The Department of Defense (DoD) announced that 70 university researchers at 57 institutions have been selected to receive instrumentation awards to enhance their research and education programs. The awards totaling $30.4 million will be made under the FY 2021 DoD Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MSI) Science Program.

FY 2021 DoD HBCU/MI Research and Education Program

	Institution	Principal Investigator	Proposal Title	ST	Service	Minority Category	USD(R&E) Priority Area
1	Alabama A&M University	Heidary, Kaveh	Laboratory for Deep Learning with Emphasis on Hyperspectral Imagery	AL	ARO	HBCU	Precision Sensing: Time, Space, Gravity, Electromagnetism
2	Alabama A&M University	Xiao, Zhigang	Acquisition of an Advanced Plasma Etching System for Research at Nanoscale for Energy Harvesting and Nanoelectronics at Alabama A&M University	AL	ARO	HBCU	Microelectronics
3	Alabama State University	Dean, Derrick	Acquisition of Scanning Electron Microscope for Materials Research and Education	AL	AFOSR	HBCU	Materials & Manufacturing
4	Alcorn State University	Zheng, Yufeng	Acquisition of Deep Learning Computing System to Enhance Research and Education at Alcorn State University	MS	ARO	HBCU	Quantum Science (Advanced Computing)
5	Bennett College	Edmondson, Rasheena	Equipment and Instrumentation to Enhance the Undergraduate Research Experience of STEM Majors at Bennett College in Microbiological Research and Data Analytics	NC	ARO	HBCU	Emerging Biosciences
6	California State Polytechnic University-Pomona	Tsuchiya, Nolan	Processing Parameter Development for FeMnAl Steels and Other Military Materials	CA	ARO	MSI	Manufacturing
7	California State University-Dominguez Hills	Crogman, Horace	Acquisition of Leading Edge Instrumentation for the Enhancing of Biophysical Research and Curriculum Development for Undergraduate Minority	CA	ARO	MSI	Emerging Biosciences
8	California State University-Fresno	Kulhandjian, Hovannes	Secure Communications and Embedded Systems Laboratory at California State University, Fresno	CA	ARO	MSI	Cyber Security
9	California State University-Fullerton	Behseta, Sam	A Next Generation High-Performance Computing Cluster for Research and Teaching at a Primarily Undergraduate Hispanic Serving Institution	CA	ARO	MSI	Future of Computing
10	California State University-Long Beach	Moghtadernejad, Sara	Powder-based Additive Manufacturing Laboratory (PAM Lab)	CA	ARO	MSI	Novel Engineered Materials
11	California State University-Northridge	Chan, Thomas	The AWARE Project: Arming Wearable Augmented Reality Equipment to Strengthen Psychological Reserves and Resilience	CA	ARO	MSI	Human Performance
12	California State University-Northridge	Schaal, Christoph	Multi-Scale Mechanical Characterization Laboratory	CA	ONR	MSI	Materials & Manufacturing
13	Central State University	Petry, Leanne	Integrated Instrumental System for Research and Education in Analytical Chemistry	OH	AFOSR	HBCU	Materials Science
14	Claflin University	Assanie-Shivji, Samina	Establishment of hiPSC-derived 3D Neuronal In Vitro Melatonin Model to Understand Neuronal Differentiation, Signaling Pathways and Apoptosis Related Genes Interaction	SC	AFOSR	HBCU	Emerging Biosciences

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15	Claflin University	Ling, Jie	Enhancing the Research and Education Program in Materials Chemistry at Claflin University: Acquisition of Single Crystal XRD and Microspectrophotometer	SC	ARO	HBCU	Novel Engineered Materials
16	Clark Atlanta University	Ingram, Conrad	Acquisition of an X-Ray Photoelectron Spectrometer for Research, Education and Capacity Building in Materials Science at CAU	GA	ONR	HBCU	Microelectronics
17	CUNY-City College of New York	Biddinger, Elizabeth	Advanced microcalorimeter for thermodynamic and kinetic analyses of materials	NY	ARO	MSI	Novel Engineered Materials
18	CUNY-City College of New York	Khanikaev, Alexander	System for Visible and Infrared Spectroscopy of Emergent Classical and Quantum Photonic Nanomaterials	NY	ONR	MSI	Novel Engineered Materials
19	Delaware State University	Marcano Olaizola, Aristides	Photochemical-Photophysical Laboratory for the Study of Enhancer-Free Photo-Generated Singlet Oxygen	DE	AFOSR	HBCU	Precision Sensing
20	Elizabeth City State University	Adedeji, Adetayo	Acquisition of Equipment for Thermal Processes and Electrical Transport Characterization of Wide Band Gap and Ultra-Wide Band Gap Semiconductors	NC	ARO	HBCU	Microelectronics
21	Florida A&M University	Siegrist, Theo	Acquisition of a Dielectric Permittivity Measurement Systems up to 50GHz	FL	AFOSR	HBCU	Microelectronics
22	Florida Atlantic University	Merk, Vivian	Acquisition of a Transmission Electron Microscope to Enhance Multidisciplinary Research and STEM Education	FL	ONR	MSI	Microelectronics
23	Florida Atlantic University	Pados, Dimitris	Acquisition of Millimeter-Wave Platform for Joint Communication-Radar Signal Design with Applications to Connected Artificial Intelligence	FL	ARO	MSI	Artificial Intelligence (AI-Machine Learning)
24	Florida International University	Bobadilla, Leonardo	Acquisition of a Combined Aerial and Underwater Motion Capture System	FL	ONR	MSI	Precision Sensing
25	Georgia State University	Jefferies, Stuart	Advanced Reconnaissance of Geosynchronous equatorial and low-earth Orbiting Satellites (ARGOS)	GA	AFOSR	MSI	Precision Sensing: Time, Space, Gravity, Electromagnetism
26	Georgia State University	Mani, Ramesh	System for the synthesis, characterization, and fabrication of 2D materials and devices	GA	ARO	MSI	Novel Engineered Materials
27	Hampton University	Geddis, Demetris	Acquisition of a Mask Aligner with Nanoimprint Capability for Integrated Photonics Research and Nanotechnology Training	VA	ONR	HBCU	Microelectronics
28	Hampton University	Moore, William	Equipment for Atmospheric Measurements of Dynamics, Composition and State to Improve Severe Weather Prediction and Atmospheric Science Research and Education at Hampton University	VA	ONR	HBCU	Precision Sensing
29	Howard University	Warner, Grant	Extending Advanced Manufacturing Post-processing Activities through Acquisition of an Additive Manufacturing System Suite	DC	ARO	HBCU	Novel Engineered Materials
30	Langston University	Quinn, Byron	Mass Spectrometry Instrumentation Capacity Building for Research and Education	OK	AFOSR	HBCU	Novel Engineered Materials &

