

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 1 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Abarbanel, Henry	University of California, San Diego	CA	Multiscale Computational and Systems Neuroscience	ONR
Agarwal, Ritesh	University of Pennsylvania	PA	Broadband Light Source and Detector	ARO
Albash, Tameem	University of Southern California	CA	Modeling and Benchmarking Quantum Annealers	ARO
Amitay, Michael	Rensselaer Polytechnic Institute	NY	Very Low Reynolds Number Unsteady Flows Investigations	AFOSR
Anastasopoulos, Achilleas	University of Michigan	MI	Intelligent Collaborative Wireless Networks	ARO
Appelgate, Bruce	University of California, San Diego	CA	New Ocean Sensing Systems	ONR
Aranchuk, Vyacheslav	University of Mississippi	MS	Scanning Laser Vibrometer	ONR
Armitage, Peter	Johns Hopkins University	MD	Development and Construction of Two-Dimensional Terahertz Spectroscopy	ARO
Artemiadis, Panagiotis	Arizona State University	AZ	Optical Robot Localization System	AFOSR
Ayon, Arturo	University of Texas, San Antonio	TX	TERA K15 All-Fiber Coupled Terahertz Spectrometer	AFOSR
Bamman, Marcas	University of Alabama, Birmingham	AL	Research Acceleration to Maximize Warrior Performance	ONR
Banerjee, Kaustav	University of California, Santa Barbara	CA	In-Situ Raman/Photoluminescence and High-Vacuum Physics Characterization System	AFOSR
Bassett, Lee	University of Pennsylvania	PA	Quantum Optical Spectroscopy System	ARO
Bathe, Mark	Massachusetts Institute of Technology	MA	Development of New Modalities for Nanostructures	ONR
Bazzi, Ali	University of Connecticut	CT	High-voltage High-frequency Power Electronic Testbed	ONR
Beck, Benjamin	Pennsylvania State University	PA	Acoustic Materials Additive Manufacturing System	ONR
Beg, Farhat	University of California, San Diego	CA	Compact Pulsed Power Driver	AFOSR
Berger, Paul	Ohio State University	OH	Characterization of Gallium Nitride Structures	ONR
Bondar, Denys	Princeton University	NJ	Analog High Performance Computation via Extreme Nonlinear Optics	AFOSR
Braunschweig, Adam	City University of New York, Advanced Science Research Center	NY	Characterization of Complex Organic Nanosystems	ARO
Brosi, Berry	Emory University	GA	Quantitative Metabarcoding of Pollen for Security-Related Forensics	ARO
Brozik, James	Washington State University	WA	Single Molecule Fluorescence Lifetime Imaging	AFOSR
Bushnell, Linda	University of Washington	WA	Graphics Processing Unit Computing Testbed Platform	ONR
Campbell, Mark	Cornell University	NY	Distributed Deep Learning Mobile Sensor System	ONR
Campbell, Wesley	University of California, Los Angeles	CA	Testing Methods of Quantum Control in a Cold Polar Molecule-Ion Chemistry Platform	AFOSR
Chen, Qian	University of Illinois, Urbana-Champaign	IL	Nanosopic Imaging and Analysis Platform	AFOSR
Choi, Chang-Hwan	Stevens Institute of Technology	NJ	Laser Metal Deposition System	ONR
Chowdury, Enam	Ohio State University	OH	Time Resolved Atomic Probe of Surfaces	AFOSR
Craig, Stuart	University of Arizona	AZ	Schlieren System for Boundary-Layer Instabilities	ONR

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 2 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Creech-Eakman, Michelle	New Mexico Institute of Mining and Technology	NM	Laser Tracker to Implement State-of-the-Art Alignment	AFOSR
Cybart, Shane	University of California, Riverside	CA	Multi-layer Superconducting Oxide Thin Films	ONR
De Graef, Marc	Carnegie Mellon University	PA	Automated Optical Microscope for Computational Polarized Light Microscopy	AFOSR
de la Haye, Kayla	University of Southern California	CA	Observational System for Monitoring and Modeling Group Social Dynamics	ARO
Decker, Michael	Case Western Reserve University	OH	Viewing the Human Brain's Response to Cockpit Levels of Hyperoxia	AFOSR
