University of Kentucky	Chemical and Materials Engineering	KY	Controlled Growth of Single-Walled Carbon Nanotubes for a Scalable Sub-Nanometer Lithography	AF
Darren L. Hitt	University of Vermont	Mechanical Engineering	VT	Modeling of MEMS-Based Hydrogen Peroxide Monopropellant Micro-Thrusters	AF
Xiaolong Hu	Desert Research Institute	Hydrologic Sciences	NV	Study on Multi-Scale Heterogeneity for Prediction of the Fate and Transport of TNT Compounds in Groundwater	AR
Anne M. Kelley	Kansas State University	Chemistry	KS	Aggregation effects on structures and nonlinear optical properties of push-pull chromophores	NV
Edward W. Kempema	University of Wyoming	Geology and Geophysics	WY	Fluvial Anchor Ice/Sediment Dynamics and Ice Rafting	NV
Ahmed A. Kishk	Mississippi University	Electrical Engineering	MS	Wideband Dielectric Resonator Antennas and Phased Array Applications	AR

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Edward T. Knobbe	Oklahoma State University	Environmental Institute	OK	Advanced Nanostructured Hybrid Coatings for the Protection of Aircraft Aluminum Alloys	AF
Randall L. Kolar	University of Oklahoma	School of Civil Engineering and Environmental Science	OK	A Parallel, 3D Baroclinic Shallow Water Model	NV
Robert J. Lad	University of Maine	Laboratory for Surface Science and Technology/Physics	ME	Multifunctional Silicon-Aluminum Oxynitride (SiAlON) Ceramic Coatings for High Temperature Applications	AF
Gerald J. Lapeyre	Montana State University	Physics	MT	Interface and Surface Investigations for Wide-Gap and Magnetic Semiconductors	NV
Zbigniew Lewandowski	Montana State University	Center of Biofilm Engineering	MT	Microbial Fuel Cells	NV
Randolph V. Lewis	University of Wyoming	Molecular Biology	WY	Sequence and Properties of Spider Acindiform and Piriform Silks	AR
Dening Li	West Virginia University	Mathematics	WV	Conical Shock Waves in Hydrodynamics	NV
Carl W. Luchies	University of Kansas	Mechanical Engineering	KS	Effects of Fatigue and Load Carriage on the Soldier's Performance of Time Critical Tasks	AR
Arup K. Maji	University of New Mexico	Civil Engineering	NM	Micromechanics of Smart Materials for Large Deployable Mirrors	MD
Chi-Sing Man	University of Kentucky	Mathematics	KY	Residual Stress, Micro-and Macro-texture in Surface-Enhanced Titanium Alloys: Their Nondestructive Inspection and Effects on High-Cycle Fatigue Properties	AF
Kenneth A. Mauritz	University of Southern Mississippi	Polymer Science	MS	Tailoring Hydration Microstructure in [Multiphase Polymer]/Inorganic Members for Water and Proton Transport Applications	AR
Lawrence M. Mayer	University of Maine	Marine Sciences	ME	Nutritional Control of Bioturbation in Maine Sediments	NV
John E. McInroy	University of Wyoming	Electrical and Computer Engineering	WY	High Precision, High Frequency, Fault Tolerant Manipulation of Multiple Payloads Abroad a Moving Bus	MD
Karen J. Nordheden	University of Kansas	Chemical and Petroleum Engineering	KS	Characterization of Plasma Etch Processes for Wide Bandgap Semiconductors	AF
Kendall E. Nygard	North Dakota State University	Computer Science and Operations Research	ND	Near Real-time Mission Planning for Autonomous Vehicles	NV
Brendan J. O'Toole	University of Nevada, Las Vegas	Mechanical Engineering	NV	Development of Computational Tools for the Design and Optimization of Lightweight Armor	AR
R. K. Pandey	University of Alabama	Electrical and Computer Science	AL	Thin Film Processing and Evaluation of Pyro-Optic Materials for IR Imaging	AR
Lance C. Perez	University of Nebraska-Lincoln	Electrical Engineering	NE	Wireless Multiple Access Communications Using Collision Frequency Shift Keying	AF
Charles U. Pittman Jr.	Mississippi State University	Chemistry/Arts and Sciences	MS	Vapor Carbon Fiber/Hybrid Organic-Inorganic Matrix Composites. Nanometer-Sized Silsesquioxane Phases Chemically Bound in a Matrix Containing Nano-Diameter Fibers	AF
Ramana G. Reddy	University of Alabama	Metallurgical and Materials Engineering	AL	In Situ Processing of Nanocomposites	AR
V. Hugo Schmidt	Montana State University	Physics	MT	Characterization of High-Strain Piezoelectric Crystals	MD/NV
Jean'ne M. Shreeve	University of Idaho	Chemistry	ID	Difluorinating Reagents	NV
Paul Thevenard	Alabama A&M University	Physics	AL	Fundamental Improvements in Display Systems Functionality	AR
J. Scott Tyo	University of New Mexico	Electrical and Computer Engineering	NM	Non-Thermal, Non-Ionizing Interaction of High-Intensity Electromagnetic Fields with Small-Scale Electronic and Biological Systems	AF
Curtis R. Vogel	Montana State University	Mathematical Sciences	MT	Computational Methods in Advanced Imaging Sciences	AF
Xindong Wu	University of Vermont and State Agricultural	Computer Science	VT	Multi-Layer Induction in Large, Noisy Databases	AR

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Sharad N. Yedave	University of Arkansas	Mechanical Engineering	AR	Fundamental Understanding of the Deposition Mechanism and Surface and Interface Properties of Nano-crystalline Combinatorial Soft and Hard Composite Phases	AF
Wei Zhao	University of Arkansas-Little Rock	Chemistry	AR	Third-Order Optical Nonlinearity Study of Single-Walled Carbon Nanotubes Using 2D Nonlinear Infrared Laser Spectroscopy	AR