Three Minute Thesis

October 24th, 2017

2:00 PM

Mendenhall Student Center
About 3MT

The Three Minute Thesis (3MT) is a research communication competition that challenges masters and predoctoral students to present a compelling oration on their research endeavors in just 3 minutes to a non-specialist audience. The first 3MT was held at the University of Queensland in 2008 with 160 graduate students competing. Enthusiasm for the 3MT concept has grown and its widespread implementation by universities has led to the development of an international competition. Today, the 3MT competition has grown to over 170 universities across more than 17 countries worldwide. East Carolina University (ECU) is excited to host its second annual 3MT event.

3MT Rules:
Each presentation will be judged on comprehension, content, engagement and communication. Each presentation is limited to a 3 minute maximum and competitors exceeding 3 minutes will be disqualified. Presentations are considered to have commenced when a presenter starts their presentation through movement or speech. Although a presenter is allowed to have a single static PowerPoint slide (No slide transitions, animations or 'movement' of any description are allowed), no additional electronic media (e.g. sound and video files) or props (e.g. costumes, musical instruments, laboratory equipment) are permitted. All presentation are required to be spoken word (e.g., no poems, raps or songs) and commence from the stage. The decision of the head judge and moderator is final.

3MT People’s Choice:
Each member of the audience can vote for their favorite presenter by writing down their name. Voting ballots will be given out at the beginning of the Championship Round. We ask audience members to submit only one ballot per round.

3MT Departmental Cup:
The Department Cup is given to the Department that has the three highest scoring presenters during the first round of Heats. The Department Cup is sponsored by the North Carolina Biotechnology Center.

Program Sponsors
The Graduate School
Office of Technology Transfer
The Speech Communication Center
The North Carolina Biotechnology Center
Special Acknowledgements

Event Committee
Carlyle Rogers, Office of Technology Transfer, 3MT Chair
Tom McConnell, The Graduate School
Kathleen Cox, The Graduate School
Taylor Dement, The Graduate School

3MT Workshops
Pamela Hopkins, The Speech Communication Center

Video Services and Artwork
Mike Myles and CW Elton, ECU-TV
Emily Branch

Others
Paul Gemperline, The Graduate School
Derrick Isler, The Graduate School
Marquerite Latham, The Graduate School
Nate Holland, Physiology
Brita Kilburg-Basnyat, Pharmacology and Toxicology

Mentor List

Angela Thompson
Anthony Kulas
Anuradha Mukherji
April Blakeslee
Archana Hegde
Burrell Montz
Chris Mizelle
Christopher Balakrishnan

Colin Burns
Eboni Baugh
Erin Field
Fadi Issa
Holly Mathews
Jennifer McKinnon
Johanna Hannan
Karen Litwa

Krista McCoy
Kymberly Gowdy
Matthew Fish
Paige Viren
Robert M. Lust
Xin Hua Hu
Yong Zhu
Zachary Domire
Overview of Events

1:30 pm–1:45 pm | Judge and Presenter Check-In | MSC 244

2:00 pm–2:15 pm | Opening Ceremony | MSC 244

2:15 pm–3:00 pm | 3MT Heats

  Heat 1 | Great Room 1

  Heat 2 | Great Room 2

  Heat 3 | Great Room 3

3:00 pm–3:10 pm | Networking | Corridor Outside MSC 244

3:10 pm–3:45 pm | Championship | MSC 244

3:10 pm–3:45 pm | Closing Ceremony | MSC 244

Judges

Ariana Billingsley, Regional Center Director at Small Business Technology Development Center
Thomasyne Jefferson, Regional Coordinator, Eastern Office, North Carolina Biotechnology Center
Dontae Jones, Meteorologist, WNCT-9
Jeanne Hoover, Scholarly Communication Librarian, ECU
Elizabeth Martin, Instructional Coach, South Central High School
Tricia Reidinger, Senior Associate Director, Corporate and Foundation Relations, ECU
Ferdinand Rouse, City of Greenville Minority and Women Business Enterprise Coordinator
Rick Smiley, Greenville City Council and Assistant Director for Sponsored Programs, ECU
Chris Stansbury, Associate Vice Chancellor & Senior Operations Officer, ECU
1. SO YOU THINK YOU CAN TWITCH? GENES THAT HELP BIRDS PERFORM FAST DANCE MOVES
Manakins are neotropical birds with athletically-demanding sexual dance displays. We investigate genes that may enable such fast movements.

