



**Mississippi State University**  
**Three Minute Thesis Competition**  
Preliminary Rounds  
November 15<sup>th</sup>, 2022

Afternoon Session  
1:00 p.m. to 3:30 p.m.

Join us in-person or virtually via this WebEx Link:

<https://msstate.webex.com/msstate/j.php?MTID=m079462f7763ffc18d764010015845fdf>

**Welcome**

Margaretta Campbell, Vice President for Meridian Affairs, Graduate Student Association  
PhD, Community College Leadership, College of Education

**SESSION 1**

1:00 p.m. to 1:45 p.m.

**Laura Andrea Sarmiento Rodriguez, Master's**

Civil and Environmental Engineering,  
College of Engineering

*Assessing the relationship between soil health and  
water quality in the MS Delta*

**Lovepreet Singh, Master's**

Plant and Soil Sciences,  
College of Agriculture and Life Sciences

*Genome-wide association studies (GWAS) for  
agronomic traits in bermudagrass (Cynodon spp.)*

**Shaylin Williams, PhD**

Engineering Education, College of Engineering  
*Constructing Knowledge on Student Motivation and  
Aspirations in Engineering Education Programs*

**Casey Iwamoto, PhD**

Forestry, College of Forest Resources  
*Sustainable pathways for shortleaf pine in  
uncertain climates*

**Aly Sabri Abdalla, PhD**

Electrical and Computer Engineering,  
College of Engineering  
*Physical Layer Security with Unmanned Aerial  
Vehicles for Advanced Wireless Networks*

**Sakar Nepal, Master's**

Forestry, College of Forest Resources  
*Geospatial approach to the risk assessment of  
climate-induced disasters (drought and erosion)  
and impacts on outmigration in Nepal*

**Radha Somarathne, PhD**

Chemistry, College of Arts and Sciences  
*Influence of Surface Curvature on a Bacterial  
Surface Protein*

**BREAK**

1:45 p.m. to 1:55 pm.

**SESSION 2**

1:55 p.m. to 2:35 p.m.

**Md Mehedi Farhad, PhD**

Electrical and Computer Engineering,  
College of Engineering  
*Smartphone-Based Field Scale Soil-Moisture  
Mapping for Precision Agriculture*

**Christa Frodella, PhD**

Comparative Biomedical Sciences,  
College of Veterinary Medicine  
*Unraveling the Anti-inflammatory Mechanisms of  
CBD*

**Kyle Dues, Master's**

Forestry, College of Forest Resources  
*A Machine Learning Approach to Stand Dynamics in  
a Threatened Forest Ecosystem*

**Dhanush Amarasekara, PhD**

Chemistry, College of Arts and Sciences  
*Targeted Photothermal Ablation of Biofilms with  
NIR-Absorbing Nanomaterials*



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