Fifteenth Annual Graduate Student Research Symposium

Congratulations to the winners of the Fifteenth 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 6, 2022 at the McKimmon Center. First-, second-, and third-place winners have been announced in nine categories.

<table>
<thead>
<tr>
<th><strong>AGRICULTURAL SCIENCES</strong></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Place: Bhavana Uppili - Food Science</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Characterizing the Quality of Fresh and Processed Peppers by their Aroma, Flavor, and Texture</strong></td>
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<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Place: Cassondra Newman - Crop Science</td>
<td><strong>The Generation and Analysis of Genomics Information Forms the Foundation for Efficient Virginia-Type Peanut Cultivar Development</strong></td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Place: Camilo Parada Rojas - Plant Pathology</td>
<td><strong>Advancing our knowledge of sweetpotato disease resistance: one NLRome at a time</strong></td>
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<thead>
<tr>
<th><strong>DESIGN</strong></th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Place: Abby Scheer - Industrial Design</th>
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<tbody>
<tr>
<td></td>
<td>Cancer and Dyspareunia: Decreasing Pain with Intercourse for Women</td>
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<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Place: Rebecca Asser - Landscape Architecture</td>
<td><strong>Maxton/Hayes Pond: Reimagining a Historically and Ecologically Significant Site</strong></td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Place: Lauren Burnham - Graphic Design</td>
<td><strong>Thinking Statistically: Enhancing Statistical Learning through Mixed Reality Informal Experiences</strong></td>
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### EDUCATION

<table>
<thead>
<tr>
<th>Place</th>
<th>Name</th>
<th>Field</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>1st</td>
<td>Gary Wright</td>
<td>Science Education</td>
<td>Exploring Changes in Pre-Service Science Teachers’ Attitudes and Beliefs About Gender and Sexual Diversity-Inclusive Science Teaching</td>
</tr>
<tr>
<td>2nd</td>
<td>Savannah Currens</td>
<td>Agricultural Education</td>
<td>Does Teacher Professional Development in a Field Yield Increased Majors?</td>
</tr>
<tr>
<td>3rd</td>
<td>Grace Carroll</td>
<td>Science Education</td>
<td>Development and Initial Validation of the Knowledge of Models and Modeling in Science Teaching (KMM-ST) Survey</td>
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### ENGINEERING

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<thead>
<tr>
<th>Place</th>
<th>Name</th>
<th>Field</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>1st</td>
<td>James Reed</td>
<td>Mechanical Engineering</td>
<td>Iterative Learning-Based Flight Pattern Optimization for an Energy-Harvesting Kite</td>
</tr>
<tr>
<td>2nd</td>
<td>Jishnudeep Kar</td>
<td>Electrical Engineering</td>
<td>An Integrated Generative Adversarial Network for Identification and Mitigation of Cyber-Attacks in Wide-Area Control</td>
</tr>
<tr>
<td>3rd</td>
<td>Noah Rubin</td>
<td>Biomedical Engineering</td>
<td>Extending the Applicability of Motor Unit Decomposition of Surface Electromyography</td>
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### ENVIRONMENTAL SCIENCES

<table>
<thead>
<tr>
<th>Place</th>
<th>Name</th>
<th>Field</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>1st</td>
<td>Erica Rieder</td>
<td>Fisheries, Wildlife, and Conservation Biology</td>
<td>Using Participatory System Dynamics Modeling to Address Complex Conservation Challenges: Tiger Farming as a Case Study</td>
</tr>
<tr>
<td>Category</td>
<td>First Place</td>
<td>Second Place</td>
<td>Third Place</td>
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<tr>
<td><strong>HUMANITIES</strong></td>
<td><strong>1st Place: Matthew Champagne</strong> - Public History</td>
<td><strong>2nd Place: Stevi Vaughn</strong> - Foreign Languages and Literatures</td>
<td><strong>3rd Place: Sloan Hammer</strong> - Technical Communication</td>
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<tr>
<td><strong>LIFE SCIENCES</strong></td>
<td><strong>1st Place: Arvind Subramaniam</strong> - Physiology</td>
<td><strong>2nd Place: Ankita Gupta</strong> - Comparative Biomedical Sciences</td>
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<tr>
<td></td>
<td>“So, Tell Me How You Really Feel” – Utilizing mHealth Technology and Complex Symptom Networks to Better Understand the Disease Experience of People Living with Chronic Illnesses</td>
<td>Artemin/GFRα3 signaling axis is involved in the functional plasticity of sensory neurons in osteoarthritis pain</td>
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<tr>
<td>Place</td>
<td>Name</td>
<td>Discipline</td>
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<tr>
<td>3rd</td>
<td>Darien Campisi</td>
<td>Physiology</td>
<td>Altered Stability in ALS Mutant Cytoskeletal Proteins in the Presence of Aggregation-Prone TDP-43</td>
</tr>
<tr>
<td>1st</td>
<td>Melike Biliroglu</td>
<td>Physics</td>
<td>Room Temperature Superfluorescence</td>
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<tr>
<td>2nd</td>
<td>Hannah Dewey</td>
<td>Fiber and Polymer Science</td>
<td>Development of Optical Nanosensors for the Detection of Quaternary Ammonium Compound Disinfectants</td>
</tr>
<tr>
<td>3rd</td>
<td>Hailey Young</td>
<td>Chemistry</td>
<td>Chemoselective Functionalization of N-Arylglycinyl Peptides with Boronic Acid Derivatives on Solid Support</td>
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<td></td>
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<td><strong>MATHEMATICAL AND PHYSICAL SCIENCES</strong></td>
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<td><strong>SOCIAL SCIENCES AND MANAGEMENT</strong></td>
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<tr>
<td>1st</td>
<td>Ciele Rosenberg</td>
<td>Anthropology</td>
<td>Fluctuating Asymmetry &amp; The Embodiment of Maternal Stress at Newton Plantation, Barbados</td>
</tr>
<tr>
<td>2nd</td>
<td>Megan Flannery</td>
<td>Communication, Rhetoric and Digital Media</td>
<td>Faces of an Anti-Sexual Violence Organization: A Visual Content Analysis</td>
</tr>
<tr>
<td>3rd</td>
<td>Christopher Boyer and Danielle Smith</td>
<td>Parks, Recreation and Tourism Management</td>
<td>Let’s Talk Mental Health: Perceptions of ACC Sport Psychologists and Athletic Trainers on Mental Health Strategies for Student-Athletes</td>
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