

WINNERS OF THE FY 2014 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 1 of 5

Principal Investigator	Institution	State	Brief Description of Instrumentation or Research it Supports	Awarding Office
Ackley, Stephen	University of Texas - San Antonio	TX	Sea ice and near-surface geophysics research	ONR
Aggarwal, Ishwar	University of North Carolina - Charlotte	NC	High-resolution Fourier transform infrared spectroscopy for identification of explosives	ONR
Aizenberg, Joanna	Harvard University	MA	Full-color high-speed visualization of interfacial phenomena at multi-phase interfaces	ONR
Anlage, Steve	University of Maryland - College Park	MD	Development of a scaled electromagnetic test setup for counter directed-energy studies	ONR
Appelgate, Bruce	University of California - Davis	CA	Integrated environmental sensors for an ocean class research vessel	ONR
Arancio, Ottavio	Columbia University	NY	Finding biomarkers for severity and susceptibility to impairments from Traumatic Brain Injury	ARO
Arce, Gonzalo	University of Delaware	DE	Compressive spectral and polarization Imaging at short wave infrared wavelengths	ARO
Armani, Andrea	University of Southern California	CA	Laser for non-linear optics and biophotonics	ONR
Austin, Joanna	University of Illinois - Urbana-Champaign	IL	Space and time-resolved spectroscopic measurements in hypervelocity flows	AFOSR
Babakhani, Aydin	Rice University	TX	Millimeter-wave hyper-spectral three-dimensional imaging using coherent sub-8psec pulses	AFOSR
Babbitt, William	Montana State University	MT	Ultra-wideband test signal generation for electronic support measures	ONR
Bank, Seth	University of Texas - Austin	TX	Optical characterization of semiconductors and metal-semiconductor nanocomposites	ARO
Barrett, Christopher	Virginia Polytechnic Institute and State University	VA	Data-intensive computer cluster for modeling large socio-technical systems	ARO
Baumgartner, Mark	Woods Hole Oceanographic Institution	MA	Improving visual survey capabilities for marine mammal studies	ONR
Bayne, Stephen	Texas Tech University	TX	Thermal imaging of high-power semiconductor switches	ONR
Bellotti, Enrico	Boston University	MA	Hybrid computational architecture for multi-scale modeling of materials and devices	ARO
Ben-Amotz, Dor	Purdue University	IN	Optimized binary compressive detection Raman chemical imaging system	ONR
Boukari, Hacene	Delaware State University	DE	Fluorescence correlation spectroscopy for research and education in biomacromolecules	ARO
Bowman, Joel M.	Emory University	GA	High-performance computer cluster for theoretical studies of roaming in chemical reactions	ARO
Bruce, Barry	University of Tennessee - Knoxville	TN	Photobioreactor for bioenergy applications	ARO
Buehler, Markus	Massachusetts Institute of Technology	MA	Computational optimization and additive manufacturing for functional material design	ONR
Carlson, Mark	University of Nebraska Medical Center	NE	Tensiometer for bandage-wound adhesion studies	ARO
Chasiotis, Ioannis	University of Illinois - Urbana-Champaign	IL	High-speed imaging system for strain rate studies of thin films	ARO
Chen, Gang	University of California - Riverside	CA	Ultraviolet and radio-frequency hybrid wireless network for unmanned ground vehicles	ARO
Chen, Zhan	University of Michigan - Ann Arbor	MI	Circular dichroism spectrometer to study biological molecules at interfaces	ARO
Chopra, Inderjit	University of Maryland - College Park	MD	Fabrication and testing of high-speed single-rotor and compound-rotor systems	ARO
Chu, Paul C. W.	University of Houston	TX	Study of interfaces for superconducting, thermoelectric, and magnetic materials	AFOSR
Coolbaugh, Myron	Johnson C. Smith University	NC	Research on chemical surface modification and characterization of conductive polymers	ARO
Crommie, Michael	University of California - Berkeley	CA	Tunable laser for scanned probe microscopy of light-matter interactions at Angstrom scales	ONR
D'Asaro, Eric	University of Washington	WA	Lagrangian floats for testing Langmuir turbulence dynamics	ONR

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De Graef, Marc	Carnegie Mellon University	PA	Scanning electron microscope for strain and defect characterization by electron channeling	AFOSR
Debray, Saumya	University of Arizona	AZ	Large-memory workstation for analysis of obfuscated malware code	AFOSR
Devenport, William	Virginia Polytechnic Institute and State University	VA	Configurable microphone phased array for flow noise research in an anechoic wind tunnel	ONR
Dhanak, Manhar	Florida Atlantic University	FL	Unmanned surface vehicle for studies of persistent autonomous surveillance and monitoring	ONR
