August 30, 2018

The Office of Research and Economic Development is pleased to announce awards received by UNC Charlotte Researchers in the month of July, 2018.

Total amount awarded for the month of July was $4,651,807   *Fiscal Year To Date Total: $4,651,807*

Award Title	Amount	Investigators	PI Dept.	Sponsors
Adding Additional Model Years and Other Model Refinements to the Updated Neuse Estuary Eutrophication Model	$45,000	**Principal Investigator (PI):** Bowen, James	Civil and Environmental Engineering	**Sponsor:** North Carolina State University (NCSU) Water Resources Research Institute (WRRI)
Adding Additional Model Years and Other Model Refinements to the Updated Neuse Estuary Eutrophication Model, Part 2 of 2	$15,000	**Principal Investigator (PI):** Bowen, James	Civil and Environmental Engineering	**Sponsor:** North Carolina State University (NCSU) **Prime Sponsor:** United States Geological Survey (USGS)
APLU IES Completion Grant	$60,000	**Principal Investigator (PI):** McEntire, Tina	Enrollment Management	**Sponsor:** Association of Public and Land-grant Universities (APLU) **Prime Sponsor:** US Department of Education (DOED)
Application of the Digital Twin Model for Repair Processes - Phase 1	$60,000	**Principal Investigator (PI):** Tarbutton, Joshua **Co-PI:** Morse, Edward	Mechanical Engineering and Engineering Science	**Sponsor:** Siemens Corporate Technology
Cabarrus Health Alliance: Healthy Partnerships for Active Living (PALS) 2018-19	$10,000	**Principal Investigator (PI):** Gavarkavich, Diane	Urban Institute	**Sponsor:** Cabarrus Health Alliance
CFD Aided Exhaust System Design	$1,835	**Principal Investigator (PI):** Uddin, Mesbah	Mechanical Engineering and Engineering Science	**Sponsor:** Clean Energy NC, LLC
CFD Analysis and optimization of IC Engine Valvetrains	$48,571	**Principal Investigator (PI):** Uddin, Mesbah	Mechanical Engineering and Engineering Science	**Sponsor:** Vaztec Engine Venture, LLC
Collaborative Research: ABI Development: A User-friendly Tool for Highly Accurate Video Tracking	$472,932	**Principal Investigator (PI):** Shin, Min	Computer Science	**Sponsor:** National Science Foundation (NSF)

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Collaborative Research: IUCRC Center for Configuration Analytics and Automation	$9,400	**Principal Investigator (PI):** Al-Shaer, Ehab **Co-PI:** Chu, Bei-Tseng	Software and Information Systems	**Sponsor:** National Science Foundation (NSF)
Collaborative Research: Proofing A Basic Systems Engineering Model Through Empirically-Based Cognitive Testing	$349,849	**Principal Investigator (PI):** Gero, John	Computer Science	**Sponsor:** National Science Foundation (NSF)
Develop a report on research summary on emerging contaminants in NC	$12,000	**Principal Investigator (PI):** Sun, Mei	Civil and Environmental Engineering	**Sponsor:** University of North Carolina at Chapel Hill (UNC-CH) **Prime Sponsor:** North Carolina Policy Collaboratory
Developing knowledge models to enable rapid learning in radiation therapy	$214,862	**Principal Investigator (PI):** Ge, Yaorong	Software and Information Systems	**Sponsor:** Duke University Health System **Prime Sponsor:** National Institutes of Health (NIH)
EAGER: An Interactive Learning Analytics Framework based on a Novel Student Sequence Model for understanding students, retention, and time to graduation	$298,486	**Principal Investigator (PI):** Maher, Mary **Co-PIs:** Dorodchi, Mohsen; Dou, Wenwen; Niu, Xi	Software and Information Systems	**Sponsor:** National Science Foundation (NSF)
High-Performance Treatment of PFAS from Investigation-derived Waste: Integrating Advanced Oxidation-Reduction and Membrane Concentration	$66,662	**Principal Investigator (PI):** Sun, Mei	Civil and Environmental Engineering	**Sponsor:** University of California at Riverside (UCR) **Prime Sponsor:** Department of Defense (DOD) Strategic Environmental Research and Development Program (SERDP)
Integration of Ocean Wave Energy Arrays with the needs of North Carolina Coastal Societies	$5,000	**Principal Investigator (PI):** Goudarzi, Navid	Engineering Technology and Construction Management	**Sponsor:** North Carolina State University (NCSU) North Carolina Sea Grant
IPA- Program Manager for the Advances in Biological Informatics Program in the BIO Division of the National Science Foundation.	$167,332	**Principal Investigator (PI):** Weller, Jennifer	Bioinformatics and Genomics	**Sponsor:** National Science Foundation (NSF)

