

FY2005 Multidisciplinary University Research Initiative (MURI) Program Award Winners

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Investigator	Prime Institution	State	MURI #	MURI Title	Project Title	Funding Agency
J. J. Garcia-Luna-Aceves	University of California - Santa Cruz	CA	1	Cross Disciplinary Approach to the Modeling, Analysis And Control	Dynamic Ad-Hoc Wireless Network	ARO
Vijay Kumar	University of Pennsylvania	PA	2	Control of Networked Autonomous and Semi-Autonomous Vehicle Swarms Inspired by Nature	Scalable Swarms of Autonomous Robots and Mobile Sensors	ARO
Michael B. Steer	North Carolina State University	NC	3	Standoff Inverse Analysis and Manipulation of Electronic Systems (SIAMES)	Standoff Inverse Analysis and Manipulation of Electronic Systems	ARO
Lawrence Carin	Duke University	NC	3	Standoff Inverse Analysis and Manipulation of Electronic Systems (SIAMES)	Standoff Inverse Analysis and Manipulation of Electronic Systems	ARO
Alice Healy	University of Colorado	CO	4	Training for the Networked Battlefield	Training Knowledge and Skills for the Networked Battlefield	ARO
Robert W. Boyd	University of Rochester	NY	5	Quantum Imaging	Quantum Imaging: New Methods and Applications	ARO
John A. Sidles	University of Washington	WA	6	Advancement of Magnetic Resonance Force Microscopy to Single Nuclear Spin Detection	Single Nuclear Spin Detection	ARO
P. Chris Hammel	Ohio State University	OH	6	Advancement of Magnetic Resonance Force Microscopy to Single Nuclear Spin Detection	Single Nuclear Magnetic Resonance Force Microscope	ARO
Thomas F. Kuech	University of Wisconsin - Madison	WI	7	Material Engineering of Lattice Mismatched Semiconductor Systems	Realization and Integration of Large Lattice Mismatched Materials for Device Innovation: A Comprehensive Approach to the Underlying Science and Practical Application	ARO
Malcolm F. Nicol	University of Nevada - Las Vegas	NV	8	Enabling Science for Future Force Insensitive Munitions	Effect of Defects on Mechanisms of Initiation and Energy Release in Energetic Molecular Crystals	ARO
William A. Goddard	California Institute of Technology	CA	8	Enabling Science for Future Force Insensitive Munitions	The Fundamental Chemistry and Physics of Munitions Under Extreme Conditions	ARO
Donald L. Thompson	University of Missouri - Columbia	MO	8	Enabling Science for Future Force Insensitive Munitions	General, Unified, Multiscale Modeling to Predict the Sensitivity of Energetic Materials	ARO
Hideo Mabuchi	California Institute of Technology	CA	9	Detection and Sensing Below the Shot Noise Limit	Quantum Metrology with Atomic Systems: Principles and Implementations	ONR
Michael Lanagan	Pennsylvania State University	PA	10	Novel Dielectric Materials for High Pulsed Power Capacitors	Unconventional Dielectric Materials and Structures for Ultrahigh-Performance Pulsed Power Capacitors	ONR
Yongfeng Lu	University of Nebraska - Lincoln	NE	11	Multi-Energy Processing Science	Multi-Laser-Beam Open-Atmosphere Surface Coating Techniques Based on Precursor Excitation, Photodissociation and Controlled Cooling	ONR
Robert F. Beck	University of Michigan	MI	12	Real-time Sensing, Prediction, and Response to Evolving Nonlinear Wave Fields	Optimal Vessel Maneuvering in Evolving Nonlinear Wave Fields	ONR
J. Ping Liu	University of Texas - Arlington	TX	13	Materials Manufacturing Processes, Interface Control, and Reliability of Nanostructure-Enhanced Devices for Energy Conversion and Realization of High Performance Systems	Synthesis and Processing of Nanocomposite Permanent Magnets	ONR
Umesh Mishra	University of California - Santa Barbara	CA	14	Gallium Nitride (GaN) Based mm-Wave Sources	The Millimeter-Wave Initiative for Nitride Electronics	ONR

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Andrew T. Jessup	University of Washington	WA	15	Exploitation of the Coherent Structures in River and Estuarine Flows for DoD Operations in Denied Areas	Remote Sensing and Modeling of Coherent Structures in River and Estuarine Flows	ONR
Dmitry Budker	University of California - Berkeley	CA	16	Magnetic Detection Science and Technology	Laser Addressed Atomic Micromagnetometers	ONR
Anthony G. Evans	University of California - Santa Barbara	CA	17	Revolutionary Approaches to Hypersonic Materials (RAHM)	Revolutionary Materials for Hypersonic Flight	ONR
Jeffrey A. Bilmes	University of Washington	WA	18	Radically New Approaches for Robust Speech-to-Text	Human-Like Speech Processing	ONR
Ron Schrimpf	Vanderbilt University	TN	19	Radiation Effects on Emerging Electronic Materials and Devices	Radiation Effects on Emerging Electronic Materials and Devices	AFOSR
Tresa. M. Pollock	University of Michigan	MI	20	Extreme Light Material-Based Diagnostics	Hyperspectral and Extreme Light Diagnostics for Defense-Critical Advanced Materials and Processes	AFOSR
Alexander H. Levis	George Mason University	VA	21	Computational Modeling of Adversary Attitudes And Behaviors	Computational Modeling of Cultural Dimensions in Adversary Organizations	AFOSR
Whitman A. Richards	Massachusetts Institute of Technology	MA	21	Computational Modeling of Adversary Attitudes And Behaviors	Computational Models for Belief Revision, Group Decisions, and Cultural Shifts	AFOSR
G. Charles Dismukes	Princeton University	NJ	22	Water-Based Photobiological Production of Hydrogen Fuel	Renewable Bio-Solar Hydrogen Production from Robust Oxygenic Phototrophs	AFOSR
Ayre Nehorai	University of Illinois - Chicago	IL	23	Waveform Diversity For Full Spectral Dominance	Adaptive Waveform Design for Full Spectral Dominance	AFOSR
Ari Glezer	Georgia Institute of Technology	GA	24	Closed-Loop Aerodynamic Flow Control	Dynamic Flight Maneuvering Using Virtual Control Surfaces Generated by Trapped Vorticity	AFOSR
Tim Colonius	California Institute of Technology	CA	24	Closed-Loop Aerodynamic Flow Control	Closed-Loop Control of Vortex Formation in Separated Flows with Application to Micro Air Vehicles	AFOSR
Ian R. McNab	University of Texas - Austin	TX	25	Multistage Electromagnetic (EM) And Laser Launchers For Affordable, Rapid Access To Space	Research on Multistage Electromagnetic Launchers for Affordable Access to Space	AFOSR
Leik N. Myrabo	Rensselaer Polytechnic Institute	NY	25	Multistage Electromagnetic (EM) And Laser Launchers For Affordable, Rapid Access To Space	Basic Research Investigations into Multimode Laser and Electromagnetic Launchers for Affordable, Rapid Access to Space	AFOSR
Scott R. White	University of Illinois - Urbana-Champaign	IL	26	Biomimetic Multifunctional Composites For "Autonomic" Aerospace Structures	Microvascular Autonomic Composites	AFOSR

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