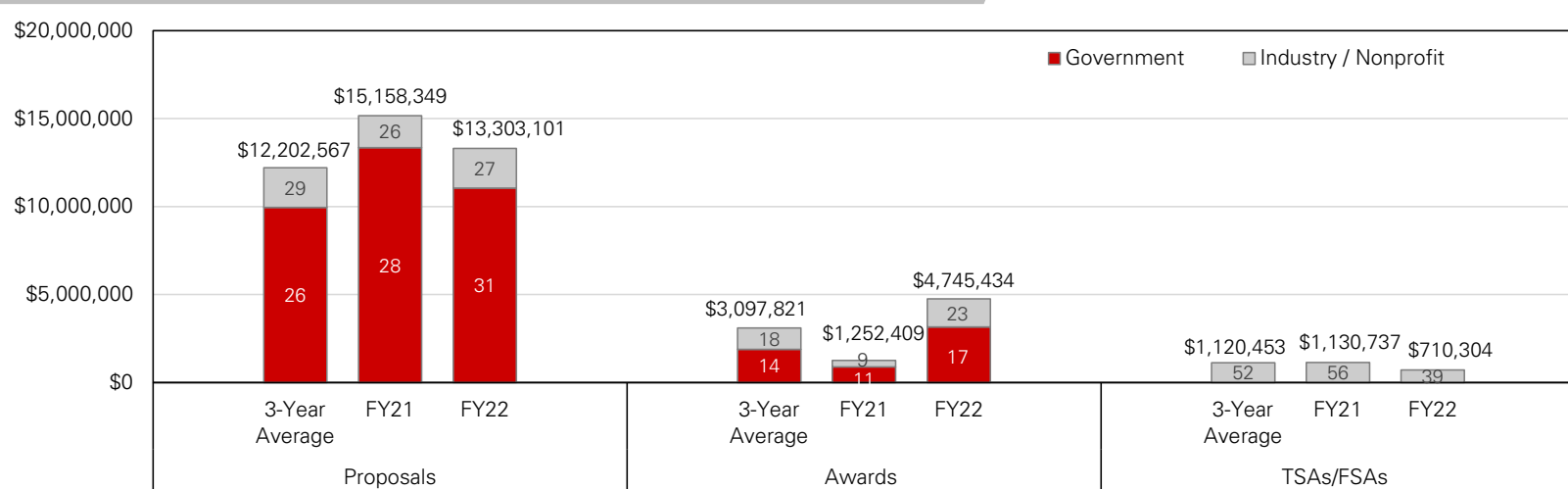


The research programs in the Wilson College of Textiles at NC State University are innovative, life-saving, creative, global and thriving. The college also provides tech service to all stakeholders and supports the economic development of the State and beyond. This newsletter gives a brief overview on the research and tech service activities of the faculty, staff and students during the second quarter of Fiscal Year 2022.

## FY22 vs. FY21 vs. Three-Year Average (Q1 + Q2)

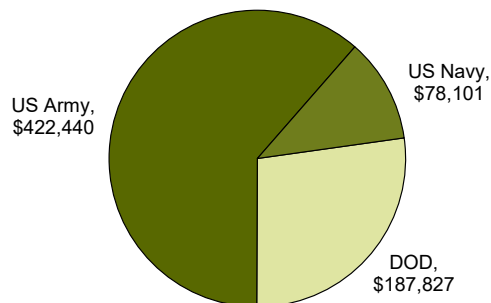


## NUMBERS TO DATE (FY22 Q2)

### Research Awards Received (\$2,012,191)

- Federal: \$688,368 | DOD, US Army, US Navy
- Industry/Nonprofit: \$1,323,823 | Burroughs Wellcome Fund, Eastman Chemical Company, Cotton Inc., Duke University, Faculty Research & Professional Development Fund, Kaneka America's Holding, Nike, Non-laboratory Scholarship/Research Support Program, SCEYE

