

DEPARTMENT OF THE ARMY AND NAVY WINNERS OF THE FY 2013 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
Allen, Peter	Columbia University	NY	Robot for brain-computer interface research for interaction with mobile robot agents	ARO
Almquist, Catherine	Miami University	OH	Thermal gravimetric analyzer and differential scanning calorimeter	ARO
Amezcuca Correa, Rodrigo	University of Central Florida	FL	Splicing and high-resolution imaging for photonic crystal fiber laser fabrication	ARO
Appelgate, Bruce	University of California - San Diego	CA	Integrated acoustic systems for the ocean class research vessel AGOR 28	ONR
Arehart, Aaron	Ohio State University	OH	Defect spectrometer with stressing for defect-device degradation measurements	ONR
Bain, James	Carnegie Mellon University	PA	A phase change deposition system for radio-frequency switch research	ONR
Bathe, Mark	Massachusetts Institute of Technology	MA	High-performance computing for research on nucleic acid nanotechnology	ONR
Batra, Romesh	Virginia Polytechnic Institute & State University	VA	Distributed memory, high-performance computer cluster	ONR
Baudelet, Matthieu	University of Central Florida	FL	Chamber for laser propagation through aerosol medium	ARO
Bernholc, Jerzy	North Carolina State University	NC	Computing for simulating energy-storage materials and nanoscale devices	ONR
Bernstein, Elliot	Colorado State University - Ft. Collins	CO	26.5 eV laser for spectroscopy of energetic materials and catalytic clusters	ARO
Braiman, Yehuda	University of Tennessee	TN	High-power blue-green laser source	ONR
Brosi, Berry	Emory University	GA	Equipment for study of mixed-sample DNA barcoding of pollen for forensic palynology	ARO
Caruso, Anthony	University of Missouri - Kansas City	MO	Neutron generator system for warm and fast energy neutron interrogation	ONR
Cassenaer, Stijn	California Institute of Technology	CA	Study of neural coding and synaptic plasticity by manipulating neuronal subnetworks	ONR
Chandrasekar, Srinivassan	Purdue University	IN	High-speed infrared imaging system for advanced metals processing	ARO
Chattopadhyay, Aditi	Arizona State University	AZ	Integrating virtual design capabilities, fundamental material models and failure theories	ARO
Chen, Zhan	University of Michigan	MI	Optical parametric oscillator for Raman scattering and stimulated fluorescence imaging	ONR
Cheng, Gary	Purdue University	IN	Two-dimensional line laser for research on nanocomposites and nanostructures	ONR
Chickadel, C. Chris	University of Washington	WA	Stabilized gimbal for airborne measurements of water surface velocity	ONR
Choi, Chang-Hwan	Stevens Institute of Technology	NJ	Molecular vapor deposition system for study of superhydrophobic coatings	ONR
Colin, Sean	Roger Williams University	RI	Volumetric 3-dimensional velocimetry to study swimming animals' propulsive strategies	ONR
Davis, James	Cornell University	NY	Spectroscopic imaging scanning tunneling microscope (STM) controller upgrade	ONR
Dinges, David	University of Pennsylvania	PA	System to acquire biological and neurobehavioral data for research on fatigue mitigation	ONR
Diott, Dana	University of Illinois - Urbana-Champaign	IL	Instrumentation to probe shock waves and impact initiation of reactive materials	ARO, ONR
Duncan, James	University of Maryland	MD	Diagnostics for bubbles, droplets and fluid velocity in sprays and hull boundary layers	ONR
Ertin, Emre	Ohio State University	OH	Research on co-located multiple-input and output radar based on distributed architecture	ARO
Fasel, Hermann	University of Arizona	AZ	Graphics processing unit for massively parallel simulations of flow separation	ONR

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Feng, Milton	University of Illinois - Urbana-Champaign	IL	Data modulation test equipment for microcavity transistor lasers	ARO
Fernando, Harindra	University of Notre Dame	IN	Thermodynamic profiler for atmospheric boundary layer studies	ONR
Fisichella, David	Woods Hole Oceanographic Institution	MA	Ultrashort baseline navigation system and SONAR suite for research vessel AGOR-27	ONR
Freitag, Lee	Woods Hole Oceanographic Institution	MA	Wave gliders for Arctic marginal ice zone surface observation and navigation support	ONR
Fuller, Kirk	University of Alabama - Huntsville	AL	Mueller matrix spectropolarimeter for study of biological and chemical threat detection	ARO
Gianneschi, Nathan	University of California - San Diego	CA	Equipment to characterize polymers and nanoparticles for stimuli responsive materials	ARO