DiMauro, Louis	The Ohio State University	OH	Intense circular-error-probable stabilized 3-5 micron source at high-repetition rate	AFOSR
Doyle, John	Harvard University	MA	Laser cooling of molecules	AFOSR
Du, Xiaojiang	Temple University	PA	Test-bed of secure mobile cloud computing	ARO
Dupuis, Russell Dean	Georgia Institute of Technology	GA	Optical monitor for control of superlattice growth in metal organic chemical vapor deposition	ARO
Dutton, J. Craig	University of Illinois - Urbana-Champaign	IL	Tomographic particle image velocimetry to delineate supersonic flow structure and modes	ARO
Eden, James	University of Illinois - Urbana-Champaign	IL	Laser and gas chromatography to study molecular complexes and phased microlaser array	AFOSR
Egolfopoulos, Fokion	University of Southern California	CA	High-resolution diagnostics for velocity and scalar field study in turbulent reacting flows	AFOSR
Elabd, Yossef A.	Drexel University	PA	Scanning probe microscope for polymeric and hybrid materials research and education	ARO
Fathpour, Sasan	University of Central Florida	FL	Advanced plasma-enhanced chemical deposition system	ONR
Fayer, Michael	Stanford University	CA	Two-dimensional infrared pulse shaping spectrometer for molecular dynamics on surfaces	AFOSR
Feng, Milton	University of Illinois - Urbana-Champaign	IL	Bit error rate testing for high-speed vertical cavity semiconductor lasers and photoreceiver	ARO
Fischella, David	Woods Hole Oceanographic Institution	MA	Radar monitoring for ocean research	ONR
Frahm, Jan-Michael	University of North Carolina - Chapel Hill	NC	Research on privacy risks of ubiquitous personal augmented reality head-mounted displays	ARO
Free, Michael	University of Utah	UT	Scanning probe microscope to study beta phase and effects on aluminum alloy sensitization	ONR
Frisbie, C. Daniel	University of Minnesota	MN	Roll-to-roll nanoimprint system for flexible electronics manufacturing	ONR
Fu, Yun	Northeastern University	MA	Three-dimensional data acquisition platform for human activity understanding	ARO
Ginger, David	University of Washington	WA	Femtosecond transient absorption system for organic optoelectronics	ONR
Glebov, Leonid	University of Central Florida	FL	Laser for volume diffractive optical elements recording in photo-thermo-refractive glass	ARO
Glimm, James	Stony Brook University	NY	Studies of complex flows and structures	ARO
Gorodetsky, Alon	University of California - Irvine	CA	Fabrication of nanoscale devices	AFOSR
Greenbaum, Steve	Hunter College, City University of New York	NY	Broadband nuclear magnetic relaxometry studies of energy storage materials	ONR
Gulian, Armen	Chapman University	CA	Advanced thin film deposition to explore novel materials and quantum devices	ONR
Harel, Elad	Northwestern University	IL	Ultrabroadband two-dimensional coherent optical spectrometer for directed energy studies	ARO
Hatsopoulos, Nicholas	University of Chicago	IL	Miniature fluorescence microscope for large-scale, neuronal ensemble recording in primates	ARO
Hegde, Jay	Medical College of Georgia	GA	Integrated eye tracking system compatible with magnetic resonance imaging	ARO
Hernandez, Samuel	University of Puerto Rico - Mayaguez	PR	Confocal Raman and atomic force and scanning near-field optical microscopes	ARO

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Hess, Henry	Columbia University	NY	Fluorescence microscope for the observation of biological nanomachines	ARO
Ho, Nhut	California State University - Northridge	CA	Simulated and live unmanned aircraft system to study human automation trust and reliance	AFOSR
Hochberg, Michael	University of Delaware	DE	Optoelectronic wafer-scale testing for silicon photonic systems-on-chip	AFOSR
Hodgkiss, William	University of California - San Diego	CA	A two-dimensional array for acoustic field structure research	ONR
Houston, Adam	University of Nebraska - Lincoln	NE	Tracker and mobile mesonet to study energy-aware, airborne, dynamic application systems	AFOSR
Huang, Dijiang	Arizona State University	AZ	Open human-robotic mobile networking and security testbed	ARO
Huang, Haiying	University of Texas - Arlington	TX	In-situ micro/nano mechanical characterization for study of fatigue-induced microplasticity	AFOSR
Hubbard, Seth	Rochester Institute of Technology	NY	Nano-structured photovoltaics and optoelectronics	ONR
Hudson, Eric	University of California - Los Angeles	CA	A laser system for quantum control of chemical reactions and atom-ion photoassociation	ARO
Isailovic, Dragan	University of Toledo	OH	High-resolution mass spectrometer for biomarker discovery	AFOSR
Jiang, Chunqi	Old Dominion University	VA	Advanced spectroscopy for transient microplasma research	AFOSR