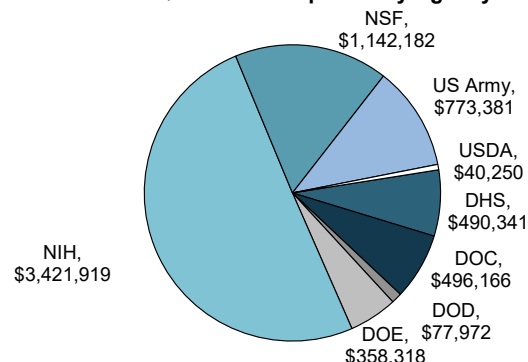
FY22 Q2 Federal Awards by Agency



### Research Proposals Submitted (\$8,263,719)

- Federal: \$6,800,529 | DHS, DOC, DOD, DOE, NIH, NSF, US Army, USDA
- Industry/Nonprofit: \$1,463,190 | 3DLOOK, Aja Labs, Cotton Inc., Duke University, Hong Kong Research Institute of Textiles and Apparel, Johnson & Johnson, Kaneka America's Holding, Nike, Non-laboratory Scholarship/Research Support Program, R5 Labs, Research and Innovation Seed Fund, Samsung Advanced Institute of Technology, SCEYE

FY22 Q2 Federal Proposals by Agency



## NUMBERS TO DATE (FY22 Q2) Cont.

### Inter-college Research Proposals (10)

- Wilson College share: \$1,734,418
- With CALS, CED, CHASS, CNR, COE, COS, ORI

### Inter-college Research Awards (5)

- Wilson College share: \$368,124
- With CHASS, COE, COS, ORI, The Friday Institute

### Inter-department/unit Research Proposals (3) \$2,084,168

### Inter-department/unit Research Awards (2) \$308,634

### Graduate Student Support

- 66 Ph.D. Student RAs (Avg Stipend: \$18,341 / year)
- 17 M.S. Student RAs (Avg Stipend: \$14,328 / year)

## RESEARCH AWARDS ABOVE \$50,000 (FY22 Q2)

1. Ahmed El-Shafei, Harold Freeman, Eastman Chemical Company, \$581,805.
2. Abdelfattah Seyam, SCEYE, Inc., \$259,527.
3. Minyoung Suh, Kavita Mathur, Rong Yin, Advanced Functional Fabrics of America (AFFOA) (US Army), \$222,533.
4. Minyoung Suh, James Dieffenderfer, Advanced Functional Fabrics of America (AFFOA) (US Army), \$199,907.
5. Delisha Hinton, Braska Williams, Burroughs Wellcome Fund, \$154,867.
6. Renzo Shamey, Nike, Inc., \$150,012.
7. Rong Yin, Andre West, Technology Holding, LLC (US Navy), \$78,101.
8. Andre West, Bear Fiber (US Dept. of Defense), \$68,054.
9. Abdelfattah Seyam, SCEYE, Inc., \$63,840.
10. Kavita Mathur, TDA Research, Inc. (US Dept. of Defense), \$60,000.
11. Karen Leonas, Andre West, IDA Fiber Studio (US Dept. of Defense), \$59,773.

## RESEARCH HIGHLIGHTS

**Make the circular economy happen** by converting waste textiles to valuable recyclable fibers and renewable fuel. Around 11 million tons of post-consumer textile waste (PCTW) are disposed of in U.S. landfills annually. This waste contains complex blends of natural and synthetic fibers that are difficult to mechanically separate, as well as dyes and other chemicals that interfere with reuse. By using mild enzymatic and microbial methods, Professors Sonja Salmon and Nelson Vinueza (Textiles) and Doug Call (Environmental Engineering) are collaborating to divert PCTW from landfills by recovering cleaned non-degraded synthetic fibers from pumpable slurries of degraded natural fibers that can then be converted to biofuel by anaerobic digestion, while tracking the fate of chemical residuals.



**The North Carolina Defense Manufacturing Community Support Program (NC DMCSPP)** is an innovative and resilient defense industrial ecosystem for smart textiles in NC. Funded by the Office of Local Defense Community Cooperation, Professor Andre West and his team collaborated with Industrial Extension Service to establish NC DMCSPP to help small and medium-sized manufacturers become aware of, and explore the use of new technologies in their manufacturing processes. Such a digital transformation not only increases visibility and transparency in supply chains but also increases worker safety through semi or fully autonomous work cells, increases remote access to machines and monitoring systems, and expedites prototypes and testing of new designs or materials. The NC DMCSPP Consortium currently consists of 18 partners that comprise five partnership organizations aligned to stated goals.