MURI Topic: **Controlling the Abiotic/Biotic Interface to Enable Bio-Nanostructures with Unique Functionality**				
ARO	**Understanding the Interaction of Peptides and Proteins with Abiotic Surfaces: Towards Water–Free Biologics**	**University of Michigan** University of Wisconsin University of South Carolina	**Zhan Chen**	**MI** WI SC
MURI Topic: **Quantum Stochastics and Control**				
ARO	**Control of Quantum Systems: Theory and Experiments**	**University of Southern California** Iowa State University University of Massachusetts, Boston University of California, Riverside Princeton University Griffith University (Australia)[2]	**Daniel Lidar**	**CA** IA MA CA NJ
MURI Topic: **Qubit-Enabled Imaging, Sensing & Metrology**				
ARO	**Multi-Qubit Enhanced Sensing and Metrology**	**Massachusetts Institute of Technology** Harvard University University of Connecticut National Institute of Standards & Technology[3]	**Paola Cappellaro**	**MA** MA CT MD
MURI Topic: **Flex-Activated Materials**				
ARO	**Stress-Controlled Catalysis via Engineering Nanostructures**	**Brown University** California State University, Northridge	**William Curtin**	**RI** CA

1. Team member institutions are those included in the lead institution's research proposal. They are subject to change at the discretion of the lead institution (e.g., if the final negotiated amount of the award is less than the amount proposed).
2. A non-US team member institution is identified in the lead institution's proposal. No MURI funding will be provided to the non-US institution.
3. A government laboratory team member is identified in the lead institution's proposal. No MURI funding will be provided to the government laboratory.

MURI Topic: **Game Theory for Adversarial Behavior**				
ARO	**Scalable, Stochastic and Spatiotemporal Game Theory for Real-World Human Adversarial Behavior**	**University of Southern California** Duke University California State University, Northridge University of California, Irvine Stanford University University of California, Los Angeles	**Milind Tambe**	**CA** NC CA CA CA CA
MURI Topic: **Light Filamentation**				
ARO	**Light Filamentation Science**	**University of Central Florida** University of New Mexico Southern Methodist University University of North Carolina, Charlotte Ottawa University (Canada)[2] University at Buffalo, State University of New York	**Martin Richardson**	**FL** NM TX NC NY
MURI Topic: **Novel Free-Standing 2D Crystalline Materials (Oxides/Nitrides)**				
ARO	**Atomic Layers of Nitrides, Oxides, and Sulfides**	**Rice University** Pennsylvania State University Florida State University Southern Illinois University	**Pulickel Ajayan**	**TX** PA FL IL
MURI Topic: **Value of Information for Distributed Data Fusion**				
ARO	**Value-centered Information Theory for Adaptive Learning, Inference, Tracking and Exploitation**	**University of Michigan** Massachusetts Institute of Technology Ohio State University University of California, Berkeley University of California, Los Angeles Arizona State University	**Alfred Hero**	**MI** MA OH CA CA AZ

MURI Topic: **Nanofabrication of Tunable 3D Nanotube Architectures**				
AFOSR	**Synthesis and Characterization of 3D Carbon Nanotube Solid Networks**	**William Marshall Rice University** Pennsylvania State University University of Delaware University of Texas, Dallas	**Pulickel Ajayan**	**TX** PA DE TX
AFOSR	**Nanofabrication of Tunable 3D Nanotube Architectures**	**Case Western Reserve University** Purdue University Georgia Institute of Technology University of Akron Kent State University	**Liming Dai**	**OH** IN GA OH OH
MURI Topic: **Quantum Memories and Light-Matter Interfaces**				
AFOSR	**Quantum Memories in Photon-Atomic Solid State Systems**	**University of California, Santa Barbara** California Institute of Technology Harvard University University of Iowa Iowa State University	**David Awschalom**	**CA** CA MA IA IA
AFOSR	**Multi-functional light-matter interfaces based on neutral atoms and solids.**	**Georgia Institute of Technology** Harvard University University of Wisconsin, Madison University of Michigan Columbia University Stanford University Massachusetts Institute of Technology	**Alexander Kuzmich**	**GA** MA WI MI NY CA MA
MURI Topic: **Biomolecule-Directed Assembly of Nanostructures**				
AFOSR	**BioProgrammable One-, Two-, and Three-Dimensional Materials**	**Northwestern University** California Institute of Technology University of Pittsburgh	**C. Mirkin**	**IL** CA PA

