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ABOUT CAPTURE 180

The Capture 180 Research Challenge tasks undergraduates to describe their work in 2-3 minutes, using one static slide or prop. It is based on the popular 3MT® competition for graduate students.

JUDGING & PRIZES

Capture 180 judges are students, community partners, and leaders within various ECU units. They are charged to use the judging criteria of:

- Impact, Comprehension, and Content
- Audience Engagement
- Communication

The challenge is divided into two rounds, a preliminary round with two groups carrying out their presentations in parallel, and a final round. The field is reduced in half after the preliminary round. The final round is composed of presenters who have advanced from the preliminary round. Presenters who do not advance to the final round are cordially invited to attend the final round. In the final round, the presenter who ranks first according to the judges will be the Overall Champion. The audience will have an opportunity to complete an online survey with the same criteria. The presenter who ranks first according to the audience's rating will be the People's Choice Winner. Both winners are announced afterwards and receive paperweight awards. Winners and their mentors will be invited to attend the RCAW Awards Luncheon and Ceremony.

ADA Accommodation: 252-737-1018 or ada-coordinator@ecu.edu

ECU

CAPTURE
180 RESEARCH CHALLENGE

Main Campus Student Center
April 3rd, 2025 | 2:00 PM - 4:30 PM

EVENT ITINERARY

Preliminary Round

1:45 PM – 2:00 PM	Check-In Group A MCSC 249 Group B MCSC 253
2:00 PM – 2:45 PM	Presentations
2:45 PM – 3:00 PM	Judge Deliberations Final Round Presenters Announced

Final Round MCSC 200

3:15 PM – 3:30 PM	Check-In and Introduction
3:30 PM – 4:15 PM	Final Round Presentations
4:15 PM – 4:30 PM	Judge & Audience Deliberations Winners Announced

ACKNOWLEDGEMENTS

Final Round Judges

Alejandra Valle Garcia
Admissions Counselor
Undergraduate Admissions

Jamie Bloss
Library Associate Professor
Laupus Health Sciences Library

Kathy Cox
Associate Dean
ECU Graduate School

Preliminary Round Judges

Ketan Chamakura
Dhanushi Dedakia
Thanh Nguyen
Jungyeon Park

Preliminary Round Moderators

Maelee Becton
Giulianna Catalano

Video and Onsite Assistance

Douglas S. Bell, Jr

Group A
PRELIMINARY PRESENTATIONS
MCSC 249 1:45 PM -3:00 PM

Moderator: Maelee Becton

1. Investigating the Role of the Nucleocytoplasmic Protein Tnpo-SR in the Germline Stem Cells of Drosophila Melanogaster
The Uber of the Cell: How Tnpo-SR Drives Drosophila Germline Stem Cell Destiny
Lovens Paul (Biochemistry)
Elizabeth T. Ables (Mentor)

2. Altered Cell Signaling in an Aged Model of Heart Failure with Preserved Ejection Fraction
Aging is Not Optional: Characterizing a Model of HFpEF with Aging in Mind
Caitlyn Mooers (Biology)
Bobbie Garvin (Mentor)

3. Voice-Based Mood Detection for Emotionally Appropriate AI Responses
Creating Conversational Systems That Read the Room, Not Just the Words
Weston Nelson (Computer Science)
Nic Herndon (Mentor)

4. Examining Southwest Airline's Paradoxical Communicative Response to the December 2022-2023 Crisis
Weathering the Storm: The Impact of Southwest's Paradoxical Crisis Communication
Ilaria Noonan (Communication)
Drew T. Ashby-King (Mentor)

5. AI-Powered Chatbot for Automated Essay Review: Enhancing Writing Feedback and Revision
Smart Feedback, Stronger Writing: AI-Powered Essay Review
Stephanie Sarambo (Computer Science)
Nic Herndon (Mentor)

6. Investigating the Role of Tuberous Sclerosis Complex in Synapse Formation
When Crafting Synapses You Better Bee on the Lookout for Genetic Mutations as it Tends to Get Complex
Robin Thomas (Biology, Molecular/Cell Biology)
Karen Litwa (Mentor)

7. Navigating the Pitch: Path Planning and Computer Vision for Soccer Robots
Where Technology Meets the Pitch
Darby Waters (Computer Science)
Nic Herndon (Mentor)

Group B
PRELIMINARY PRESENTATIONS
MCSC 253 1:45 PM - 3:00 PM

Moderator: Giulianna Catalano

1. Using Machine Learning to Predict Breast Cancer Recurrence Score: Improving Accuracy
Empowering Lives Through Collective Intelligence: Machine Learning for Breast Cancer Prognostics
Majoie Ngandi (Software Engineering)
Nic Herndon (Mentor)

2. Creation of the First B-Cell Specific Ataxin-1 Conditional Knockout Mouse Model
Created the First B-Cell-Specific Ataxin-1 Knockout Mouse Model, Revealing its Immunoregulatory Role and its Impact on Autoimmune Disease Mechanisms
Cindy Martines (Neuroscience)
Alessandro Didonna (Mentor)

3. Breast Cancer Recurrence Prediction with Machine Learning
Predicting Breast Cancer Recurrence Using Machine Learning Models to Examine Both Tumorous and Non-tumorous Regions of Breast Biopsy Images
Sofia Azam (Computer Science)
Nic Herndon (Mentor)

4. Beyond Interpretation: Religious Experience as Phenomenon, Narrative, and Transformation
Framing the Ineffable: Culture, Psychology, and Contemplation in Religious Experience
Wally McCown (Religious Studies)
Derek Maher (Mentor)

5. Puzzles and Playlists: Can Music Help ADHD Focus?
Puzzles and Playlists: How Can Music Help ADHD and Neurotypical Minds Focus?
Dhwani Hada (Neuroscience)
Michael Baker (Mentor)

6. Molecular Surveillance of Babesia sp Infection in Lemurs of Madagascar
Tiny Ticks, Big Impact: Exploring Babesia Infections in Lemurs of Madagascar
Lulea Adams (Biology)
Fidisoa Rasambainarivo (Mentor)

7. Computational Pathology for Cancer Recurrence Prediction
Decoding Breast Lesions: How AI Sharpens the Line Between Ductal Carcinoma in Situ and Usual Ductal Hyperplasia
Marian Sousan (Computer Science)
Nic Herndon (Mentor)

8. Leveraging Virtual Reality for Pedagogical Innovation: A Case Study of a 3D Heart Model for Anatomical Education
Bridging Technology and Anatomy: Using VR To Deepen Spatial Understanding and Drive Innovation in Medical Education Through Interactive and Dynamic 3D Organ Visualizations
Garrett Moore (Art)
Amy McIntyre (Mentor)

FINAL ROUND PRESENTATIONS
MCSC 200 (Blackbox Theatre)
3:30 PM – 4:30 PM

Moderator: Tuan Tran
Director of Undergraduate Research | REDE