



UNC GREENSBORO

Board of Trustees

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Academic Affairs Committee
March 22, 2022, 1:45pm

Information Item

AAC – 4 **Update on Research and Engagement (Shelton)**

Background Information

The Office of Research and Engagement provides support and strategic direction to faculty, staff and students for research and creative endeavors resulting in scholarship, innovation, community and economic engagement leading to knowledge, student, and regional transformation.

External Funding and Trends

External funding of scholarly activities continues to be strong. While awards are down relative to this time last year, we are well ahead of FY 20. The dollar amount requested is up. We continue to focus on identifying opportunities for external funding to support UNCG’s scholarship as well as strategies for enhancing the quality of those proposals.

	7-1-21 to 1-31-22		7-1-20 to 1-31-21	
SUBMISSIONS	Number	Amount	Number	Amount
	270	\$ 100,785,886	305	\$ 95,344,038
AWARDS	Number	Amount	Number	Amount
	207	\$ 33,910,176	195	\$ 35,247,289

2022 Research Excellence Awards

Professor Ratnasingham Shivaji, the H. Barton Excellence Professor in Mathematics, was selected as the **Senior Research Excellence Award**. Dr. Shivaji is an internationally known authority for his scholarship on partial differential equations. These equations allow scientists to develop models that allow predictions about factors such as temperature and population with application to combustion theory, chemical reactor theory, and population dynamics among others. With over 2000 citations in the database of the American Mathematical Society, 170 peer-reviewed publications in the world’s leading science and technology journal, he also is the recipient of multiple grants from the National Science Foundation and the Simons Foundation.

Shivaji is also an outstanding teacher and mentor. He has served as co-PI on two NSF Research Experience for Undergraduates grants and in 2020, he received the Distinguished Teaching Award from the Mathematical Association of America.

Dr. Hemali Rathnayake, Associate Professor of Nanoscience, was selected as the **Junior Research Excellence Award**. Dr. Rathnayake is recognized for her interdisciplinary research on the design and synthesis of organic, organic-inorganic hybrid, and polymeric nanomaterials for energy harvesting, conversion, and storage, combining chemistry and nanoscience. Most recently Dr. Rathnayake has worked in collaboration with UNCG alumna and her former graduate student Dr. Sheeba Dawood on filter technology to recover lithium – a vital material for the manufacture of batteries – from fracking wastewater. The invention has spurred a UNCG spin-off company, Minerva Lithium. She publishes in leading journals; has been granted 2 international patents and filed 1 provisional patent; and has been funded by the Department of Defense’s Army Research Office, the USDA National Institute of Food and Agriculture, the National Science Foundation I-Corps regional and national programs, and the NSF Small Business Innovation Research program. In addition to mentoring graduate students, Rathnayake also serves as a mentor for UNCG Middle College students.

Building Infrastructure

Cutting edge equipment is key to a vibrant research enterprise. An interdisciplinary team composed of **Dr. Bob Anemone, Professor of Anthropology, Dr. Bryan McLean, Assistant Professor of Biology, and Dr. Sherine Obare, Dean of the Joint School of Nanoscience and Nanoengineering** received a \$642,892.00 major research instrumentation NSF grant entitled “Acquisition of Micro-computed Tomography and 3D Imaging Infrastructure for Interdisciplinary STEM Research in North Carolina.” The micro CT scanner will provide high-resolution imagery that will catalyze new STEM research and training across the earth sciences, life sciences, and engineering, not only at UNCG but also the Triad, western NC, and southwestern Virginia.

Other Campus Highlights

Dr. Aaron Allen, Associate Professor of Musicology and director of the Environmental and Sustainability Studies Program and Dr. Karen Kilcup, Professor of English received a prestigious grant from the National Endowment for the Humanities. Entitled “Watersheds for Place-Based, Experiential Education”, this grant will fund the development of an environmental humanities curriculum based on the Cape Fear River Watershed.



Debbie Storrs
Provost & Executive Vice Chancellor