MURI Topic: **Nanostructural Control of Thermal and Electrical Transport Properties with Organic Hybrid Materials**				
AFOSR	**Control of Thermal and Electrical Transport in Organic and Composite Materials Through Molecular and Nanoscale Structure**	**University of California, Berkeley** University of California, Santa Barbara University of Illinois, Urbana-Champaign California Institute of Technology	**Rachel A. Segalman**	**CA** CA IL CA
MURI Topic: **Investigation of 3-D Hybrid Integration of CMOS/Nanoelectronic Circuits**				
AFOSR	**Investigation of 3-D Hybrid of Integration of CMOS/ Nanoelectronic Circuits**	**University of California, Santa Barbara** Stony Brook University, State University of New York University of Michigan University of Massachusetts, Amherst	**Tim Cheng**	**CA** NY MI MA
AFOSR Topic: **Science of Cyber Security**				
AFOSR	**Science of Cyber Security: Modeling, Composition, and Measurement**	**Stanford University** Cornell University Carnegie Mellon University University of California, Berkeley University of Pennsylvania	**John C. Mitchell**	**CA** NY PA CA PA
MURI Topic: **Large Scale Integrated Hybrid Nanophotonics**				
AFOSR	**Integrated Hybrid Nanophotonic Circuits**	**Stanford University** University of California, Berkeley California Institute of Technology Harvard University Purdue University	**Mark Brongersma**	**CA** CA CA MA IN

MURI Topic: **Soil Blast Modeling and Simulation**				
ONR	**An Integrated Experimental and Computational Multiscale Immersed Particle-Continuum Approach to Modeling and Simulation of Multiphase Soil Failure Mechanics Under Buried Explosive Loading**	**University of Colorado at Boulder** Louisiana State University University of California, Berkeley University of Texas, Dallas University of Utah	**Richard A. Regueiro**	**CO** LA CA TX UT
MURI Topic: **Knowledge Representation and Reasoning for Decentralized Autonomy**				
ONR	**Nonparametric Bayesian Models to Represent Knowledge and Uncertainty for Decentralized Planning**	**Massachusetts Institute of Technology** Duke University University of California, Berkeley	**Jonathan P. How**	**MA** NC CA
MURI Topic: **III-Nitride Terahertz Electronics — Scaling strategies beyond Silicon**				
ONR	**III-N Devices and Architectures for Terahertz Electronics**	**University of Notre Dame** Ohio State University John Hopkins University Wright State University	**Patrick Fay**	**OH** OH MD OH
MURI Topic: **Charge Transport in DNA Molecular Wire**				
ONR	**Conductive DNA Systems and Molecular Devices**	**Northwestern University** Duke University New York University Arizona State University	**Mark Ratner**	**IL** NC NY AZ

MURI Topic: **Coupled Human-Landscape Interaction in Low-lying Coastal Environments**				
ONR	**Environmental stress and human migration in a low-lying developing nation: A comparison of co-evolving natural and human landscapes in the physically and culturally diverse context of Bangladesh**	**Vanderbilt University** Columbia University	**Steven Goodbred, Jr.**	**TN** NY
MURI Topic: **Integrated Oceanographic, Atmospheric, and Acoustic Physics**				
ONR	**Integrated Modeling and Analysis of Physical Oceanographic and Acoustic Processes**	**Woods Hole Oceanographic Institution** Rutgers University Massachusetts Institute of Technology University of Texas at Austin University of Delaware Florida Institute of Technology Rennselaer Polytechnic Institute Colorado School of Mines Naval Postgraduate School	**Timothy F. Duda**	**MA** NJ MA TX DE FL NY CO CA
MURI Topic: **Improved Meteorological Modeling in Mountainous Terrain**				
ONR	**Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) Program**	**University of Notre Dame** Naval Postgraduate School University of California, Berkeley University of Utah University of Virginia	**H. J. S. Fernando**	**OH** CA CA UT VA
MURI Topic: **Bacterial or Cellular Controllers for Device Autonomy**				
ONR	**Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots**	**Boston University** Massachusetts Institute of Technology Harvard University Northeastern University University of Pennsylvania	**James Collins**	**MA** MA MA MA PA

MURI Topic: **NanoScience−based High-Speed Fabrication of Full Function Hybrid Flexible Electronic Systems**				
ONR	**Roll-to-Roll High Speed Printing of Multi-functional Distributed Sensor Networks for Enhancing Brain-Machine Interface**	**University of Minnesota** Northwestern University University of Wisconsin-Madison University of Illinois, Urbana-Champaign University of Texas, Austin	**C. Daniel Frisbie**	**MN** IL WI IL TX
MURI Topic: **Atomic-Scale Interphases: Exploring New Material States**				
ONR	**Tailoring of Atomic-scale Interphase Complexions for Mechanism-Informed Materials Designs**	**Lehigh University** Carnegie-Mellon University Clemson University University of Illinois, Urbana-Champaign Kutztown University of Pennsylvania	**Martin Harmer**	**PA** PA SC IL PA