IMMEDIATE RELEASE                                                                       August 2, 2010

### DARPA CREATES OPPORTUNITIES FOR RISING FACULTY STARS

**Agency Goal is to Encourage Research and Professional Growth in DoD-related Areas**

The prevention and creation of strategic technologic surprise requires transformational thoughts and approaches.  To spark game-changing ideas and generate excitement for the unique challenges DoD encounters today and tomorrow, the Defense Advanced Research Projects Agency (DARPA) has selected 33 up-and-coming researchers at 24 U.S. universities to participate in DARPA's Young Faculty Award (YFA) program.

Through its YFA program, DARPA identifies  junior faculty, inculcating  them on the complexity of the Defense Department, its needs and DARPA's program development process.  The YFA program combines funding and mentoring, with industry and DoD networking early in awardee's careers to aid them in framing their research in the context of DoD's needs.  The YFA program is one of the many things DARPA does to develop the next generation of academic scientists, engineers and mathematicians in key disciplines and encourage them to focus a significant portion of their careers on Defense and National Security issues.

Dr. Viktoria Greanya, a DARPA program manager leader of this year's YFA program, said: "DARPA focuses on some of the most critical science and technology areas in which research advancements could make an important difference to the warfighter.  We have an exciting group of awardees and look forward to harnessing their research efforts."

The YFA awardees were chosen though a competitive selection process.  Applicants were required to be untenured faculty at U.S. institutions within 5 years of appointment to a tenure track position.  Selected researchers receive grants of approximately $300,000 to develop and validate their research ideas over a period of two years. YFA recipients also participate in military base visits or exercises that provide them with first-hand perspectives of current issues faced by DoD warfighters.

Annual solicitations for the Young Faculty Awards programs are published in the Fall on DARPA's website, at FedBizOpps and at Grants.gov. 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, 129 faculty have participated in the YFA program. Awardees will be recognized by DARPA in Arlington, VA on September 21-22 (see list of selected researchers below).

*Media with questions, please contact Eric Mazzacone, eric.mazzacone@darpa.mil.*

| Researcher | Institution | City | State | Topic Area | Title of Effort |
|---|---|---|---|---|---|
| Andrew Houck | Princeton University | Princeton | NJ | Quantum Science and Technology | Scanned Probe Cavity Quantum Electrodynamics |
| Brian D'Usro | University of Pittsburgh | Pittsburgh | PA | Quantum Science and Technology | Quantum Interactions of a Graphene Nanomechanical Oscillator with a Single Spin |
| Chuanwei Zhang | Washington State University at Pullman | Pullman | WA | Quantum Science and Technology | Induced Topological Order and Quantum Computation in Fermionic Cold Atom Superfluids |
| Martin Zwierlein | Massachusetts Institute of Technology | Cambridge | MA | Quantum Science and Technology | Strongly Interacting Fermi Gases in Lower Dimensions |
| Thomas Knotts | Brigham Young University | Provo | UT | Applied Biology, Biomedical Devices and Bioinformatics | Predicting Protein Behavior on Surfaces for Improved Design of Protein Arrays |
| Emily Gibson | University of Colorado, Denver | Denver | CO | Applied Biology, Biomedical Devices and Bioinformatics | Integration of Microfluidic Devices with Nonlinear Spectroscopy for Flow Cytometry and Bioagent Detection |
| Howard Salis | Pennsylvania State University | University Park | PA | Applied Biology, Biomedical Devices and Bioinformatics | Rational Design of Nucleic Acid Drugs to Control Metabolism and Kill Pathogens |
| Andrew Blumberg | University of Texas at Austin | Austin | TX | Mathematics | Applied algebraic topology: Categorical foundations, topological statistics, and practical implementations |
| Jason Morton | Pennsylvania State University | University Park | PA | Mathematics | Kernel Counting |
| Youping Chen | University of Florida | Gainesville | FL | Structural Materials | Predicting Materials Properties from their Microstructural Architecture |
| Yashashree Kulkarni | University of Houston | Houston | TX | Structural Materials | Computational Modeling of Grain Stability in Nanostructured Materials |
| Aaron Lindenberg | Stanford University | Stanford | CA | Functional Materials | All-optical control of nanoelectronic devices |
| Gregory Engel | University of Chicago | Chicago | IL | Functional Materials | Coherent Energy Transfer in Novel Excitonic Materials for High Speed Large Area Sensors and Efficient On-Pixel Data Processing |
| Artem Oganov | Stony Brook University | Stony Brook | NY | Functional Materials | Novel computational methodologies for nananoscale design of functional materials |
| Yu Huang | University of California, Los Angeles | Los Angeles | CA | Power and Energy | Design of Broad Spectrum Solar Energy Harvesting Antenna for Organic Photovoltaics |
| Yongsheng Chen | Pennsylvania State University | University Park | PA | Power and Energy | Catalyst Deactivation in Steam Reforming of Liquid Hydrocarbons to Produce Hydrogen for Fuel Cell Power Generation |
| Krishna Mandal | University of South Carolina | Columbia | SC | Power and Energy | Quantum Cutting Core-Shell Nanocrystals for Enhanced Solar Cell Efficiency |