Robert Driver and Christopher Balakrishnan, PhD; Department of Biology

2. STRETCHING TO GET STRONGER
Stretching in older adults can improve the effect of resistance training

Ana Maria Gomez Granados and Zachary Domire, PhD; Department of Kinesiology

3. 3D TECHNOLOGY IN UNDERWATER ARCHAEOLOGY
Exploring how non-divers can visit shipwreck sites without stepping foot in the water across the globe.

Anne Wright and Jennifer McKinnon, PhD; Department of Maritime Studies

4. REGENERATION OF THE HAMSTRING TENDON FOLLOWING AN ACL INJURY
Anterior knee pain or atrophied hamstring muscle: pick your poison.

Clara Amat-Fernandez and Anthony Kulas, PhD; Department of Kinesiology

5. WHEN GOOD CHOLESTEROL GOES BAD
Engineering a tool for the study of dysfunctional HDL in pulmonary inflammation.

Michael Yaeger, Department of Engineering and Kymberly Gowdy, PhD; Department of Pharmacology and Toxicology
Heat I Presentations cont.
Great Room 1 | 2:15 pm – 3:00 pm

6. AM I BEHAVING OR MISBEHAVING?
The Role of Cannabinoids in Determining Socially Appropriate Behavior

Stephen Orr and Fadi Issa, PhD; Department of Biology
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7. BEFORE THE NEXT 100 HUNDRED YEARS
Understanding the role of how geography can stagnate the growth of a historical town.

Isaiah Higgs and Dr. Anuradha Mukherji, PhD; Department of Geography
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8. FRANKENFISH
It's ALIVE! Using CRISPR/Cas9 to study ovulation by creating Adamts9-null zebrafish.

Nichole Carter and Yong Zhu, PhD; Department of Biology
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9. FIFTY SHADES OF GRAY AT YOUR CERVIX
Exploring the role of reactive oxygen species in female sexual dysfunction following cervical cancer treatment.

Shelby Powers and Johanna Hannan, PhD; Department of Physiology
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1. INTRINSIC AEROBIC EXERCISE CAPACITY AND ITS IMPACT ON THE RESPONSE TO PULMONARY HYPERTENSION
Intrinsic Aerobic Exercise capacity and Pulmonary Hypertension

*Musaad Alsahly and Robert Lust, PhD; Department of Physiology

2. ALTERING THE BEHAVIORS AND INTERACTIONS BETWEEN THREE CRAB SPECIES
Can I talk about Parasites? Only if you encyst!

*Rebecca Barnard and April Blakeslee, PhD; Department of Biology

3. FOOD FOR THOUGHT
Pre-K and Kindergarten Student Teachers' Experience with Nutrition Education

*Jessica Resor and Archana Hegde, PhD; Department of Human Development and Family Science

4. BRAIN ON A CHIP
Thinking differently about Autism Spectrum Disorders

*Kinsley Tate, Department of Engineering and Dr. Karen Litwa, PhD, Department of Anatomy and Cell Biology

5. THE ROLE OF HANDEDNESS IN VISUOSPATIAL PROCESSING AND SENSORIMOTOR INTEGRATION
Lefties are different than the vast majority of the population, but is their brain?

*Kevin Hooks and Chris Mizelle, PhD; Department of Kinesiology
6. TROUBLE IN PARADISE? OUTER BANKS TOURISTS’ PERCEPTIONS OF ENVIRONMENTAL CHANGES
Some Outer Banks beaches are falling off the map, yet tourism numbers continue to grow. This begs the question, do tourists notice these changes and are they concerned?

Logan McSherry and Burrell Montz, PhD; Department of Geography

7. BROCCOLI: NOT JUST FOR DECORATION
Nutritive supplementation can help prevent birth defects

Ciro Amato and Krista McCoy, PhD; Department of Biology

8. QUANTITATIVE ANALYSIS OF PLEURAL AND PERITONEAL EFFUSION (PPES) CELLS.
Two different imaging techniques were used to quantify and analyze of pleural and peritoneal effusion (PPEs) cells.

