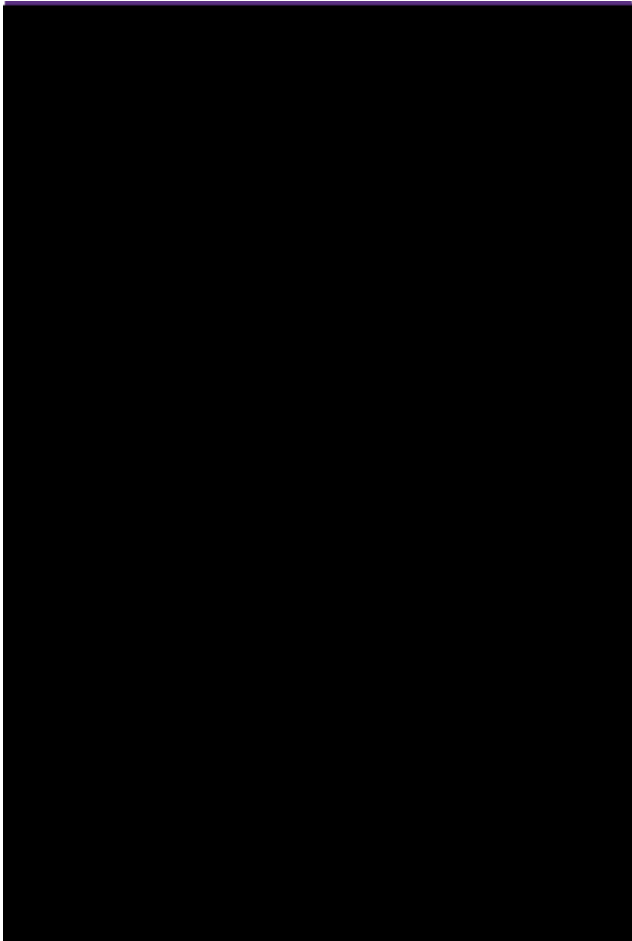


*University of North Alabama*

# Three Minute Thesis Competition

April 20**20**



# Three Minute Thesis Competition

## University of North Alabama

**First place prize \$500**

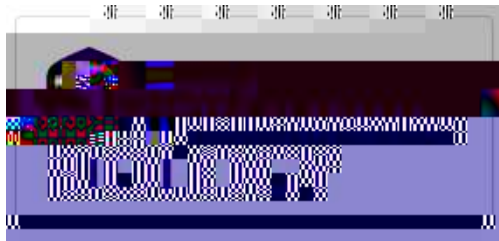
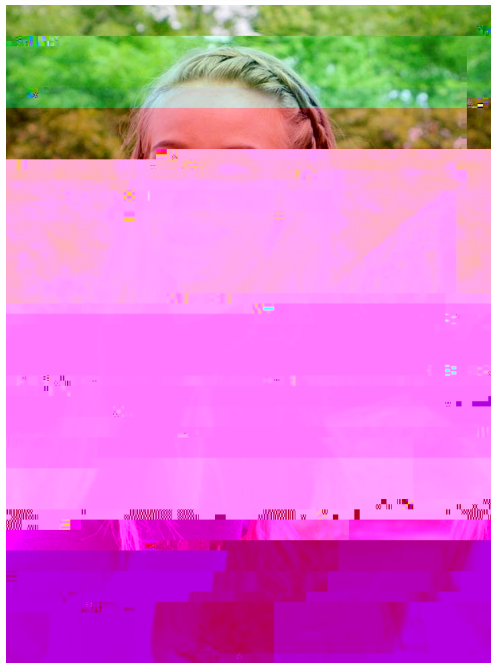
**Larissa Huissen**

**Faculty Mentor Dr. Eric Becraft,  
Biology**

Larissa is a junior at the University of North Alabama studying Biology and Chemistry. At UNA, she is a member of the Honors College and LaGrange Society. She grew up in Kenosha, Wisconsin where she attended high school at Indian Trail High School and Academy. After graduation, Larissa plans to continue her education applying for a D.M.D/Ph.D. program to pursue a career in dental academics and research.

### **Cone Wor3: Return of the Reductase**

Single cell genomics and metagenomics were used to identify candidate phylum WOR3 in samples taken from a geothermal pool in California. Results for the ecology, diversity, and evolution of WOR3 were reported contributing to the immense genealogy of life and the understanding of microbiology's contribution to Earth's geological structures.



**Second place prize \$300**  
**AnnaGrace Heinkel**

**Faculty Mentor Dr. Mel Blake, Physics**

AnnaGrace was born and raised in Birmingham, Alabama. She is now a senior at UNA, majoring in Psychology and Biology with a minor in Chemistry. Following graduation, AnnaGrace plans to attend medical school. She began her research as a physics honors project with Dr. Mel Blake. Through her research AnnaGrace has learned how to apply basic physics principles to scientific questions, and hopes to further the available resources in astronomical research.