Gorodetsky, Alon	University of California - Irvine	CA	Gel permeation chromatography for Isolating and characterizing graphene nanoribbons	ONR
Grenestedt, Joachim	Lehigh University	PA	Swarm of unmanned surface vehicles to measure waves for research on slamming	ONR
Hahne, Jonathan	University of Texas - Austin	TX	Refrigeration and vacuum system for superconductor (trapped field magnet) research	ONR
Hart, Anastasios	Massachusetts Institute of Technology	MA	Versatile sputtering system for research on 3-dimensional nanostructured materials	ONR
Henderson, Rashaunda	University of Texas - Dallas	TX	Millimeter-wave antenna far-field measurement system	ONR
Herbst, John	University of Texas - Austin	TX	Flexible power conversion system for microgrid research	ONR
Hersam, Mark	Northwestern University	IL	Instrumentation for studies of chemically functionalized graphene nanoelectronics	ONR
Hodge, Andrea	University of Southern California	CA	Instrumentation for transmission electron microscopy sample preparation	ONR
Hodgkiss, William	University of California - San Diego	CA	Drifting and deep water acoustic arrays	ONR
Hollerer, Tobias	University of California - Santa Barbara	CA	A high-fidelity mixed reality simulator	ONR
Hsieh, David	California Institute of Technology	CA	Instruments for optical spectroscopy and imaging of correlated spin-orbit phases	ARO
Hsieh, Mong-ying	Drexel University	PA	Multi-robot flow tank to study tracking and identification of geophysical flow structure	ONR
Huang, Dijiang	Arizona State University	AZ	Research on mobile cloud computing	ONR
Huston, Dryver	University of Vermont	VT	Adaptive and cognitive ground and wall penetrating radar system	ARO
Jaeger, Heinrich	University of Chicago	IL	Fast ultrasound system for imaging and probing dynamic response of granular material	ARO
Jajodia, Sushil	George Mason University	VA	Equipment to study cyber situational awareness and moving target defense	ARO, ONR
Jiang, Shaoyi	University of Washington	WA	High-performance liquid chromatography-mass spectrometry for antifouling research	ONR
Jiang, Xiaoning	North Carolina State University	NC	Piezoresponse force microscope for characterizing flexoelectric nanostructures	ARO
Kaplan, David	Tufts University	MA	Quartz crystal microbalance with dissipation monitoring	ARO
Ketterle, Wolfgang	Massachusetts Institute of Technology	MA	A laser system for spin-dependent optical lattices and polar molecules	ARO
Kim, Minjun	Drexel University	PA	Digital light processing with fluorescence microscopy for swarm control of biorobots	ARO
Kudenov, Michael	North Carolina State University	NC	Fourier transform infrared spectrometer for remote sensing and situational awareness study	ONR

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Kumar, Vijay	University of Pennsylvania	PA	Instrumentation for research on networked aerial and ground robotics	ARO
Lattimer, Brian	Virginia Polytechnic Institute & State University	VA	System to measure material surface temperature, deformation and strain field during fires	ONR
Lawrence, Dale	University of Colorado - Boulder	CO	Small unmanned aircraft system modules for high-resolution atmospheric measurements	ARO
Li, Xiaoqin	University of Texas - Austin	TX	Equipment for developing frequency-agile plasmonic antennas and sensors	ARO
Makela, Jonathan	University of Illinois - Urbana-Champaign	IL	Equipment to study wave features in the ionosphere and their relation to tsunami occurrence	ONR
Malmstadt, Noah	University of Southern California	CA	Instrumentation for high-throughput analysis of oxidative cell membrane damage	ONR
Mantena, Prabhakar	University of Mississippi	MS	High-speed digital stereo imaging and projection Moire systems	ARO
Marianetti, Chris	Columbia University	NY	Computer cluster for study of ab-initio methods for strongly correlated electron systems	ARO
Martukanitz, Richard	Pennsylvania State University	PA	Tomographic technology for cyber-enabled additive manufacturing	ONR
Mavris, Dimitri	Georgia Institute of Technology	GA	Environment for the design, prototyping and testing of autonomous cyber-physical systems	ONR
McClements, David	University of Massachusetts - Amherst	MA	Particle fabrication and characterization for study of bioactive encapsulation for military food	ARO
McDonald, John	Rensselaer Polytechnic Institute	NY	100 Gigahertz equipment with cryogenic applications to model silicon-germanium circuits	ONR
Mellinger, David	Oregon State University	OR	Acoustically-equipped ocean gliders for environmental and oceanographic research	ONR