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| Mona Jarrahi | University of Michigan | Ann Arbor | MI | Advanced Electronics | Plasmonics-Enabled Ultra-Short Carrier Lifetime Photoconductors for High Power Terahertz Generation |
| Alyosha Molnar | Cornell University | Ithaca | NY | Advanced Electronics | Bio-inspired optical image compression in CMOS |
| N. Peter Armitage | Johns Hopkins University | Baltimore | MD | Advanced Electronics | Invention, Development, and Application of a Time domain THz Ellipsometer |
| Xiaojing (John) Zhang | University of Texas at Austin | Austin | TX | MEMS | Patterned Plasmonic Surfaces on MEMS |
| Dana Weinstein | Massachusetts Institute of Technology | Cambridge | MA | NEMS | Mutli-GHz Acoustic Resonance in Transistors |
| Chuan-Hua Chen | Duke University | Durham | NC | NEMS | A Planar Thermal Diode |
| Kripa Varanasi | Massachusetts Institute of Technology | Cambridge | MA | NEMS | Nanoengineered Surfaces for Ultra High Heat Flux Thermal Management |
| Lin Zhu | Clemson University | Clemson | SC | Photonics and Lasers | On-chip coherent combining of angled-grating-confined broad-area semiconductor lasers |
| Ramesh Raskar | Massachusetts Institute of Technology | Cambridge | MA | Photonics and Lasers | Looking Around Corners using Transient Imaging |
| Ozdal Boyraz | University of California, Irvine | Irvine | CA | Photonics and Lasers | Mid-IR Photonic Integrated Circuits |
| Pei-Cheng Ku | University of Michigan | Ann Arbor | MI | Photonics and Lasers | Nitride Semiconductor Single-Photon Emitters and Photon Entanglement |
| Manuel Gamero-Castano | University of California, Irvine | Irvine | CA | Manufacturing Science and Technology | Nanodroplet Beam Sputtering for Very Fast Milling and Micromachining of Inert Materials |
| John Johnson | Kent State University | Kent | OH | Neuroscience | Targeting Stress Resilience Without Detriment to Adaptive Stress Response |
| William Tyler | Arizona State University | Tempe | AZ | Neuroscience | The Development of Pulsed Ultrasound for Noninvasive Neural Interfaces |
| James Caverlee | Texas Engineering Experiment Station / Texas A&M University System | College Station | TX | Computational and Quantitative Social, Decision, and Behavioral Sciences | Personalized Monitoring of the Real-Time Social Web |
| Abel Rodriguez | University of California, Santa Cruz | Santa Cruz | CA | Computational and Quantitative Social, Decision, and Behavioral Sciences | Dynamic Social Modeling: Estimation and Optimal Intervention Design |