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31	Morgan State University	Samokhvalov, Alexander	Acquisition of Advanced Vibrational and Optical Spectroscopy and Imaging System for Interdisciplinary Materials Research, STEM Education, and Outreach	MD	ARO	HBCU	Novel Engineered Materials
32	New Mexico Institute of Mining and Technology	Hargather, Michael	Ultra-high-speed framing camera for shock and detonation studies	NM	AFOSR	MSI	Hypersonics
33	New Mexico State University	Dehghan-Niri, Ehsan	Acquisition of Computed Tomography (CT) Scanner for STEM Education and Research Programs in New Mexico	NM	AFOSR	MSI	Manufacturing & Materials
34	Norfolk State University	Temple, Doyle	Acquisition of a Real-time Laue Back Reflection X-Ray System and a Powder Pattern X-Ray Diffraction System for Education and Research in Crystallography	VA	ARO	HBCU	Microelectronics & Manufacturing
35	North Carolina Central University	Karoui, Abdennaceur	Acquisition of an Integrated Optical Nanoprobe	NC	ARO	HBCU	Microelectronics
36	Prairie View A&M University	Giles, Marco	Acquisition of Mass Spectrometry Instrumentation to Expand and Enhance Chemical Mass Analysis in The Department of Chemistry at Prairie View A&M University	TX	AFOSR	HBCU	Materials Science
37	Prairie View A&M University	Qian, Lijun	Acquisition of High Performance Computing and Large Storage Instruments to Enhance Research and Education in Big Data Science and Artificial Intelligence at PVAMU	TX	AFOSR	HBCU	Quantum Science (Advanced Computing)
38	Salish Kootenai College	Pete, Shandin	Enhancement of Cross-Disciplinary STEM Research and Education at Salish Kootenai College	MT	ARO	TCU	Emerging Biosciences
39	San Diego State University	Liu, Xiaofeng	Equip and Establish the Laboratory of Experimental Fluid Dynamics at SDSU with Full Range Measurement and Analysis Capabilities in Particle Image Velocimetry	CA	ONR	MSI	Novel Engineered Materials
40	San Francisco State University	Xu, Huizhong	Acquisition of a Tip-Enhanced Raman Spectroscopy Microscope for Advancing Multidisciplinary Research and Education at San Francisco State University	CA	AFOSR	MSI	Materials Science
41	San Jose State University	Parent, David	Acquisition of an Automated Multipurpose Furnace and Reactive Ion Etcher System for Microscale Fabrication Education and Research at SJSU	CA	ONR	MSI	Manufacturing
42	Tennessee State University	Shirkhodaie, Amir	Establishment of Deep Learning Remote Sensing Laboratory	TN	ONR	HBCU	Precision Sensing
43	Texas State University	Theodoropoulou, Nikoleta	Enhanced Optical, Electrical, and Magnetic measurement capabilities for Materials and Device Studies in Research and Education	TX	AFOSR	MSI	Novel Engineered Materials
44	Texas Technical University	Bayne, Stephen	Enhancing Infrastructure for cyber-physical systems security training and research at Texas Tech University Facilities	TX	ONR	MSI	Cyber Security & Human Performance
45	Tuskegee University	Jafarinejad, Shahryar	Acquisition of a Zeta Potential Analyzer and an Advanced Automated Goniometer/Tensiometer to Enhance the Interdisciplinary Research and Training Capabilities at Tuskegee University	AL	ONR	HBCU	Manufacturing & Materials

