

2020-21 Undergraduate Research Faculty Grant Awardees

In Spring 2021, five projects were funded as part of a scaled down Undergraduate Research Faculty grant program specifically aimed at facilitating the development or support of novel programs to scale undergraduate research for VT students through virtual/remote means. Grantees were selected based on the programs' anticipated scaling of and access to authentic research experiences, program sustainability, and the incorporation of remote or virtual research methods or modality:

1. **Pablo Sobrado, PhD (Biochemistry)** - \$3,500 to pilot a new program entitled "Enzyme Engineering" to train students in several aspects of protein engineering and working as part of a research group.
2. **Rosanna Breaux, PhD, Thomas Ollendick, PhD, and Tyler McFayden, PhD (Psychology)** - \$3,300 to support the project entitled "Training the Next Generation: An Undergraduate Research Opportunity for Future Clinicians", to develop training videos and scoring syntax to support undergraduate students completing research training to conduct behavioral observation coding and obtain research reliability for a commonly used diagnostic interview.
3. **Gillian Eastwood, PhD and Alexandra Cumbie, PhD (Entomology)** - \$3,500 to pilot a remote research project entitled "Spring Tick Species Diversity and Prevalence", in which undergraduates engage in fieldwork to collect specimens in their local area, submit ticks to the lab for pathogen testing, shadow lab techniques virtually and conduct data analysis.
4. **Christopher Arena, PhD and Andre Muelenaer, MD (Biomedical Engineering and Mechanics)** - \$3,500 to establish a collaboration between Biomedical Engineering and Mechanics (BEAM) at Virginia Tech and Carilion Innovations - Carilion Clinic's hub for discoveries targeted at improving patient care. Engineering students would work alongside healthcare professionals to support the development of new technologies in the early stages of conceptualization. Project title: "Virginia Tech - Carilion Innovation Internship".
5. **Andrew Lowell, PhD (Chemistry) and Anne M. Brown, PhD (Biochemistry)** - \$3,500 to increase undergraduate research opportunities through collaboration between in-person and remote/virtual research teams. By establishing options for computational researchers to gain wet lab experience and vice-versa in the life and physical sciences, we can strengthen interdisciplinary training and enhance opportunities for the next generation of researchers. Project title: "Integrating Computational and Wet-Lab Research Techniques into a Comprehensive, Flexible Research Training Environment."

Special mention

Cindy Smith, PhD (Human Development): "Understanding parent-child interaction through virtual data collection and remote coding"

Benjamin Chambers, PhD (Engineering Education): "Developing a program for early academic career research opportunities in engineering using Minecraft"

The operational period for the grants was April through June, 2021.