Demkov, Alexander	University of Texas, Austin	TX	Integrated Nonlinear Optical Materials Foundry	AFOSR
Deotare, Parag	University of Michigan	MI	Ultrafast Laser System for Exciton Transient Analysis	AFOSR
Devenport, William	Virginia Polytechnic Institute and State University	VA	Particle Image Velocimetry for Turbulent Motions	ONR
Di Leo, Claudio	Georgia Institute of Technology	GA	Optical Characterization of Dynamic Mechanical Response	ARO
Djordjevic, Ivan	University of Arizona	AZ	Quantum Communication over Turbulence Channels	ONR
Dlott, Dana	University of Illinois, Urbana-Champaign	IL	Laser Instrumentation to Measure Energy Release Dynamics	ARO
Eilers, Hergen	Washington State University	WA	Probing Sub-Surface Reactions in the Condensed Phase	ARO
El Rouayheb, Salim	Rutgers University	NJ	Secure Coded Cooperative Computations for Internet of Battlefield of Things (IoBTs)	ARO
Elbidweihy, Hatem	United States Naval Academy	MD	Graphene characterization for microscale responses	ONR
Englund, Dirk	Massachusetts Institute of Technology	MA	Single-Photon Detection System for Photonic Quantum Technologies	AFOSR
Farajian, Amir	Wright State University	OH	Combined Experiment-Multiscale Simulation Study	AFOSR
Fuchs, Gregory	Cornell University	NY	Nanoscale Spatiotemporal Magnetic Microscopy with Scanning Plasmonic Probes	AFOSR
Gavini, Vikram	University of Michigan	MI	Large Scale Real-Space Electronic Structure Calculations	ARO
Gerstoft, Peter	University of California, San Diego	CA	Measurements in Marine Atmospheric Environments	ONR
Gokirmak, Ali	University of Connecticut	CT	Physical Vapor Deposition System	AFOSR
Goldsmith, Claude	Brown University	RI	Reactive Intermediates in the Decomposition of Propellants	ONR
Gonzalez-Bosc, Laura	University of New Mexico	NM	Cardiorespiratory Physiology Phenotyping	ONR
Gottlieb, Sigal	University of Massachusetts, Dartmouth	MA	Heterogeneous Terascale Computing Cluster	ONR
Greiner, Markus	Harvard University	MA	Quantum Gas Microscope for Extended Fermi-Hubbard Models	ARO
Gunduz, Ibrahim Emre	Purdue University	IN	Hyper-Speed Microscopic Optical and Near-Infrared Imaging System	AFOSR
Guo, Chunlei	University of Rochester	NY	Enhancing Laser Capacity for Studying Functional Surface Structures on Metals	ARO
Hall, Drew	University of California, San Diego	CA	Near-Zero Power Wireless Internet of Things Testing	ONR
Hanson, Ronald	Leland Stanford Junior University	CA	Rapid-Tuning Infrared Laser System and Optical Diagnostics for High Temperature Air	AFOSR
Harel, Elad	Northwestern University	IL	Four-Dimensional Electronic Raman Spectroscopy	AFOSR

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 3 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Hatridge, Michael	University of Pittsburgh	PA	Integrated High Field Magnet and Ultra-Low Noise Microwave Measurement Apparatus	ARO
He, Ximin	University of California, Los Angeles	CA	Multifunctional Dynamic Material Characterization and Autonomous Arms for Soft Robots	AFOSR/ONR
Hefner, Brian	University of Washington	WA	Acoustic Wave and Current Profiler	ONR
Heindel, Theodore	Iowa State University	IA	High-Speed Stereographic Imaging for Multiphase Flows	ONR
Hofmann, Heath	University of Michigan	MI	Controller for Advanced Electric Drive Hybrid Energy Storage	ONR
Hopkins, Patrick	University of Virginia	VA	Ultrafast Thermal Property Measurements	ONR
Hopper, David	United States Air Force Academy	CO	Combustion Shock Tube	AFOSR
Hu , Bin	University of Tennessee	TN	Time-Dependent Magneto-Optical System	AFOSR
Huang, Goliang	University of Missouri	MO	Three-Dimensional Wave Propagation Measurement in Multi-functional Metamaterials	AFOSR
Huang, Jinsong	University of North Carolina	NC	Carrier Dynamics in Perovskite Energy Harvesters	ONR