Miles, Richard	Princeton University	NJ	Oscilloscope, detectors, and wind tunnel upgrade for air laser and dynamic stall research	ARO, ONR
Mishra, Rajiv	University of North Texas	TX	Laser system for the development of hybrid friction stir processing	ARO
Mishra, Umesh	University of California - Santa Barbara	CA	Instrumentation for measuring and characterizing millimeter-wave devices and circuits	ONR
Mohseni, Kamran	University of Florida	FL	Bio-inspired sensing and locomotion research	ONR
Monrose, Newman	University of North Carolina - Chapel Hill	NC	Equipment for research on defenses to secure voice over Internet protocol communication	ARO
Murray, Richard	California Institute of Technology	CA	Automation workstation for prototyping, debugging and characterizing biomolecular circuits	ONR
Nachtigall, Paul	University of Hawaii	HI	Portable multi-hydrophone array for measurements of odontocete acoustic signals	ONR
Nelson, Keith	Massachusetts Institute of Technology	MA	Direct real-time measurement of energetic materials under dynamic shock loading	ONR
Nemanich, Robert	Arizona State University	AZ	X-ray and ultraviolet photoemission spectroscopy to characterize interface electronic states	ONR
Noneaker, Daniel	Clemson University	SC	Equipment for high-fidelity modeling and simulation of wireless communications networks	ARO
Nowacek, Douglas	Duke University	NC	Moored system for study of the temporal variability of prey fields of deep diving predators	ONR
Ogston, Andrea	University of Washington	WA	Instrumentation to support investigation of large tropical deltas	ONR
Ojo, Joseph	Tennessee Technological University	TN	Electric integrated power systems with multiphase motors and generators	ONR
Opila, Elizabeth	University of Virginia	VA	Energy-dispersive spectroscopy to study light-element structural materials and corrosion	ONR
Pande, Partha	Washington State University	WA	Equipment for research on wireless network-on-chip architectures for multicore systems	ARO

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Pennathur, Sumita	University of California - Santa Barbara	CA	Electrokinetic injection and separation system for protein and peptide studies	ARO
Perlis, Donald	University of Maryland	MD	Enhanced platform for metacognitive robots	ONR
Phillips, Ronald	University of Central Florida	FL	Precision tracking mount for laser beam control testing	ONR
Poizner, Howard	University of California - San Diego	CA	Hybrid optical-electrical brain imaging of multiple agents acting in dynamic environments	ONR
Poldrack, Russell	University of Texas - Austin	TX	Electroencephalography (EEG) system compatible with magnetic resonance imaging	ONR
Pratt, Thomas	University of Notre Dame	IN	Field Research Vehicles	ONR
Propper, Ruth	Montclair State University	NJ	Study of a biomarker and bias mitigation in cognitive, perceptual, and emotional processing	ARO
Qu, Gang	University of Maryland	MD	Instrumentation for research on energy-efficient wireless sensor networks	ONR
Ray, Asok	Pennsylvania State University	PA	Networked mobile smart robot testbed for study of non-homogenous autonomous systems	ARO
Regal, Cindy	University of Colorado - Boulder	CO	Optical instrument for study of quantum-state transfer of microwave and optical photons	ONR
Rimberg, Alexander	Dartmouth College	NH	Recondensing cryostat for ultra-sensitive charge detection of quantum systems	ARO
Romanov, Peter	City College of New York, CUNY	NY	Optical and microwave radiometers for snow remote sensing studies	ONR
Sagers, Jason	University of Texas - Austin	TX	Three-dimensional scale-model tank for model ocean acoustics experiments	ONR
Sastry, Shankar	University of California - Berkeley	CA	Testbed for computational models of human behavior to use in human-robot collaboration	ONR
Schmitt, Axel	University of California - Los Angeles	CA	Scanning electron microscope for research on terrain evolution and surface process rates	ARO
Seguin, Sarah	University of Kansas	KS	Equipment to support research related to the impending spectrum crisis	ONR
Seinfeld, John	California Institute of Technology	CA	High-resolution aerosol mass spectrometer	ONR
Shaffer, James	University of Oklahoma	OK	Laser stabilization system for Rydberg atom physics studies	ARO
Shah, Julie	Massachusetts Institute of Technology	MA	Human-guided teleautonomy for remote mobility and dexterous manipulation	ONR
Shen, Kyle	Cornell University	NY	Momentum-resolved inverse photoemission spectroscopy to study electronic materials	ARO
Sievenpiper, Daniel	University of California - San Diego	CA	High-power microwave amplifier	ONR
