

## ABOUT CAPTURE 180

The Capture 180 Research Challenge tasks undergraduates to describe their work to a lay audience 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 distinguished community leaders, ECU administrators, and ECU unit coordinators. They are charged to use the judging criteria of:

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

Judges will deliberate after all of the presentations. The presenter that ranks first will be the Grand Champion. The audience will be encouraged to fill out an online survey with the same criteria. Audience ratings will determine the People's Choice winner. Winners will be announced and presented with a paperweight award.

[REDE.ECU.EDU/UNDERGRADUATE](https://rede.ecu.edu/undergraduate)



# CAPTURE

## 180 RESEARCH CHALLENGE

April 4, 2023 | 2PM  
Main Campus Student Center, Room 249

## WELCOME TO CAPTURE 180

The Capture 180 Research Challenge is a forum for students who have participated in undergraduate research and creative activity projects under the mentorship of a faculty member. This year, we have 10 students from four different colleges competing for the top prize.

Judges will choose one Grand Champion, and the audience will select a People's Choice winner.

## EVENT OVERVIEW

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2-2:15 P.M.	JUDGE & PRESENTER CHECK-IN
2:15-3:05 P.M.	PRESENTATIONS
3:05-3:15 P.M.	JUDGING DELIBERATIONS (RM 237)
3:15 P.M.	AWARDS

## PRESENTATIONS

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### 1. Machine Learning Techniques to Aid Breast Cancer Recurrence Prediction

Exploring the potential benefits of applying machine learning techniques to the task of breast cancer recurrence prediction.

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MADISON ROSE (COMPUTER SCIENCE)  
MENTOR: NIC HERNDON

### 2. Mechanisms of Synapse Formation in Developing Neural Circuits of a Human Brain Model

Investigating the fundamental molecular mechanisms of synapse formation in the developing human brain and their contribution to neurodevelopmental disorders.

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DAISY PEREZ (NEUROSCIENCE)  
MENTOR: KAREN LITWA

### 3. Not Rememberin'? Might Be Rab10

We explore a rodent model of cognitive dysfunction as a result of Rab10 protein.

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ELIZABETH HARRIS (NEUROSCIENCE, PSYCHOLOGY)  
MENTOR: TUAN TRAN

### 4. Can You Read This Clearly?

I-VERGE was tasked with designing a near-point convergence device to aid in concussion protocol testing that is portable, accurate, cost-effective, and repeatable.

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REBECCA JENKINS (ENGINEERING, BIOMEDICAL)  
MENTOR: BARBARA MULLER-BORER

### 5. Aegean Frescoes and Their Correlating Greek Myths

Demonstrating parallels between Bronze Age wall paintings and popular myths of Classical Antiquity.

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SHANNON DUGAN (ANTHROPOLOGY)  
MENTOR: LAURA MAZOW

### 6. STEM and Politics

Diving into the realm of STEM and politics.

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BRADDOCK RHODENHISER (BIOLOGY)  
MENTOR: TIM CHRISTENSEN

### 7. Gastrocnemius Stress and Stiffness Research in Relation to High Heeled Shoes

This study will be conducted by using shear wave ultrasound imaging of the gastrocnemius and the flexor digitorum brevis showing change in stiffness from the beginning to end of a typical eight-hour workday.

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BRANDON WAUGH (EXERCISE PHYSIOLOGY)  
MENTOR: ZACHARY DOMIRE

### 8. Can You Hear Me Coming?

The Office of Naval Research is supporting East Carolina University® and Catholic University of America to understand how weather affects nearshore sound transmission.

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JAMIE BONFIGLIO (ENGINEERING; BIOMEDICAL CONCENTRATION)  
MENTOR: TERESA RYAN

### 9. Evaluation of Efficacy and Reception of Health Coaches in the Fresh Start Program

Understanding the impact of interdisciplinary student health coaches on the lives and health outcomes of rural patients with diabetes in Eastern NC.

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SARAH ELLIOTT (NUTRITION AND DIETETICS)  
MENTOR: LAUREN SASTRE