Safaa Al-Qaysi and Xin-Hu Hua, PhD; Department of Physics

9. ANXIETY AND COLLEGE STUDENTS: THE BENEFITS OF MINDFULNESS BASED MEDITATION
Is there a way to combat your anxiety and to optimize your mental health while in college?

Amelia Saul and Matthew Fish, PhD; Department of Recreation and Leisure Studies

10. THE WHITE-WINGED WOOD DUCK: FIGHTING DISEASE TO FIGHT EXTINCTION.
With global population estimates as low as 250 individuals, improving the ability to maintain this species in captivity will be critical to their existence.

Dustin Foote and Christopher Balakrishnan, PhD; Department of Biology
6. BACK TO THE CHALKBOARD: CREATING THE PERFECT CANCER-KILLING MACHINE
Manipulating a promising anti-cancer agent’s molecular structure to significantly improve its cancer-killing activity

Andrew Morris and Colin Burns, PhD; Department of Chemistry

7. THE FIGHT FOR FREEDOM: COLLABORATION TO STOP HUMAN TRAFFICKING IN NEPAL
Uncovering the fundamental issues contributing to the worsening of human trafficking in Nepal. What are the underlying problems preventing greater agency collaboration?

Krista Nixon and Holly Mathews, PhD; Department of International Studies

8. PARASITES CRAWLING INSIDE INVERTEBRATES THAT RESIDE IN INVASIVE VEGETATION
We often hear negative connotations with the terms “invasive species” and "parasites", but the two as a team can reveal truly fascinating aspects about our natural world.

Timothy Lee and April Blakeslee, PhD; Department of Biology

9. THROWING AWAY YOUR HEALTHY ARM
Examining relationships between various baseball pitching motions and changes in the structural and material properties of the throwing elbow

Christopher Curran and Zachary Domire, PhD; Department of Kinesiology
Heat 3 Presentations
Great Room 3 | 2:15 pm – 3:00 pm

1. PLUMBING TROUBLES GOT YOU DOWN? N.O. PROBLEM
The role of nitric oxide (N.O.) to restore internal pudendal artery blood flow in vascular erectile dysfunction

*Michael Odom and Johanna Hannan, PhD, Department of Physiology*

2. DETERMINING PROPER OBJECTIVE FUNCTION TO CONTROL JUMP LANDING MODELS
"If only I had a brain": Explaining how introduction of optimization in jump landing models improves control and validation of findings

*Trenton Gilstrap, Department of Engineering and Zachary Domire, PhD, Department of Kinesiology*

3. COMMUNITY THROUGH RECREATION
Determining Sense of Community in Different Recreational User Bases.

*Daniel Pilgreen and Dr. Page Viren, PhD, Recreation and Leisure Studies*

4. BACTERIA THAT EAT IRON
Why do we care?.

*Cody Garrison and Erin Field, PhD, Department of Biology*

5. FROM ONE WOMAN TO ANOTHER: GENDER, EDUCATION, AND POWER IN COLONIAL SPAIN
Exploring the role of Spanish women in educating and converting native women of Mexico.

*Kayla Green and Angela Thompson, PhD, Department of History*
Thank You

The 3MT Committee would like to extend a warm thank you to all who participated and attended the 2017 East Carolina University Three Minute Thesis Competition. Without your generosity and expertise, this event would not have been possible. We sincerely appreciate your time and effort in making this event a success!

Please do not forget to view out website for any information on this and future 3MT events at www.ecu.edu/3MT
ECU Graduate School

East Carolina University currently offers 77 master's degree programs and 60 graduate certificate programs through our 11 colleges and schools. In addition, we offer 15 doctoral programs, 6 first professional programs (AuD, DMD, DNP, DPT, EdD, MD) and hold the distinction of being classified among the Doctoral/Research Universities by the Carnegie Foundation. ECU is constantly striving to meet the evolving needs of our students, the people of North Carolina, the United States, and the world by providing educational, research, and outreach programs designed to address the challenges and opportunities of the 21st century. With over 1,100 full-time Graduate Faculty actively engaged in research & scholarly activity and $215 million in external research funding in the last 5 years, ECU has a program that can fulfill your academic and professional needs.

www.ecu.edu/gradschool