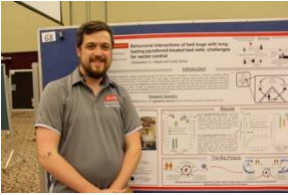
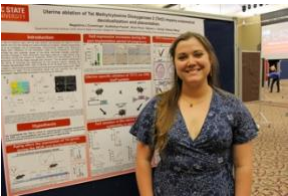
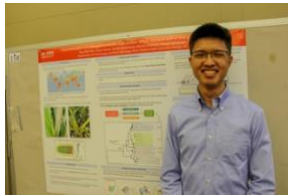
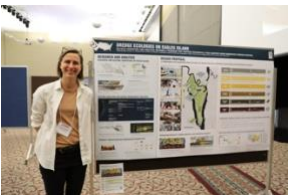



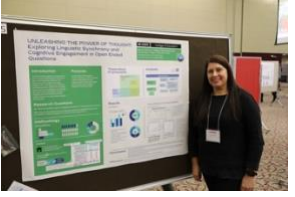
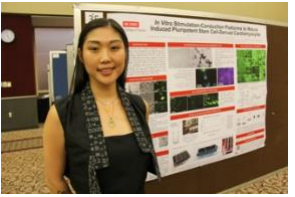
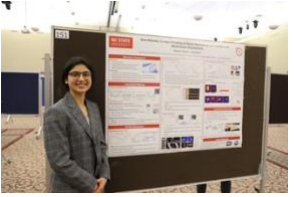
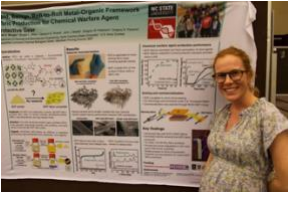


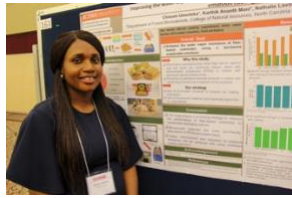
Sixteenth Annual Graduate Student Research Symposium

Congratulations to the winners of the Sixteenth Annual Graduate Student Research Symposium! Each year, the Symposium showcases the outstanding quality and diversity of graduate-level research at NC State. The Symposium was held on April 5, 2023 at the McKimmon Center. First-, second-, and third-place winners have been announced in nine categories.

AGRICULTURAL SCIENCES	
	<p>1st Place: Christopher Hayes - Entomology</p> <p><u>Behavioral interactions of bed bugs with long-lasting pyrethroid-treated bed nets: challenges for vector control</u></p>
	<p>2nd Place: Magdalena Cummings - Animal Science</p> <p><u>Uterine ablation of Tet Methylcytosine Dioxygenase 2 (Tet2) impairs endometrial decidualization and placentation</u></p>
	<p>3rd Place: Hao Wei Teh - Plant Pathology</p> <p><u>Deciphering the role of a novel planthopper anti-microbial peptide in its interaction with a plant rhabdovirus</u></p>
DESIGN	
	<p>1st Place: Marybeth Campeau - Landscape Architecture and Environmental Planning</p> <p><u>Dredge Ecologies: Climate-Adaptive Strategies for a Changing Island in a Changing Climate</u></p>
	<p>2nd Place: Daniel Garrett - Advanced Architectural Studies</p> <p><u>Addressing Veteran Homelessness to Combat Veteran Suicide</u></p>

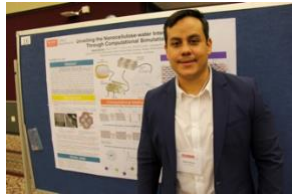
	<p>3rd Place: Keagan Vargo - Industrial Design</p> <p>Safe and Efficient Excavation Operations</p>
<p>EDUCATION</p>	
	<p>1st Place: Joey Marion - Learning and Teaching in STEM</p> <p>Development and Validation of the Relatedness and Autonomy Scale for Human Anatomy and Physiology Students</p>
	<p>2nd Place: Danielle Scharen - Teacher Education and Learning Sciences</p> <p>Examining Elementary Pre-service Teachers' Use of the Touch-Talk-Text Science Instructional Model: An Exploratory Case Study Analysis</p>
	<p>3rd Place: Jeanne McClure - Learning, Design and Technology</p> <p>Linking Cognitive Engagement to Deep Learning through Linguistic Synchrony in Open Ended Questions</p>
<p>ENGINEERING</p>	
	<p>1st Place: Suh Hee Cook - Textile Engineering, Chemistry, and Science</p> <p>In Vitro Stimulation-Conduction Platforms to Mature Induced Pluripotent Stem Cell-Derived Cardiomyocytes</p>
	<p>2nd Place: Darpan Shukla - Mechanical Engineering</p> <p>Eco-friendly Screen Printing of Silver Nanowires for Flexible and Stretchable Electronics</p>
	<p>3rd Place: Sarah Morgan - Chemical and Biomolecular Engineering</p> <p>Rapid, Benign, Roll-to-Roll Metal-Organic Framework Fabric Production for Chemical Warfare Agent Protective Gear</p>