Kambhampati, Subbarao	Arizona State University	AZ	Research on planning for human-robot teaming in open worlds	ARO
Kanter, Gregory	Northwestern University	IL	500 GHz optical sampler for advancing nonlinear processing with generalized optical pulses	ARO
Katz, Joseph	Johns Hopkins University	MD	Simultaneous measurement of three-dimensional flow, structural vibration, and noise	ONR
Kawakami, Roland	The Ohio State University	OH	Spin-polarized scanning tunneling microscope to study spin and magnetism in graphene	ARO
Kiamilev, Fouad	University of Delaware	DE	Infrared light emitting diode scene projector testing	AFOSR
King, Lyon	Michigan Technological University	MI	Characterization test-bed for nanostructured propellants	AFOSR
Kisailus, David	University of California - Riverside	CA	Fourier transform infrared microscope to study organic-inorganic interface in biomaterials	ARO
Klibanov, Michael	University of North Carolina - Charlotte	NC	Virtual network analyzer to measure spectral properties of permittivities and permeabilities	ARO
Koochesfahani, Manoochehr	Michigan State University	MI	Femto-molecular tagging velocimetry for high repetition rate fluid flow imaging	AFOSR
Kornberg, Roger D.	Stanford University	CA	Surface plasmon resonance to study structural determination of transcription related protein	ARO
Kumar, Sharvan	Brown University	RI	Micro-mechanical testing of advanced multiphase alloys and heterogeneous structures	ONR
Kuno, Masaru	University of Notre Dame	IN	Single particle/nanostructure infrared absorption spectroscopy	ARO
Lai, Keji	University of Texas - Austin	TX	Broadband impedance microscopy for research on complex quantum materials	ARO
Li, Wen	Wayne State University	MI	Development of an ultrafast probe and control of chemical dynamics	ARO
Lightsey, E.	University of Texas - Austin	TX	Software defined ground station for university satellites	AFOSR
Lipke, David	Alfred University	NY	Xenon-arc image furnace for the synthesis and study of materials in extreme environments	ONR
Liu, Haitao	University of Pittsburgh	PA	Atomic force/Raman microscopy for research on nanomaterials	ONR
Lucas, Andrew	University of California - San Diego	CA	Real-time data telemetry onboard the wirewalker wave-powered profiling vehicle	ONR
Majidi, Carmel	Carnegie Mellon University	PA	Development of soft multifunctional materials	ONR

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Mandayam, Narayan	Rutgers University	NJ	Radio-frequency equipment for dynamic spectrum access and sharing	ONR
Mankowski, John	Texas Tech University	TX	High-speed digitizer to study photoconductive switches and nonlinear transmission lines	ONR
Maria, Jon-Paul	North Carolina State University	NC	Hybrid physical vapor deposition for advanced functional multilayers and materials	ARO
May, Steven	Drexel University	PA	Epitaxial growth of complex oxides	ARO
Menon, Vinod	Queens College, City University of New York	NY	K-space imaging and excitation using Fourier microscopy	ARO
Menoni, Carmen	Colorado State University	CO	Laser damage testing of optical coatings	ONR
Mirkin, Chad	Northwestern University	IL	Spinning disk confocal microscope for analysis of nanoconjugate-cell interactions	AFOSR
Mirotnik, Mark	University Of Delaware	DE	Additive manufacturing of electromagnetically functionalized composites structures	ONR
Mischaikow, Konstantin	Rutgers University	NJ	Computational topological analysis of data and dynamics	ARO
Mohan, Ram	North Carolina Agricultural and Technical State University	NC	Nano-indenter for mechanical property characterization of materials at lower-length scales	ARO
Moloney, Jerome	University of Arizona	AZ	Studies in ultrafast light coupling to nonequilibrium carriers in extended semiconductor media	AFOSR
Morrison, Barclay	Columbia University	NY	Multi-user, high-speed, three-demensional optical imaging	ONR
Mumm, Daniel	University of California - Irvine	CA	Aa low velocity burner rig to study marine turbine material degradation and new materials	ONR
Natelson, Douglas	Rice University	TX	Closed-cycle optical cryostat and optical elements to study dissipation at the molecular scale	ARO
Nicolescu, Monica	University of Nevada - Reno	NV	Humanoid platforms for human-robot collaboration	ONR
Noras, Maciej	University of North Carolina - Charlotte	NC	Development of field programmable gate array-controlled, portable processing systems	ARO
Nwankpa, Chikaodinaka	Drexel University	PA	Remote testing, monitoring and control of shipboard power system	ONR
Padture, Nitin	Brown University	RI	Electric-field assisted sintering of advanced ceramics and composites	ONR
Pantoya, Michelle	Texas Tech University	TX	Diagnostics for analysis of surface chemistry effects on energetic material reactions	ARO
