

FY16 DoD Multidisciplinary University Research Initiative (MURI) Selections

Topic Number	Topic Name	Title	Office	University Main University Sub Awards	University States	PI
1	Sequence-Defined Synthetic Polymers Enabled by Engineered Translation Machinery	Engineering the translation apparatus for synthesis of electronically active sequence-defined polymers	ARO	Northwestern University University of Illinois at Urbana-Champaign University of Texas at Austin Georgia Institute of Technology	IL IL TX GA	Michael Jewett
2	Discovering Hidden Phases with Electromagnetic Excitation	Quantum Materials by Design with Electromagnetic Excitation	ARO	California Institute of Technology University of California, Santa Barbara University of California, San Diego	CA CA CA	David Hsieh
3	Modeling and Analysis of Multisensory Neural Information Processing for Direct Brain-Computer Communications	Adaptive Closed-Loop Multisensory Brain-Computer Interface for Enhanced Decision Accuracy	ARO	University of Southern California Cold Spring Harbor Laboratory Harvard University New York University University of California, Berkeley Imperial College London ⁽¹⁾ University College London ⁽¹⁾ University of Essex ⁽¹⁾ (1) Member of US/UK MURI Collaboration; UK Partners Do Not Receive US MURI Funds	CA NY MA NY CA UK UK UK	Maryam Shanechi
4	Modular Quantum Systems	Scaling modular and reconfigurable quantum systems	ARO	University of Maryland, College Park Yale University Duke University	MD CT NC	Christopher Monroe
5	Spin Textures and Dynamics Induced by Spin-Orbit Coupling	Magnetolectrics and Spinorbitronics in Topological Heterostructures and Superlattices	ARO	University of California - Los Angeles University of California, Irvine California Institute of Technology University of Nebraska - Lincoln North Carolina State University University of Texas at Austin	CA CA CA NE NC TX	Kang Wang
6	Defining Expertise by Discovering the Underlying Neural Mechanisms of Skill Learning	Neural Foundations of Expertise Based on Optimal Decision-making, Physical control and Responses to Stress	ARO	University of California, Santa Barbara University of Pennsylvania Princeton University Massachusetts Institute of Technology University of Pittsburg	CA PA NJ MA PA	Scott Grafton
7	Media Analytics for Developing & Testing Theories of Social Structure & Interaction	SCAN: Socio-Cultural Attitudinal Networks	ARO	University of Maryland - College Park University of Arizona University of California - Santa Barbara Rutgers University Stanford University	MD AZ CA NJ CA	Venkatraman Subrahmanian
8	Fundamental Properties of Energy Flow and Partitioning at Sub-nanoscale Interfaces	Multi-modal Energy Flow at Atomically Engineered Interfaces	ARO	North Carolina State University University of Illinois Urbana Champaign University of Virginia University of Southern California	NC IL VA CA	Jon-Paul Maria
9	Active Ionosphere-Thermosphere Coupling: Mechanisms and Effects	Next Generation Advances in Ionosphere - Thermosphere	AFOSR	University of Texas at Arlington University of Texas at Dallas Johns Hopkins University University of California, Los Angeles University of Colorado Boulder	TX TX MD CA CO	Yue Deng

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				Massachusetts Institute of Technology	MA	

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10	Attojoule Nanooptoelectronics	Ultralow Power, Ultrafast, Integrated Nano-optoelectronics	AFOSR	University of Texas at Austin Stanford University University of Pennsylvania Harvard University	TX CA PA MA	Andrea Alu
10	Attojoule Nanooptoelectronics	High Speed AttoJoule/Bit Passive and Active Nanophotonic Devices for Computing and Optical Interconnects	AFOSR	University of Texas at Austin University of Virginia University of Central Florida University of Delaware Oregon State University	TX VA FL DE OR	Ray Chen
11	4-D Electromagnetic Origami	Universal Electromagnetic Surface: Exploiting active electronics and active origami to generate a programmable electromagnetic response	AFOSR	California Institute of Technology University of Minnesota Carnegie Mellon University Princeton University	CA MN PA NJ	Kaushik Bhattacharya
12	Radiation-Balanced Lasers – New Vistas in Optical Gain and Refrigeration Materials	Internal Cooling of Fiber and Disk Lasers by Radiation Balacing and other Optical or Phonon Processes	AFOSR	University of Illinois at Urbana-Champaign Clemson University Stanford University University of Michigan	IL SC CA MI	James "Gary" Eden
12	Radiation-Balanced Lasers – New Vistas in Optical Gain and Refrigeration Materials	Multi-disciplinary Approach to Radiation Balanced Lasers (MARBLE): Rare Earths and Semiconductors in disks, fibers, and microstructures	AFOSR	University of New Mexico Johns Hopkins University University of Washington University of Notre Dame	NM MD WA IN	Mansoor Sheik-Bahae
13	Quantum Many-Body Physics with Photons	Photonic Quantum Matter	AFOSR	University of Maryland, College Park California Institute of Technology University of Chicago University of Colorado Boulder Harvard University Massachusetts Institute of Technology	MD CA IL CO MA MA	Mohammad Hafezi
14	The Role of Epigenetics in Human Performance	Precision High-Intensity Training through Epigenetics (PHITE)	ONR	Wright State University The Salk Institute for Biological Studies University of Alabama	OH CA AL	Timothy Broderick
15	Practical and Realistic Dynamic Formalism for Advanced Cyber Interaction	ADAPT: An Analytical Framework For Actionable Defense Against Advanced Persistent Threats	ONR	University of Washington Georgia Institute of Technology University of California, Berkeley University of California, Santa Barbara University of Illinois at Urbana -Champaign	WA GA CA CA IL	Radha Poovendran
16	Synthetic Electronics	Carbon-based Hierarchically Integrated Synthetic Electronics (CHISEL)	ONR	University of California, Berkeley Harvard University Columbia University	CA MA NY	Michael Crommie
17	Ultrahigh Thermal Conductivity Materials	Ultrahigh Thermal Conductivity Materials	ONR	University of Texas at Austin Boston College University of Illinois at Urbana-Champaign Massachusetts Institute of Technology University of California, Los Angeles University of Houston	TX MA IL MA CA TX	Li Shi
18	Characterization of Gas Transport through Biological Membranes	Molecular mechanisms and pathways for gas transport across biological	ONR	Case Western Reserve University University of Southern California	OH CA	Walter Boron

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		membranes and implications for physiology and performance		University of Illinois at Urbana-Champaign	IL	

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19	Neural Basis of Symbolic Processing	Neural Circuits Underlying Symbolic Processing in Primate Cortex and Basal Ganglia	ONR	Boston University Massachusetts Institute of Technology Brown University	MA MA RI	Michael Hasselmo
20	Prediction of Multi-Physics Sprays and their Control	Multi-physics Control of Spray Formation and Dispersion	ONR	Cornell University University of Washington University of Florida Iowa State University University of Illinois, Urbana -Champaign	NY WA FL IA IL	Olivier Desjardins
21	Dynamic Events in Solid Composite Materials at Ultra High Temperature and Pressure	Predictive Chemistry and Physics at Extreme Temperature and Pressure: Molecules, Crystals and Microstructures	ONR	Purdue University Stanford University	IN CA	Alejandro Strachan