Huang, Yu	University of California, Los Angeles	CA	Ultrasonic Spray Fuel Cell Coating and Membrane Electrode	ONR
Huston, Dryver	University of Vermont	VT	Quantum Penetrating Radar	ARO
Iyer, Shanthi	North Carolina Agricultural and Technical State University	NC	Arsenic Valved Cracker for Molecular Beam Epitaxy System	ARO
Jalan, Bharat	University of Minnesota	MN	Oxide Molecular Beam Epitaxy	AFOSR
Jaramillo, Rafael	Massachusetts Institute of Technology	MA	Reflection High Energy Electron Diffraction	ONR
Jayich, Ania	University of California, Santa Barbara	CA	Cryogenic, Scanned Probe Imaging System	AFOSR
Jefferies, Stuart	Georgia State University	GA	Simulator for the Advanced Reconnaissance of Earth-orbiting Satellites	AFOSR
Jewett, Michael	Northwestern University	IL	Integrated System for Automating Ribosome Design	ARO
Johnson, Eric	Clemson University	SC	Arbitrary Waveform Generator	ONR
Juliano, Thomas	University of Notre Dame	IN	Gate Valve and Nozzle Heaters for Hypersonic Quiet Tunnel	AFOSR
Justin Zhan	University of Nevada, Las Vegas	NV	Graphics Processing Unit Clusters for Network Science Research	ARO
Kapadia, Rehan	University of Southern California	CA	Broadband Ultrafast Photon Source	AFOSR
Karunasiri, Gamani	Naval Postgraduate School	CA	Scanning Laser Vibrometer for Microelectromechanical systems	ONR
Katz, Joseph	Johns Hopkins University	MD	Time and Spatially Resolved Interactions During Cavitation	ONR
Keplinger, Christoph	University of Colorado	CO	Hydraulically Amplified Self-healing Electrostatic Transducers	ARO
Khan, Mohammad	Delaware State University	DE	Chemical and Biological Signatures from Airborne Wireless Sensors	ONR
Khudyakov, Jane	University of the Pacific	CA	Quantitative Gene Expression System	ONR
Kim, Philip	Harvard University	MA	Infrared Optoelectronic Measurements	ONR
Kisailus, David	University of California, Riverside	CA	Pico-Scale Transmission Electron Microscope Testing System & Liquid Cell Testing System	AFOSR/ARO

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 4 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Konstantinos Karydis	University of California, Riverside	CA	Large Outdoor Motion-Tracking Arena	ARO
Laurence, Stuart	University of Maryland	MD	Ludwig-Tube Extensions and Sschlieren System	AFOSR
Lear, Benjamin	Pennsylvania State University	PA	Laser-Based Three-Dimensional Printer	ARO
Lehr, Jane	University of New Mexico	NM	Correlated Electrical and Optical Diagnostics	ONR
Leite, Marina	University of Maryland	MD	Near-Field Optical Microscopy	ARO
Li, Xin	West Virginia University	WV	Building a Multimodal Imaging System	ARO
Link, Stephan	William Marsh Rice University	TX	Time-Resolved Photoluminescence Upconversion Microscopy	AFOSR
Lu, Nanchu	University of Texas, Austin	TX	Manufacture of Soft Electronics and Soft Actuators	ONR
Lu, Xuejun	University of Massachusetts, Lowell	MA	Nanosecond Ultra-Broadly Tunable Mid-Infrared Laser System	AFOSR
Macfarlane, Robert	Massachusetts Institute of Technology	MA	Gel Permeation Chromatograph	ARO
Madhukar, Anupam	University of Southern California	CA	High Resolution Studies of Single Photon Emission and Optical Behavior of Dielectric Building Block Based Structures	AFOSR/ARO
Malmstadt, Noah	University of Southern California	CA	Probes for oxygen damage of neuron cell membranes	ONR
Mardanpour, Pezhman	Florida International University	FL	Experimental Verification of the Constructal Theory	AFOSR
Marder, Seth	Georgia Institute of Technology	GA	Perovskite Deposition and Characterization Station	AFOSR
Martin, Glenn	University of Central Florida	FL	Virtualizable Rendering Resources	ARO
McComb, David	Ohio State University	OH	Comprehensive Upgrade of an Aberration Corrected Electron Microscope	AFOSR