**“A Beautiful Day in the Neighborhood:  
Developing Software for Determination of Star  
Cluster Membership of Neighboring Stars”**

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# Three Minute Thesis Competition

## University of North Alabama

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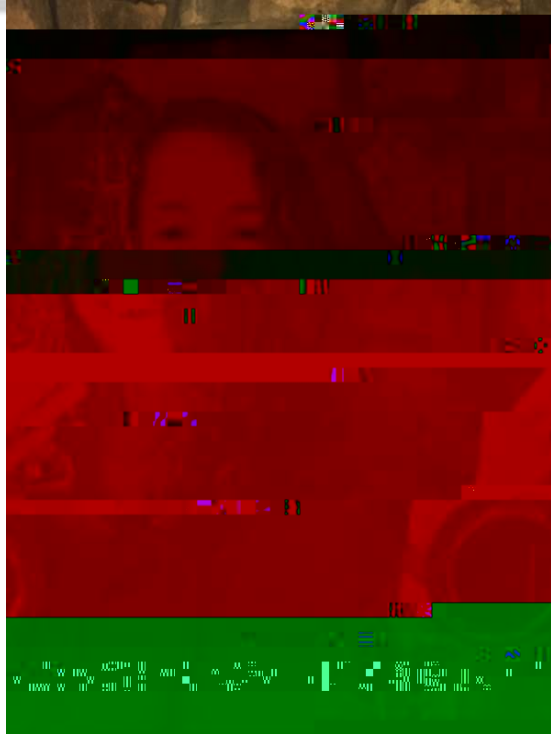
**Third place prize \$150**  
**Alexa Dishroon**

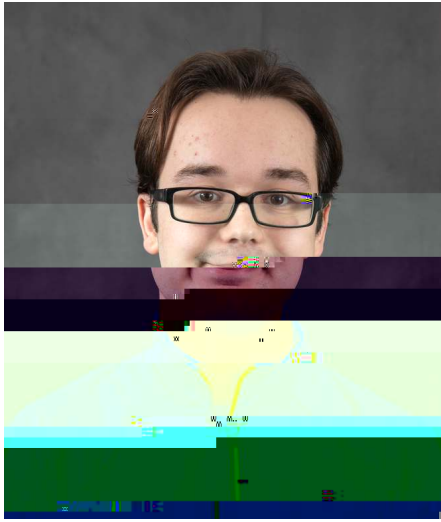
**Faculty Mentor Dr. Meghan Merciers**  
**Music**

Alexa Dishroon is a native of Higdon, AL. She is a senior music education major at the University of North Alabama where she participates in many ensembles, including the North Alabama Marching Pride. She is passionate about bringing music to those who would otherwise not have the chance to participate, including teaching music in Haiti and researching inclusive music education practices. She is a member of the SOTA Student Leaders, Phi Kappa Phi, Pi Kappa Lambda, Tau Beta Sigma, UNA Honors College, and serves as president of the National Association for Music Education collegiate chapter at UNA.

### **“Bridging the Gap: Music Therapy and Music Education”**

Music therapy is the evidenced-based use of music to achieve therapeutic goals. Music classrooms are often selected as inclusive environments, yet many music educators feel unprepared to accommodate students with disabilities. Principles from music therapy can be applied to music education in order to achieve success for students with disabilities.





**Fourth place prize \$50  
Ethan Hood**

**Faculty Mentor Dr. Cindy Stenger  
Mathematics**

Ethan is a computer science major at the University of North Alabama. He has always been interested in any kind of information. Using his knowledge about data, 3D modeling, and statistics, he has enjoyed contributing in any way that he can to the larger problem at hand.

**“Investigation of the structure of a SARS-CoV-2 spike protein 3D model, and its relationship with ACE2”**

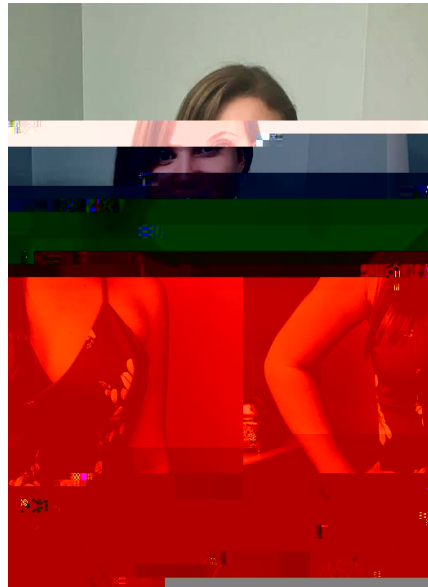
This thesis will analyze the structure of the spike protein in SARS-CoV-2, and how it infects host cells with its relationship to ACE2. In association with the Prokop lab, this project will also provide educational resources (through the 3D modeling of the protein) to help show how COVID-19 spreads.

**Fifth place**

**Savannah Pickens**

**Faculty Mentorg' 8f" AY'jggU' 8Y : ccfz' 8f" J]bWY' 6fY khcb  
5bXYfgcb' 7c" Y[Y' cZ' B i fg]b[ 'UbX' <cbcf'g' 7c" Y[Y**

Savannah Pickens is a senior student at UNA studying Nursing with a minor in French. She has been a student of the Honors College all four years and is an inducted member in Pi





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, Exercise Science  
*Effects of a virtual reality pacer on cycling performance*  
Faculty Mentor: Dr. Lauren Killen

The presence of a deceptively faster pacer motivated untrained cyclists to exercise at higher intensities vs. baseline pacer and no pacer alone. Despite acute and session RPE values reflecting the higher intensity of the deception trial, participants reported feeling more absorbed in comparison to the baseline and no pacer trials.

**Bio:**  
I am a graduate research assistant for the University of North Alabama's Kinesiology department, and I am majoring in Exercise Science. I am from Logan, Utah, however, I attained my bachelor's degree at West Virginia Wesleyan. I