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46	Tuskegee University	Khan, Mohammad	Acquisition of Instrumentation to Investigate Wake-Vortex Interactions	AL	AFOSR	HBCU	Hypersonics
47	University of Arizona	Little, Jesse	Pulse-Burst Laser for Highly-Resolved Flow Field Measurements in both Space and Time	AZ	ARO	MSI	Directed Energy
48	University of California-Merced	LiWang, Andy	Upgrade end-of-life cryogenic components of NMR spectrometer	CA	AFOSR	MSI	Microelectronics
49	University of California-Santa Cruz	Paytan, Adina	Eddy Covariance Tower for Assessing Spatial and Temporal Variability in Subsurface Biogeochemical Processes in Coastal Wetlands and their Impacts on Water Quality	CA	ARO	MSI	Emerging Biosciences
50	University of Central Florida	Ahmed, Kareem	Ultra-High-Speed Imaging and Laser Diagnostics for Hypersonics Research	FL	AFOSR	MSI	Hypersonics
51	University of Illinois-Chicago	Klie, Robert	Acquisition of An In-Situ Electro-Chemical Cell for Multi-Modal Research and Education at UIC	IL	ARO	MSI	Microelectronics
52	University of Illinois-Chicago	Mazumder, Sudip	Real-time-simulation and hardware-in-the-loop (RTS-HIL) scalable and flexible software/hardware platform for emerging DOD R&D needs	IL	ONR	MSI	Advanced Computing
53	University of Maryland Eastern Shore	Hsia, Shaochung	Developing a High-throughput Strategy Using the WOLF® Cell Sorter to Analyze Human Dorsal Root Ganglia Neurons Emitting Fluorescence at Different Wavelength for Research and Education	MD	AFOSR	HBCU	Emerging Biosciences
54	University of North Carolina-Pembroke	Bahr, Ben	High-Resolution Microscopy System for Training Under-Represented Minority Scholars	NC	ARO	MSI	Microelectronics
55	University of North Texas	Choi, Wonbong	Self-powered Wireless Sensors and Interfaces for UAVs	TX	AFOSR	MSI	Precision Sensing: Time, Space, Gravity, Electromagnetism
56	University of Puerto Rico-Mayaguez	Rua, Armando	Acquisition of an Excimer Laser System for Quantum Materials Research	PR	ARO	MSI	Novel Engineered Materials
57	University of Puerto Rico-Ponce	Bailon-Ruiz, Sonia	Acquisition of a High-Resolution Accurate Mass QTOF LC-Mass Spectrometer (QTOF LC-MS Project)	PR	ARO	MSI	Manufacturing
58	University of Texas-Arlington	Makeev, Andrew	A 3D Nanostructural Diagnostics System	TX	ONR	MSI	Microelectronics
59	University of Texas-Arlington	Zhou, Weidong	Wafer-Scale Electron-Beam Lithography System For Advanced Nanophotonics Research and Education	TX	AFOSR	MSI	Microelectronics
60	University of Texas-Permian Basin	Beg, Omar	Research and Education in Artificial Intelligence for Control and Cyber-Security of IoT-Based Power Systems	TX	ONR	MSI	Artificial Intelligence & Cyber Security
61	University of Texas-Rio Grande Valley	Mohanty, Soumya	Finding unmodeled signals in noisy big data: An integrated multi-disciplinary approach	TX	AFOSR	MSI	Cyber Security
62	University of Texas-San Antonio	Boppana, Rajendra	A Flexible Testbed for Cyber Deception, Cyber Hardening, and Disinformation Research	TX	ARO	MSI	Cyber Security

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63	University of the District of Columbia	Denis, Max	GPU Accelerated Micro-CT Imaging System for Research and Education	DC	ARO	HBCU	Microelectronics
64	University of the Incarnate Word	Frye, Michael	The Autonomous Vehicle Systems Laboratory SWARM Lab for Human and Autonomous System Collaboration	TX	ONR	MSI	Autonomy & Robotics
65	University of the Virgin Islands	Staff, Jan	Parallel Computing at UVI	VI	ARO	HBCU	Quantum Science (Advanced Computing)
66	Virginia State University	Choi, Wookjin	Acquisition of a GPU-Accelerated Deep-Learning Research Cluster	VA	ONR	HBCU	Advanced Computing
67	Virginia State University	Ghariban, Nasser	Acquisition of Advanced Manufacturing Processing Equipment for Intelligent Manufacturing System	VA	ONR	HBCU	Manufacturing
68	Virginia State University	Haile, Dawit	Acquisition of Metal 3D Printer Equipment for Additive Manufacturing Research	VA	ONR	HBCU	Manufacturing
69	Virginia Union University	Jackson, Karl	Powder X-Ray Diffraction Analysis of Nanoparticle-Doped Metal-Organic Frameworks for Water Purification Applications and Enhanced Undergraduate Research	VA	ARO	HBCU	Microelectronics & Biosciences
70	Xavier University of Louisiana	Abdulahad, Asem	Rheological Characterization of Polymer-Based Materials and Ionic Liquids at Xavier University of Louisiana	LA	ARO	HBCU	Novel Engineered Materials

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