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IUSE/PFE:RED: The Connected Learner: Design Patterns for Transforming Computing and Informatics Education	$250,689	**Principal Investigator (PI):** Maher, Mary **Co-PIs:** Latulipe, Celine; Frevert, Tonya	Software and Information Systems	**Sponsor:** National Science Foundation (NSF)
Linking Integrated Genome Browser and CyVerse	$224,613	**Principal Investigator (PI):** Loraine, Ann	Bioinformatics and Genomics	**Sponsor:** National Institutes of Health (NIH)
Mechanical Testing of 115 kV T-Pylon Post Insulator Assembly	$33,998	**Principal Investigator (PI):** Young, David	Civil and Environmental Engineering	**Sponsor:** Electric Power Research Institute (EPRI)
Mecklenburg County Bar Diversity Report 2018	$5,000	**Principal Investigator (PI):** Simmons, Laura	Urban Institute	**Sponsor:** Mecklenburg County Bar
Multi-dimensional mechanistic modeling of Jordan Lake, North Carolina	$359,596	**Principal Investigator (PI):** Bowen, James	Civil and Environmental Engineering	**Sponsor:** North Carolina Policy Collaboratory
Near-Zero Power Integrated Circuits	$15,792	**Principal Investigator (PI):** Holleman, Jeremy	Electrical and Computer Engineering	**Sponsor:** University of Tennessee at Knoxville (UTK) **Prime Sponsor:** Department of Defense (DOD) Defense Advanced Research Projects Agency (DARPA)
NSF Center for Metamaterials Phase II	$45,000	**Principal Investigator (PI):** Aggarwal, Ishwar **Co-PI:** Hofmann, Tino	Physics and Optical Science	**Sponsor:** National Science Foundation (NSF)
NSF Center for Metamaterials Phase II	$100,000	**Principal Investigator (PI):** Aggarwal, Ishwar **Co-PIs:** Adams, Ryan; Hofmann, Tino	Physics and Optical Science	**Sponsor:** National Science Foundation (NSF)

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Optical Properties of Retroreflections (OPRA)	$30,000	**Principal Investigator (PI):** Boreman, Glenn	Physics and Optical Science	**Sponsor:** Minority Serving Institutions Science, Technology, Engineering and Mathematics Research and Development Consortium (MSI STEM) **Prime Sponsor:** Department of Defense (DOD) Department of the Army (DA) Edgewood Chemical Biological Center (ECBC)
Promoting Self-Determination for Youth with Disabilities: A Goal-Setting Challenge App	$152,815	**Principal Investigator (PI):** Mazzotti, Valerie	Special Education and Child Development	**Sponsor:** University of Kansas **Prime Sponsor:** US Department of Education (DOED)
Protein Markers to Islet Autoimmunity and Type 1 Diabetes Progression	$26,547	**Principal Investigator (PI):** Sha, Wei	Bioinformatics and Genomics	**Sponsor:** University of North Carolina at Greensboro (UNCG) **Prime Sponsor:** National Institutes of Health (NIH)
Public Service Fellowship with Centralina Council of Governments	$11,257	**Principal Investigator (PI):** Barth, Thomas	Political Science and Public Administration	**Sponsor:** Centralina Council of Governments
Quantifying the Library's Value: Aligning Library, Institutional, and Student Success Data	$2,569	**Principal Investigator (PI):** Croxton, Rebecca	Library	**Sponsor:** American Library Association (ALA)
Rail Transit, Residential Mobility and Income Segregation	$181,998	**Principal Investigator (PI):** Delmelle, Elizabeth **Co-PIs:** Nilsson, Isabelle; Schuch, Johanna	Geography and Earth Sciences	**Sponsor:** National Science Foundation (NSF)
Reliability Study of Select GaN Power Semiconductor Devices	$50,000	**Principal Investigator (PI):** Parkhideh, Babak	Electrical and Computer Engineering	**Sponsor:** Google
Structural studies of the Sleeping Beauty transposon	$439,168	**Principal Investigator (PI):** Nesmelova, Irina	Physics and Optical Science	**Sponsor:** National Institutes of Health (NIH)

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Teacher Education for Equitable Mathematics Instruction: An Exploratory Study of Noyce Program Impacts	$15,553	**Principal Investigator (PI):** Fernandes, Anthony	Mathematics and Statistics	**Sponsor:** University of Arizona **Prime Sponsor:** National Science Foundation (NSF)
The Evolution and Reprogramming of DNA Replication Fidelity	$670,211	**Principal Investigator (PI):** Sung, Shian	Bioinformatics and Genomics	**Sponsor:** National Science Foundation (NSF)
VDOT Statewide Maintenance Consultant and Augmentation	$100,072	**Principal Investigator (PI):** Shoghli, Omidreza **Co-PI:** Tabkhivayghan, Hamed	Engineering Technology and Construction Management	**Sponsor:** Leidos Holdings, Inc. **Prime Sponsor:** Virginia Department of Transportation
Volunteer Workforce Solutions for North Carolina Phase I	$100,000	**Principal Investigator (PI):** Kimble, Jeffrey	Engineering Technology and Construction Management	**Sponsor:** International Association of Fire Chiefs (IAFC) **Prime Sponsor:** Federal Emergency Management Agency (FEMA)