



**Friday, August 31, 2018**  
**Science Building Atrium**

| <u>Easel #</u> | <u>Authors/Mentors</u>                                                                                         | <u>Department/<br/>Program</u> | <u>Title</u>                                                                                                                       |
|----------------|----------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1              | Darshit B. Patel<br>Gabriel T. Gwirtsman<br>Tegan E. Schafer<br><i>Dr. Andrienne C. Friedli</i>                | Chemistry                      | A Comparison of Synthesis and Properties of Dyes with (Thio)barbituric Acid Acceptors                                              |
| 2              | Paeton Poynter<br>Kerolos Bushra<br>Keshav Paudel<br>Bedraj Pandey<br>Daniela Taylor<br><i>Dr. Keying Ding</i> | Chemistry                      | Synthesis of Tripodal Mixed P/N Donor Ligands for Dehydrogenative Coupling Catalysis                                               |
| 3              | Wesley D. Kirkland<br><i>Dr. Andrienne C. Friedli</i>                                                          | Chemistry                      | Solvatochromism in a Series of Compounds with a Rhodanine Acceptor                                                                 |
| 4              | Mary F. Sadek<br><i>Dr. Andrienne C. Friedli</i>                                                               | Chemistry                      | Synthesis and Analysis of a Series of Donor-Pi-Tetracyanofuran Dyes                                                                |
| 5              | Tegan E. Schafer<br>Muhammad O. Ali<br><i>Dr. Andrienne C. Friedli</i><br><i>Dr. Piotr Kaszynski</i>           | Chemistry                      | Nucleophilic Substitution Reactions of the Mono- and Bis-Phenylodonium Derivatives of [closo-B10H8]2-                              |
| 6              | Michelle Sabir<br><i>Dr. Erin E. McClelland</i>                                                                | Biology                        | How the Polysaccharide Capsule of <i>Cryptococcus neoformans</i> Plays a Key Role in Human Susceptibility to Cn Related Infections |
| 7              | Jessica L. Bullock<br><i>Dr. Keying Ding</i>                                                                   | Chemistry                      | Self-Coupling Reactions of 2-octanol as Facilitated by Cobalt Complexes of Tripodal Phosphorus/Nitrogen Mixed Donor Ligands        |
| 8              | Jessica L. Bullock<br>Daniela Taylor<br>Keshav Paudel<br>Bedraj Pandey<br><i>Dr. Keying Ding</i>               | Chemistry                      | Cobalt Catalyzed Secondary Alcohol Self-couplings                                                                                  |

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| 9  | Ross Thomas<br><i>Dr. Rebecca L. Seipelt-Thiemann</i>                                                      | Biology                        | Missouri Grape Endophyte Identification                                                                                       |
| 10 | Revathi Kuruganti<br><i>Dr. Iris Gao</i><br><i>Dr. Nate Philips</i>                                        | Agriculture                    | Evaluating Ginseng Plant Growth in Hydroponics with various Nutrient Media and pH Range                                       |
| 11 | Kayley Stallings<br><i>Dr. Tony V. Johnston</i>                                                            | Agriculture                    | Antibacterial Activity of Endophytic Fungi Located in Arkansas <i>Vitis aestivalis</i> (Norton / Cynthiana) Vegetative Tissue |
| 12 | Luke Philipose<br>Dibyendu Dutta<br><i>Dr. Ngee Chong</i><br><i>Dr. Beng Guat Ooi</i>                      | Chemistry                      | Emissions of Volatile Organic Compounds from Electronic Cigarettes                                                            |
| 13 | Justin Woods<br><i>Dr. Suman Neupane</i>                                                                   | Physics and Astronomy          | Synthesis of Carbon Nanotubes Using Chemical Vapor Deposition                                                                 |
| 14 | Justin K. Woods<br>Melissa Parsons<br><i>Dr. Brian J. Slaboch</i>                                          | Mechatronics Engineering       | Design and Implementation of 3-RPR Control Systems                                                                            |
| 15 | Crystal Sivilay<br><i>Dr. Thomas M. Brinthaup</i>                                                          | Psychology                     | Pre-Service Teacher Self-Efficacy on Inclusive Classroom Management                                                           |
| 16 | Josh Upham<br><i>Dr. Mark J. Abolins</i>                                                                   | Geosciences                    | Groundwater Flow Beneath the Overall Creek Watershed and Adjacent Areas, Central Tennessee                                    |
| 17 | Gabrielle T. Hampton<br><i>Dr. Anthony Newsome</i>                                                         | Biology                        | Activity of Plant Extracts and Aurone Derivatives against Clinical Isolates of <i>Acanthamoeba</i>                            |
| 18 | Sarah Collins<br><i>Dr. Nicky Wu</i>                                                                       | Health and Human Performance   | How Can Virtual Reality Tourism Be Used as an Effective Marketing Tool for Study Abroad Programs?                             |
| 19 | Desiree Masencup<br>Olivia Anchondo<br>Alexa Neff<br><i>Dr. Hanna Park</i>                                 | Journalism and Strategic Media | Using Content Analysis to Understand Youth Engagement in Public Relations                                                     |
| 20 | Mary C. De La Torre<br><i>Dr. Meredith Dye</i>                                                             | Sociology and Anthropology     | Perceptions of Motherhood among Non-mothers Serving Life Sentences                                                            |
| 21 | Raja Pandey<br>Hussain S. Alshahrani<br>Elissa Williams<br>Sergiy Krylyuk<br><i>Dr. Charles C. Chusuei</i> | Chemistry                      | An Acetaminophen Electrochemical Sensor of Silicon Nanowires                                                                  |
| 22 | Beverly Grace Warner<br><i>Dr. Charles Higgins</i>                                                         | Physics and Astronomy          | Effect of the Lunar Shadow in the Intake of Data from Solar Activity                                                          |
| 23 | Isaac Shirk<br>Elizabeth Campbell<br><i>Dr. William M. Robertson</i>                                       | Physics and Astronomy          | Using Helmholtz Resonators to Overcome Acoustic Impedance Mismatches                                                          |

