



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

October 27, 2009

DARPA ANNOUNCES 2009 YOUNG FACULTY AWARDS

The Defense Advanced Research Projects Agency (DARPA) has selected 33 rising stars at 24 U.S. universities to participate in the Young Faculty Award (YFA) program.

The objective of the DARPA YFA program is to identify and engage rising research stars in junior faculty positions in academia and expose them to Department of Defense (DoD) needs and DARPA's program development process. The YFA program provides funding, mentoring, and industry and DoD contacts to these faculty early in their careers to develop their research ideas in the context of DoD needs. DARPA's long term goal for this program is to develop the next generation of academic scientists, engineers, and mathematicians in key disciplines who will focus a significant portion of their career on DoD and National Security issues.

Subject to negotiation, selected researchers will receive grants of approximately \$300,000 to develop and validate their research ideas during the next 24 months. The list of selected researchers is attached below. These awardees will be recognized by DARPA at a program Principal Investigators meeting in Arlington, VA on Oct. 27-28.

"This year, the scope of the YFA program was expanded to encompass DARPA core technology research areas spanning both the Microsystems Technology Office (MTO) and the Defense Sciences Office (DSO), and a second year funding option was added," noted Dr. Sanjay Raman, an MTO program manager leading this year's initiative. "YFA recipients also participate in military base visits or exercises that provide them with in-person perspectives of current issues faced by our warfighters. We look forward to engaging with these up-and-coming researchers and anticipate their work will impact the U.S. defense community for many years to come."

The YFA awardees were chosen through a competitive selection process. Applicants were required to be untenured faculty at U.S. institutions within 6 years of appointment to a tenure track position. Research proposals were submitted in the areas of: Quantum Science and Technology; Bio-Info-Micro; Mathematics; Structural Materials; Functional Materials; Power and Energy; Micro-/Nano-Electronics; Micro/Nano Electro-Mechanical Systems (MEMS/NEMS); Photonics/Lasers; Manufacturing Science and Technology; and Neuroscience. Nearly 300 proposals were reviewed for the 2009 awards.

DARPA selects a new group of YFA researchers approximately once a year based on proposals submitted under an annual solicitation. Including this year's class of 33 researchers, 96 faculty have participated in the YFA program to date. The next YFA solicitation is

anticipated to be issued in late 2009. Once issued, the solicitation will be available online at the DARPA, FedBizOpps, and Grants.gov websites.

The 33 researchers selected for YFA grant negotiations are:

Researcher	Institution	City	State	Topic Area	Title
Scott Aaronson	Massachusetts Institute of Technology	Cambridge	MA	Quantum S&T	Basic Unresolved Questions about the Capabilities of Quantum Computers
David Arnold	University of Florida	Gainesville	FL	Power & Energy	Microelectromechanical Inductors for Switch-Mode Power Converters
Alan Aspuru-Guzik	Harvard University	Cambridge	MA	Quantum S&T	Practical Quantum Simulators
Debra Auguste	Harvard University	Cambridge	MA	Functional Materials	Colloid Morphogenesis
Jonathan Boyd	West Virginia University	Morgantown	WV	Bio-Info-Micro	Natural Designs for Network Threats
Jennifer Cha	University of California San Diego	La Jolla	CA	Manufacturing S&T	Manufacturable Approaches for Nanometer Resolution Patterning
Adam Cohen	Harvard University	Cambridge	MA	Functional Materials	Molecular spintronics: nanomagnetic control of electronic spins
Baratunde Cola	Georgia Institute of Technology	Atlanta	GA	Power & Energy	Photothermal Enhanced Carbon Nanotube Rectenna Arrays for Solar Energy Conversion
Mary Comer	Purdue University	West Lafayette	IN	Mathematics	Automated Segmentation of Micrographs
Christopher Dames	University of California Riverside	Riverside	CA	Power & Energy	Ballistic-Elastic Thermal Rectification in Asymmetric Nanostructures
Kevin Dorfman	University of Minnesota	Minneapolis	MN	Bio-Info-Micro	Nanopost Array for DNA Fingerprinting
Julia Greer	California Institute of Technology	Pasadena	CA	Structural Materials	Bio-Inspired Design of Damage-Tolerant Materials
Jack Harris	Yale University	New Haven	CT	Quantum S&T	Quantum Optomechanics
Todd Hastings	University of Kentucky	Lexington	KY	Manufacturing S&T	Nanoscale Electron-Beam Induced Processing using Liquid Reactants
Amy Herr	University of California Berkeley	Berkeley	CA	Bio-Info-Micro	An Integrated Micro/Nanosystem for Rapid Validation of Traumatic Brain Injury (TBI) Biomarkers

R. Jason Jones	University of Arizona	Tucson	AZ	Photonic/Lasers	Two-Color Phase Coherent High Power Laser System for Efficient Generation of Light at Extreme Wavelengths
Wendy Kelly	Georgia Institute of Technology	Atlanta	GA	Bio-Info-Micro	Biosynthetic engineering of thiopeptide antibiotics
Xiuling Li	University of Illinois	Urbana	IL	Micro/Nano-Electronics	III-V Nanowire Fin FET on Silicon: A Bottom-up CMOS Compatible Approach
Jennifer Lu	University of California Merced	Merced	CA	MEMS/NEMS	3D Electromechanical System: Nanoscale Power Generator
William Oates	Florida State University	Tallahassee	FL	Structural Materials	Field-coupled Mechanics and Nonlinear Control of Photo-responsive Adaptive Structures
Stanley Pau	University of Arizona	Tucson	AZ	MEMS/NEMS	Microchip Ion Trap
Scott Phillips	Pennsylvania State University	University Park	PA	Functional Materials	Autonomous Materials
Kevin Pipe	University of Michigan	Ann Arbor	MI	Micro/Nano-Electronics	Heat Sinks for Ballistic Phonons
Stefan Preble	Rochester Institute of Technology	Rochester	NY	Photonic/Lasers	Silicon Nanocrystal 100 Gb/s Electro-Optic Modulator
Beth Pruitt	Stanford University	Stanford	CA	MEMS/NEMS	MEMS-Based Water Quality Detection
Irfan Siddiqi	University of California Berkeley	Berkeley	CA	Quantum S&T	Superconducting Nanobridge Junctions for Quantum Information Processing
Jake Soper	Georgia Institute of Technology	Atlanta	GA	Power & Energy	Redox-Active Ligand-Mediated Radical Coupling at Terminal Metal Oxo Ligands: Reactions Relevant to Water Oxidation for Artificial Photosynthesis
Russell Tedrake	Massachusetts Institute of Technology	Cambridge	MA	Mathematics	Learning Supermaneuverable Flight
Samuel Thomas	Tufts University	Medford	MA	Functional Materials	Sensing with Chemically-Directed Electrostatic Self-Assembly
Doris Tsao	California Institute of Technology	Pasadena	CA	Neuroscience	Brain Mechanisms for Navigation in Primates
Douglas Weibel	University of Wisconsin	Madison	WI	Bio-Info-Micro	Engineering Emergent Behavior in Microbial Communities

David Wentzloff	University of Michigan	Ann Arbor	MI	Micro/Nano-Electronics	3D Wireless Interconnect for Crossbar Routing in Many-Core Processors
Jonathan Wisor	Washington State University	Spokane	WA	Neuroscience	Local sleep in the cerebral cortex: a tool for sustained operations

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