Sorensen, Christopher	Kansas State University	KS	Multi-angle light scattering device for aerosol particle detection	ARO
Spanier, Jonathan	Drexel University	PA	Ion-beam system for functional and oxide materials and device processing	ONR
St. Laurent, Louis	Woods Hole Oceanographic Institution	MA	Autonomous turbulence sampling systems	ONR
Stechmann, Samuel	University of Wisconsin - Madison	WI	High-performance computing cluster for tropical marine meteorological modeling	ONR
Sullivan, Philip	Montana State University	MT	Differential scanning calorimetry, thermogravimetric analysis, and polarized microscopy	ARO
Sun, Xiaobai	Duke University	NC	Parallel workstation for big images and big data	ARO
Sustersic, John	Pennsylvania State University	PA	Distributed, reconfigurable non-von Neumann architecture for cognitive autonomous robots	ONR

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Tagkopoulos, Ilias	University of California - Davis	CA	Instrumentation for research on bacteria evolution and dynamics	ARO
Tao, Andrea	University of California - San Diego	CA	Coupled Raman-atomic force microscope system with near-field spectroscopy capabilities	ONR
Tatarchuk, Bruce	Auburn University	AL	Spatially and temporally resolved studies of chemically reactive surfaces	ONR
Terrill, Eric	University of California - San Diego	CA	Coherent X-band marine radar for sensing ocean waves	ONR
Thadhani, Naresh	Georgia Institute of Technology	GA	Thermal analysis for monitoring effects of shock-induced material changes	ARO
Thompson, James	George Mason University	VA	Instrumentation for spatial learning project	ONR
Thomson, James	University of Washington	WA	Floating instrumentation to measure ocean surface waves	ONR
Tollaksen, Jeff	Chapman University	CA	E-beam lithography microscope with microanalysis to explore novel materials and devices	ONR
Traykovski, Peter	Woods Hole Oceanographic Institution	MA	Multibeam sidescan sonar and turbulence profiler for coastal environmental dynamics study	ONR
van Benthem, Klaus	University of California - Davis	CA	Focused ion beam scanning electron microscope for research on nanostructured materials	ONR
Vashishta, Priya	University of Southern California	CA	Computing platform for simulation and visualization of insensitive nanoenergetic materials	ONR
Vishwanath, Sriram	University of Texas - Austin	TX	Mobile testbed for development, validation, and deployment of networking protocols	ARO
Voth, Gregory	University of Chicago	IL	Computing cluster for simulation of ion transport membranes	ARO
Waits, Lissette	University of Idaho	ID	Molecular genetics equipment for study of species of conservation concern on DoD land	ARO
Wang, Chuji	Mississippi State University	MS	Optical trapping-cavity ringdown spectroscopy system for aerosol particle measurements	ARO
Webb, Lauren	University of Texas - Austin	TX	Scanning probe microscope for atomic resolution imaging of soft surfaces and interfaces	ARO
Weller, Robert	Woods Hole Oceanographic Institution	MA	Air-sea interaction buoy/mooring system for study of air-sea interaction in the open ocean	ONR
Whitten, James	University of Massachusetts - Lowell	MA	Inverse photoelectron spectroscopy to measure empty electronic states of surfaces	ARO
Wilcock, William	University of Washington	WA	Instrumentation for collecting and analyzing oceanographic data from research vessels	ONR
Winkelstein, Beth	University of Pennsylvania	PA	Biaxial test system for biomechanical testing in trauma research	ARO
Wolfson, Marla	Temple University	PA	In-vivo micro-computed tomography and laser speckle contrast imaging tools	ONR
Wood, Robert	Harvard University	MA	Instrumentation for printed-circuit micro-electro-mechanical systems (MEMS) fabrication	ARO
Yanco, Holly	University of Massachusetts - Lowell	MA	Cameras, sensors, 3-dimensional printer, and other instruments for robotics research	ARO
Yin, Huiming	Columbia University	NY	Weathering system for study of life cycle performance of polymer materials and structures	ONR
Yu, Michael	Johns Hopkins University	MD	Electrospinning system for development of transducers based on polar polymeric fibers	ONR
Zare, Richard	Stanford University	CA	Instrumentation for study of preparation of phase-locked molecular quantum states	ARO
Zhang, Mingjun	University of Tennessee	TN	Digital holographic microscope for 3-dimensional imaging of swimming microorganisms	ONR
Zhang, Qiming	Pennsylvania State University	PA	Instrument for characterization of mechanical and dielectric properties of polymer dielectrics	ONR

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