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| 24 | Stephen M. Tansie<br>Mitch C. Merryman<br><i>Dr. Rebecca L. Seipelt-<br/>Thiemann<br/>Dr. Erin E. McClelland</i> | Biology                  | Detailed Transcript Analysis of Virulence Gene Lacc2 from Clinically-derived <i>Cryptococcus neoformans</i> strains shows Alternative Splicing           |
| 25 | Joseph P. Gulizia<br><i>Dr. Kevin Downs</i>                                                                      | Agriculture              | Total and Nutrient-Specific In Situ Degradation of Kudzu ( <i>Pueraria montana</i> ) in the Bovine Rumen                                                 |
| 26 | Gail Choisser<br><i>Dr. Warner Cribb</i>                                                                         | Geosciences              | A Geochemical, Mineralogical and Petrographic Investigation of the Rheology of Lavas Erupted at Mt. Hood Volcano, Oregon                                 |
| 27 | Prianca Griggs<br><i>Dr. Erin McClelland</i>                                                                     | Biology                  | Examining SNF3's Role in the Virulence of <i>Cryptococcus Neoformans</i>                                                                                 |
| 28 | Christopher G. Robinson<br><i>Dr. Melissa K. Lobegeier</i>                                                       | Geosciences              | The Potential Applications of 3-D Modeling in Taxonomic Analyses of Testate Amoebae                                                                      |
| 29 | Travis D. Marlow<br><i>Dr. Chuck A Higgins</i>                                                                   | Physics and<br>Astronomy | Long Term Variability of Solar Radio Bursts                                                                                                              |
| 30 | Joseph Rosen<br><i>Dr. Erin McClelland</i>                                                                       | Biology                  | Comparing Seropositivity to <i>Cryptococcus Neoformans</i> in Healthy Individuals in Tennessee and Pennsylvania                                          |
| 31 | Kirsten N. Welch<br>Arjun Kafle<br><i>Dr. Erin McCelland<br/>Dr. Scott Handy</i>                                 | Biology                  | Classification of Multiple Aurones for the Pathogenic Yeast <i>Cryptococcus Neoformans</i>                                                               |
| 32 | Johnathan W. Campbell<br><i>Dr. Greg Van Patten</i>                                                              | Chemistry                | Controlling the Size of Quantum Dots                                                                                                                     |
| 33 | Hannah Hall<br>Aimee Wilson<br><i>Dr. John DuBois</i>                                                            | Biology                  | Inducing Somatic Embryogenesis of Grape ( <i>Vitis aestivalis</i> "Norton/Cynthiana") Callus                                                             |
| 34 | Simon Pergande<br><i>Dr. Yangseung Jeong</i>                                                                     | Biology                  | Population Density and Species Composition of Forensically Important Flies by Season at the Anthropological Research Facility of University of Tennessee |
| 35 | Adekunle Titus Akinmola<br>Amadou Fall<br>Chen Lin<br><i>Dr. Greg Van Patten</i>                                 | Chemistry                | Cation Exchange of Chalcogenide Nanocrystals Using Non-toxic Starting Materials                                                                          |
| 36 | Myranda Uselton<br><i>Dr. Jing Kong</i>                                                                          | Chemistry                | Investigating Quantum Computation                                                                                                                        |

**THE URC WOULD LIKE TO THANK**

**Dr. David Butler, Vice Provost, Research and Dean, College of Graduate Studies  
and Mr. Jeffrey Porter, Director of Office of Research and Sponsored Programs  
for sponsoring this event**

## **MTSU Undergraduate Research Center (URC)**

The MTSU Undergraduate Research Center (URC) was created in 2004 to promote mentored research at the undergraduate level and provide university support for undergraduate students and the faculty members who mentor them in scholarly and creative activities. This includes providing information and financial support through grants. Mentored research strengthens students' content knowledge, research skills, and soft skills that employers and graduate schools value.

In addition to funding student research through our Undergraduate Research Experience and Creative Activity (URECA) grants, the URC hosts several events each year that give MTSU students an opportunity to showcase their research. These events include the Summer Research Celebration, the Fall Undergraduate Research Open House, Posters at the Capitol, and Scholars Week. We hope you will check out these events and join us to experience the benefits of mentored research firsthand.

### **Important Dates:**

**Thursday, September 6, 2018 – Fall URECA Deadline**

**Thursday, October 4, 2018 – Fall Undergraduate Research Open House – SCI atrium 12-3 p.m.**

**Thursday, January 24, 2019 – Spring URECA Deadline**

**Thursday, March 28, 2019 – Summer URECA Deadline**

**March 18-22, 2019 – Scholars Week 2018**

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Director: Jeffrey B. Porter

Program Manager: Jamie Burriss

Coordinator: Wendi Watts

[www.mtsu.edu/urc](http://www.mtsu.edu/urc)

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