McDowell, Matthew	Georgia Institute of Technology	GA	In Situ Liquid Cell Transmission Electron Microscope Holder	AFOSR
Melville, Ken	University of California, San Diego	CA	Ocean Fronts and Submesoscale Processes	ONR
Micci, Michael	Pennsylvania State University	PA	Microwave Plasma Propulsion Research	AFOSR
Miller, Cass	University of North Carolina	NC	Validation of Multiscale Mathematical Models of Multiphase Transport Phenomena	ARO
Moloney, Jerome	University of Arizona	AZ	Supercomputer Replacement	AFOSR
Moon, Richard	Duke University	NC	Human Exercise Capacity Training and Assessment	ONR
Morris, Scott	University of Notre Dame	IN	High-Speed Compressor	ONR
Mukherjee, Ranjan	Michigan State University	MI	Testing for Underwater Robotics	ONR
Murray, Chase	State University of New York, Buffalo	NY	Meta-Autonomy	ONR
Naguib, Ahmed	Michigan State University	MI	Tomographic Particle Image Velocimetry System	ARO
Nam, SungWoo	University of Illinois, Urbana-Champaign	IL	Nanoscale Plasmonic/Optical Interrogation of Corrugated Two-Dimensional Materials	AFOSR
Narayanaswamy, Venkateswaran	North Carolina State University	NC	High Speed Flowfield Imaging	AFOSR
Nelson, Keith	Massachusetts Institute of Technology	MA	Real-Time Vibrational Spectroscopy Of Shocked Materials	ONR

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 5 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Newman, Dianne	California Institute of Technology	CA	Environmental Microscope/Microfluidic System	ARO
Ni, Kang-Kuen	Harvard University	MA	Ultracold Molecular Assembly	ARO
O'Hern, Corey	Yale University	CT	Computing Platform for Modeling Fluid-sheared Granular Beds	ARO
Padture, Nitin	Brown University	RI	Capabilities in Transmission Electron Microscopy	ONR
Paznukhov, Vadym	Boston College	MA	Regional Network of Traveling Ionospheric Disturbances Sensors	AFOSR
Pecht, Michael	University of Maryland	MD	Ultrasound Sensing for Battery State of Health	ONR
Peters, Kara	North Carolina State University	NC	Micro Laser Doppler Vibrometer	ONR
Pratt, Thomas	University of Notre Dame	IN	Distributed Polarization-Based Radar	ONR
Randi, Joseph	Pennsylvania State University	PA	Horizontal Mill for Grinding Large Ceramic Ogives	ONR
Rogers, Rick	Harvard University	MA	Mechanism of Oxidative Stress	ONR
Rosenbaum, Elyse	University of Illinois, Urbana-Champaign	IL	Programmable, Transmission Line Based, High Power Single-Shot Pulse Generator	ARO
Roy-Chowdhury, Amit	University of California, Riverside	CA	Learning-based Autonomous Systems	ONR
Rueppell, Olav	University of North Carolina, Greensboro	NC	Extending Research Capabilities in Social and Behavioral Science	ARO
Sander, Michelle	Boston University	MA	Imaging Cell Membrane Dynamics	AFOSR
Sarabandi, Kamal	University of Michigan	MI	Non-Invasive, Polarimetric, Ultra-Wideband Electric Field Measurement System	ARO
Schaibley, John	University of Arizona	AZ	Closed-Cycle Optical Cryostat to Investigate Plasmonic Structures	AFOSR
Schamiloglu, Edl	University of New Mexico	NM	Secondary Electron Emission and Multipactor Physics Studies	AFOSR
Schmisseur, John	University of Tennessee, Space Institute	TN	Ultra-High Speed Schlieren for Quantitative Measurements of Hypersonic Flows	AFOSR
Schniepp, Hannes	College of William and Mary	VA	Characterization of High-Performance Nanocomposites	ONR
Send, Uwe	University of California, San Diego	CA	Upgraded Underwater Acoustic Communication	ONR
Sentis, Luis	University of Texas, Austin	TX	Anatomy-Mimetic Arm Integration	ONR
Shalaev, Vladimir	Purdue University	IN	Versatile Sputtering Tool for New Optical Materials	ONR
Shephard, Mark	Rensselaer Polytechnic Institute	NY	Simulation of Multiphase Processes	ARO
Stilwell, Daniel	Virginia Polytechnic Institute and State University	VA	Experiments in Collaborative Autonomy	ONR