Park, Jung-Min	Virginia Polytechnic Institute and State University	VA	Long Term Evolution (LTE)-enhanced cognitive radio testbed	ARO
Park, Wounjhang	University of Colorado - Boulder	CO	Nanoscale optical imaging and spectroscopy from visible to mid-infrared	ARO
Pelegri, Assimina	Rutgers University	NJ	Nano-impactor system for characterization of high performance materials	AFOSR
Peyghambarian, Nasser	University of Arizona	AZ	Head-mounted magneto-optic fiber optic sensor array for brain magnetic field mapping	AFOSR
Pinkel, Robert	University of California - San Diego	CA	Improving performance of a hydrographic Doppler sonar system	ONR
Plourde, Britton	Syracuse University	NY	Adiabatic demagnetization refrigerator for quantum information studies	ARO
Prasad, Saurabh	University of Houston	TX	Hyperspectral and acoustic sensing for robust scene understanding	ARO
Priestley, Rodney	Princeton University	NJ	Macromolecule film deposition	AFOSR
Rander, Peter	Carnegie Mellon University	PA	Unmanned surface vessel for maritime autonomy research	ONR
Reed, Jeffrey	Virginia Polytechnic Institute and State University	VA	Cognitive medical wireless testbed system	ARO

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Reniers, Adrianus	University of Miami	FL	Nearshore four-dimensional structure array	ONR
Richardson, Kathleen	University of Central Florida	FL	Advanced parallel beam X-ray diffractometer for optical materials research	AFOSR
Richardson, Martin	University of Central Florida	FL	Mobile ultrafast high-energy laser	ARO
Schneider, Steven	Purdue University	IN	Mach-6 Ludwig tube with greater quiet-flow Reynolds number and operability	AFOSR
Schnell, Thomas	University of Iowa	IA	Binocular helmet display for live virtual constructive research	ONR
Shi, Li	University of Texas - Austin	TX	Light scattering equipment to study magnon and phonon dynamics in materials	ARO
Swain, Greg	Michigan State University	MI	Raman and photoluminescence imaging to study electrochemical and electronic materials	ARO
Taylor, Gregory	University of New Mexico	NM	Long wavelength array	AFOSR
tenOever, Benjamin	Mount Sinai School of Medicine	NY	Advancing viral therapeutics through small non coding RNAs	ARO
Terrill, Eric	University of California - Riverside	CA	Global wave buoy array	ONR
Terrones Maldonado, Mauricio	Pennsylvania State University	PA	Hybrid atomic layer chemical vapor deposition	ARO
Tolk, Norman	Vanderbilt University	TN	Tunable, high pulse-energy ultrafast laser	ARO
Troy, Carol	Columbia University	NY	In vivo retinal imaging to assess mechanisms of axonal maintenance	ARO
Tse, Stephen	Rutgers University	NJ	High-speed camera to study flame-synthesized nano-energetics and flame spray pyrolysis	ARO
Venayagamoorthy, Ganesh	Clemson University	SC	High performance computing for modeling complex systems and situational intelligence	AFOSR
Vuletic, Vladan	Massachusetts Institute of Technology	MA	Laser system for inducing strong photon-photon interactions through atomic interactions	ARO
Waas, Anthony	University of Michigan - Ann Arbor	MI	Advanced three-dimensional printers for cellular solids	ARO
Wang, Hua	Georgia Institute of Technology	GA	Characterization and development of energy-efficient scalable integrated THz signal sources	ARO
Wang, Qing	Naval Postgraduate School	CA	Tethered balloon-based sampling for research on air-sea interaction and marine fog	ONR
Weiss, Eric	Northwestern University	IL	High content analysis platform for image-based screening	ONR
Welch, Gregory	University of Central Florida	FL	Evaluating human surrogates for live-virtual training	ONR
Wetz, David	University of Texas - Arlington	TX	Thermal characterization of electrochemical energy storage materials, cells and modules	ONR
Wong, Franco	Massachusetts Institute of Technology	MA	Cryogenic apparatus for maritime communication device and system development	ONR
Xu, Ting	University of California - Berkeley	CA	Liquid chromatography-mass spectrometry to study copolymers for protein encapsulation	ARO
Yang, Lan	Washington University in St. Louis	MO	A versatile glass processor for high-performance photonic platforms	ARO
Yang, Yunzhi	Stanford University	CA	Research on accelerated tissue regeneration	ARO
Yardim, Caglar	University of California - San Diego	CA	Lower atmosphere electromagnetic propagation measurement	ONR
Yuksel, Murat	University of Nevada - Reno	NV	Multi-element free-space-optical modules for mobile opportunistic networking	ARO
Zhang, Yanyong	Rutgers University	NJ	Building the computing backend for in-depth analysis of wireless and network data	ARO
Zhang, Yong-Hang	Arizona State University	AZ	Electrical and optical characterization system for infrared photodetectors	ARO