ENVIRONMENTAL SCIENCES



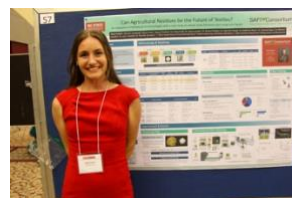
1st Place: Chisom Umeileka - Forest Biomaterials

[Improving the water vapor barrier properties of paperboard using bio-based polymer emulsion coating](#)



2nd Place: Nelson Barrios - Forest Biomaterials

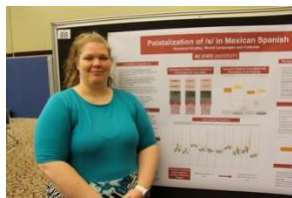
[Unveiling the Nanocellulose-Water Interactions Through Computational Simulations](#)



3rd Place: Ryen Frazier - Forest Biomaterials

[Can Agricultural Residues be the Future of Textiles? A case study on wheat straw filament spinning by ionic liquids](#)

HUMANITIES



1st Place: Savanna Kindley - Hispanic Linguistics

[Palatalization of /s/ in Mexican and Central American Spanish](#)



2nd Place: Ellen Atterbury - World Languages and Cultures

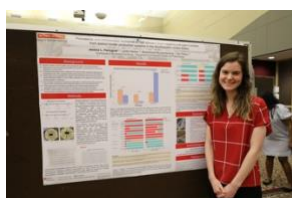
[El recuerdo y el olvido: Una recreación del pasado desde la perspectiva de la mujer en Voyager \(2019\) de Nona Fernández](#)



3rd Place: Shima Hosseininasab - Public History

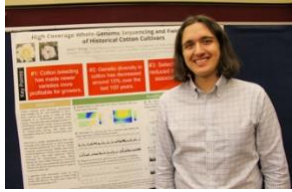
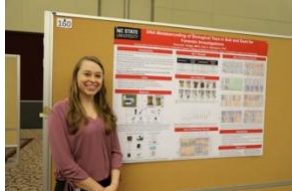
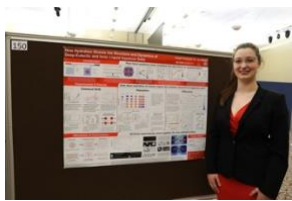
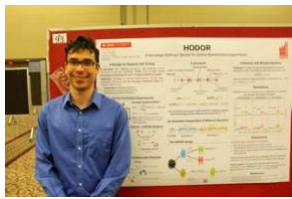
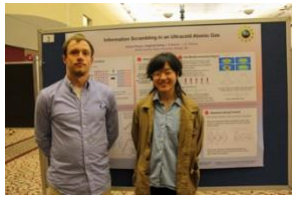
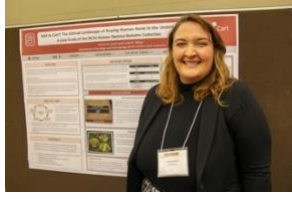

[The Story of Two Breaches \(and a Beheaded Bust\): \(Re\)shaping Public Memory by Radical Interventions in Monuments](#)

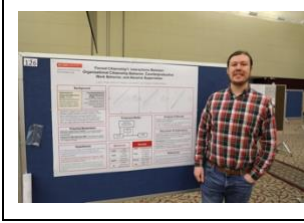
LIFE SCIENCES



1st Place: Jessica Parzygnat - Comparative Biomedical Sciences

[Prevalence and antimicrobial resistance of high concern Gram-negative pathogens isolated from distinct broiler production systems in the Southeastern United States](#)

	<p>2nd Place: Grant Billings - Bioinformatics</p> <p>High Coverage Whole-Genome Sequencing and Field Evaluation of Historical Cotton Cultivars</p>
	<p>3rd Place: Teresa Tiedge - Comparative Biomedical Sciences</p> <p>DNA Metabarcoding of Biological Taxa in Soil and Dust for Forensic Investigations</p>
<p>MATHEMATICAL AND PHYSICAL SCIENCES</p>	
	<p>1st Place: Angela Shipman - Chemistry</p> <p>How Hydration Directs the Structure and Dynamics of Deep-Eutectic and Ionic Liquid Aqueous Salts</p>
	<p>2nd Place: Nicholas Larsen - Statistics</p> <p>HODOR: A two-stage hold-out design for online randomized experiments on networks</p>
	<p>3rd Place: Jingjing Huang and Camen Royse - Physics</p> <p>Information Scrambling in an Ultracold Atomic Gas</p>
<p>SOCIAL SCIENCES AND MANAGEMENT</p>	
	<p>1st Place: Jenna Scott - Anthropology</p> <p>Add to Cart? The Ethical Landscape of Buying Bone in the United States: A Case Study of the NCSU Human Skeletal Remains Collection</p>
	<p>2nd Place: Aidan Paul - Anthropology</p> <p>An Archaeological History of Forbush Creek and the Piedmont Village Tradition-Mississippian Frontier</p>



3rd Place: Luke Priest - Industrial and Organizational Psychology

[Forced Citizenship? Interactions Between Organizational Citizenship Behaviors, Counterproductive Work Behaviors, and Abusive Supervision](#)