Terrill, Eric	University of California, San Diego	CA	Upper Ocean Autonomous Sampling	ONR
Tezduyar, Tayfun	William Marsh Rice University	TX	Multiscale Space-Time Computational Analysis and Visualization System	ARO
Thomson, Jim	University of Washington	WA	Expanding The Arctic Waveglider Fleet	ONR
Thuraisingham, Bhavani	University of Texas, Dallas	TX	Secure Data Processing Infrastructure	ARO
Tomar, Vikas	Purdue University	IN	Extreme Strain Rate Interface Impact Thermomechanical Imaging System	AFOSR
Umstadter, Donald	University of Nebraska, Lincoln	NE	Multi-Pixelated Array Detection System	AFOSR

**WINNERS OF THE FY 2018 COMPETITION UNDER THE DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM -- Page 6 of 6**

<b>Principal Investigator</b>	<b>Institution</b>	<b>State</b>	<b>Brief Description of Instrumentation or Research it Supports</b>	<b>Awarding Office</b>
Velten, Andreas	University of Wisconsin	WI	Light Source for an Optimized Time of Flight Imaging System	AFOSR
Venayagamoorthy, Subhas	Colorado State University	CO	High Resolution Particle Image Velocimetry	ONR
Vidal, Rene	Johns Hopkins University	MD	Instrumentation for Multimodal Data Analysis	ARO
Vishwanath, Sriram	University of Texas, Austin	TX	Enabling Practical Interference Alignment in Real-time Hardware	ARO
Waks, Edo	University of Maryland	MD	Tunable Laser System and Low-Temperature Magneto-Optical Microscope	AFOSR
Walker, Christopher	University of Arizona	AZ	Thermal-Vacuum Chamber for Testing Space Technologies	ONR
Wang, Feng	University of California, Berkeley	CA	Cryogenic Magneto-Optical System	ARO
Wang, Harris	Columbia University	NY	Automated Microbial Biobanking and Analysis	ONR
Watkins, Richard	Clemson University	SC	High Order Bessel Beams Integrated with Time	ONR
Wetz, David	University of Texas, Arlington	TX	Thermal Sensing of Distributed Electrical Generation Sources	ONR
White, Henry	University of Utah	UT	Electrochemical Scanned Probe Microscope	ONR
Wicks, Michael	University of Dayton	OH	Cognitive Software Defined Radio Laboratory	AFOSR
Williams, David	Illinois Institute of Technology	IL	Large-Scale Gust Generation Test Section	AFOSR
Willner, Alan	University of Southern California	CA	Frequency Combs and Orbital Angular Momentum	ONR
Worcester, Peter	University of California, San Diego	CA	Sources for Ocean Acoustic Propagation Experiments	ONR
Wu, Tianfu	North Carolina State University	NC	Graphics Processing Unit Computational Infrastructure Platform	ARO
Wu, Yiquan	Alfred University	NY	Studying Field-assisted Sintering Mechanisms	ONR
Xiong, Wei	University of California, San Diego	CA	Tabletop Time-Resolved Soft X-Ray Spectrometer	AFOSR
Yacoby, Amir	Harvard University	MA	Variable Temperature Cryostat for Quantum Sensing	ARO
Yao, Yu	Arizona State University	AZ	Mid-Infrared Ultra-Short Pulse Frequency Comb Generation Setup	AFOSR
Ye, Jun	University of Colorado	CO	Enhanced Optical Clock	AFOSR
Yetter, Richard	Pennsylvania State University	PA	Combustion Analysis of Propellants and Energetic Materials	AFOSR
You, Lingchong	Duke University	NC	Imaging Capability for Quantitative and Synthetic Biology	ONR
Yu, Shui-Qing (Fisher)	University of Arkansas	AR	Developing a Material Foundry for Silicon-Germanium-Tin Based Optoelectronics	AFOSR
Yu, Wai Haung	Columbia University	NY	Particle Tracking for Analysis of Exosomes and Other Subcellular Compartments	AFOSR
Zabotin, Nikolay	University of Colorado	CO	Dynasonde for Advanced Studies of Atmospheric Gravity Waves	AFOSR
Zare, Richard	Stanford University	CA	Coherent Control of Molecular Scattering	ARO
Zhang, Hong-Chao	Texas Tech University	TX	Hybrid Manufacturing and Advanced Material Remanufacturing	ONR
Zhang, Yanchao	Arizona State University	AZ	Drone-Powered Internet of Things System	ARO