

January 27, 2020 (revised)

The Office of Research and Economic Development is pleased to announce awards received by UNC Charlotte Researchers in the month of December, 2020.

Total amount awarded for the month of December was \$3,115,150

Fiscal Year To Date Total: \$38,587,288

Award Title	Amount	Investigators	PI Dept.	Sponsors
A Virtual Sense of Place: Critical Black Urbanism Digitization Project	\$11,588	Principal Investigator (PI): Schmitz, Dawn	Library Special Collections	Sponsor: Johnson C Smith University Prime Sponsor: National Park Service (NPS)
ACPA Emerging Scholars	\$3,000	Principal Investigator (PI): Miller, Ryan	Educational Leadership	Sponsor: American College Personnel Association (ACPA)
Algorithm Development for Automated Flaw Detection in Remote Visual Examination of Reactor Internals	\$20,743	Principal Investigator (PI): Shin, Min	Computer Science	Sponsor: Electric Power Research Institute (EPRI)
Controlling Nano-Structure Formation by Hydrodynamic Instability	\$95,000	Principal Investigator (PI): Egusa, Shunji	Physics and Optical Science	Sponsor: DOD Department of Army (DA) Army Research Office (ARO)
Development and Evaluation of Three-Phase Q-Sync Technologies	\$319,640	Principal Investigator (PI): Gafford, James Co-PIs: LeClair, Andrew; Shoubaki, Ehab	Energy Production and Infrastructure Center	Sponsor: QM Power, Inc.
Development of Course Materials for Massive Open Online Courses in Foundational Electromagnetics	\$70,000	Principal Investigator (PI): Weldon, Kathryn	Electrical and Computer Engineering	Sponsor: ANSYS, Inc.
Displace, Return, and Reconstruct: Population Movement and Resilience to Instability	\$147,595	Principal Investigator (PI): Walsh, James	Political Science and Public Administration	Sponsor: Department of Defense (DOD)
Disrupting the Interaction Between SARS-CoV-2 Spike Protein and the ACE2 Receptor with PsDef1	\$19,358	Principal Investigator (PI): Nesmelova, Irina	Physics and Optical Science	Sponsor: North Carolina Biotechnology Center (NCBC)

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Energy Sata Analytics	\$180,000	Principal Investigator (PI): Hong, Tao	Systems Engineering and Engineering Management	Sponsor: Duke Energy Corporation
Evaluation of Biochar as a Multi-Beneficial and Cost Effective Soil Amendment	\$229,733	Principal Investigator (PI): Rice-Boayue, Jacelyn Co-PI: Munir, Mariya	Engineering Technology and Construction Management	Sponsor: North Carolina Department of Transportation (NCDOT) Prime Sponsor: US Department of Transportation (DOT)
Excitons and Exciton-Polaritons in Novel Organic-Inorganic Hybrids with Sub-Nano Inorganic Layers	\$32,190	Principal Investigator (PI): Zhang, Yong Co-PI: Schmedake, Thomas	Electrical and Computer Engineering	Sponsor: DOD Department of Army (DA) Army Research Office (ARO)
I-14 Data Collection for Student-Centered Transition Networks	\$50,000	Principal Investigator (PI): Mazzotti, Valerie	Special Education and Child Development	Sponsor: Sam Houston State University Prime Sponsor: US Department of Education (DOED)
Interpersonal Skills: Clarifying a Proliferated Construct Space and Proposing a Theoretical Framework	\$326,000	Principal Investigator (PI): Heggestad, Eric Co-PI: Banks, George	Psychological Science	Sponsor: DOD Department of Army (DA) Army Research Institute
Making/Erasing African Global Religions: Nigeria and Brazil at the Crossroads of Heritage and Intolerance	\$9,760	Principal Investigator (PI): Boaz, Danielle	Africana Studies	Sponsor: University Corporation at Monterey Bay Prime Sponsor: Templeton Religion Trust
Marshall Research Phase V	\$15,000	Principal Investigator (PI): Kamalasadan, Sukumar	Electrical and Computer Engineering	Sponsor: Duke Energy Corporation
Mechanism of APE1 in DNA Damage Response	\$401,326	Principal Investigator (PI): Yan, Shan	Biological Sciences	Sponsor: National Institutes of Health (NIH)

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NCEMC Solar Power and Net Load Forecasting	\$100,000	Principal Investigator (PI): Hong, Tao Co-PI: Hong, Tao	Systems Engineering and Engineering Management	Sponsor: North Carolina Association of Electric Cooperatives (NCAEC)
NCHRP 13-06A [RFP] Guide for the Formulation of Long-Range Plans and Budgets for Replacement of Highway Operations Equipment	\$29,942	Principal Investigator (PI): Fan, Wei	Civil and Environmental Engineering	Sponsor: North Carolina State University (NC State) Office of Research Innovation and Economic Development Prime Sponsor: Federal Highway Administration (FHWA)
Non-Contact Dimensional Inspection - Defect Detection	\$123,600	Principal Investigator (PI): Morse, Edward	Mechanical Engineering and Engineering Science	Sponsor: Honeywell, Inc. Prime Sponsor: Department of Energy (DOE)
Pharmacoengineering Approaches to Enhance the Immune Response to Neoantigens	\$95,101	Principal Investigator (PI): Vivero-Escoto, Juan	Chemistry	Sponsor: University of North Carolina System Office (UNC SysOff)
QM Power - Motor Dynamometer Integration Technical Service	\$1,500	Principal Investigator (PI): Gafford, James	Energy Production and Infrastructure Center	Sponsor: QM Power, Inc.
Radialene Radicals as Tunable Active Species for Flow Batteries	\$35,000	Principal Investigator (PI): Bejger, Christopher	Chemistry	Sponsor: Department of Energy (DOE) Sandia National Laboratories
SBIR: SBIR Phase II: Advanced Nanometer Class CMM	\$214,226.00	Principal Investigator (PI): Evans, Christopher	Mechanical Engineering and Engineering Science	Sponsor: OptiPro Systems Prime Sponsor: National Aeronautics and Space Administration (NASA) Goddard Space Flight Center
SBIR: SBIR Ph II: Testing Confocal Interferometric Probe for optical metrology	\$46,218.00	Principal Investigator (PI): Evans, Christopher	Mechanical Engineering and Engineering Science	Sponsor: OptiPro Systems Prime Sponsor: National Aeronautics and Space Administration (NASA) Goddard Space Flight Center

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Secondary Transition Assessment: Development and Validation of a Student and Teacher College and Career Readiness Measure	\$40,870	Principal Investigator (PI): Mazzotti, Valerie Co-PI:	Special Education and Child Development	Sponsor: University of Connecticut (UCONN) Prime Sponsor: US Department of Education (DOED)
The Data Center	\$62,979	Principal Investigator (PI): Fowler, Catherine Co-PIs: Klare, Matthew	Special Education and Child Development	Sponsor: Westat, Inc. Prime Sponsor: US Department of Education (DOED)
The TIES Center: Increasing Time, Instructional Effectiveness, Engagement, and State Support for Inclusive Practices for Students with Significant Cognitive Disabilities	\$131,842	Principal Investigator (PI): Wakeman, ShawneeCollins, Belva; Flowers, Claudia	Special Education and Child Development	Sponsor: University of Minnesota US Department of Education (DOED)
UNCC Galleries a/v Equipment	\$7,500	Principal Investigator (PI): Justice, Adam	Deans Office College of Arts and Architecture	Sponsor: North Carolina Arts Council