

SPRING 2022

UNDERGRADUATE RESEARCH SYMPOSIUM TOP-RATED PROJECTS

The top-rated projects are listed by category in alphabetical order; Faculty mentors and departments are in parentheses.

Arts and Humanities Top Rated Projects

Jacob Pritchard - Novus Miles Christi: Spiritual Authority and Suffering in the Presbyterian Missionary Movement (Dr. Joseph Witt - Philosophy and Religion)

Alysia Williams - Affordable Multifamily Housing in Relation to Community Revitalization and Social Development: A Cross Analysis of Regional Housing in Urban Contexts (Jacob Gines - Architecture)

Biological Sciences and Engineering Top Rated Projects

Amber Cook - The Conservation of Brain Folding Mechanics (Dr. Andrew Lawton - Biological Sciences)

Reese Dunne - A Diffusion Tensor Imaging approach to investigate the effects of exercise on quadricep muscle fiber lengths (Garry Gold - Radiology, Stanford University)

Sophie Jones - Advancement of Methods for Quantifying Osteogenesis in Static and Dynamic Culture (Dr. Lauren Priddy - Agricultural and Biological Engineering)

Catherine Paul - Are Barn Owls potential biological control agents for rodents in the Black Belt? (Dr. Scott Rush - Wildlife, Fisheries and Aquaculture)

Ashutosh Shah - Invasive Aquatic Plant Species Identification on Nvidia Jetson Nano Using Computer Vision and Deep Learning (Dr. Sathish Samiappan and Dr. Gray Turnage - Geosystems Research Institute)

Nicholas Stinson - A method for quantifying neurodegeneration using a Drosophila model of Spinocerebellar Ataxia Type 1 (Dr. Natraj Krishnan - Biochemistry, Molecular Biology, Entomology & Plant Pathology)

Gracie Teel - Effects of dietary supplementation of DL-methionine and the calcium salt of DL-methionine hydroxy analog against the diquat-induced oxidative stress in growing pigs (Dr. Shengfa Liao, Dr. Shamimul Hasan, and Dr. Jean M. Feugang - Animal and Dairy Sciences)

Physical Sciences and Engineering Top Rated Projects

Satsha Burden - Aerodynamics of Winglets (Dr. Shreyas Narsipur - Aerospace Engineering)

Minjae Cho - Development of Generative Adversarial Network (GAN) Model for Multi-Phase Flow Prediction (Dr. Joonsik Hwang - Mechanical Engineering)

Devin Foeller - NMEA Communicator Integration for Flight Simulator Training (Rob Wolz - Aerospace Engineering)

Katelyn Woodard - A Radical Library: Cataloging Radiation Yield of Acrylates Undergoing Electron-beam Polymerization (Dr. Julie Jessop - Dave C. Swalm School of Chemical Engineering)

Timothy Wunrow - The Effect of Data Availability and Domain Adaptation for Part Certification in Metal-Based Additive Manufacturing (Dr. Wenmeng Tian - Industrial and Systems Engineering)

Social Sciences Top Rated Projects

Eleanor Holt - Parenting and Emerging Adult Sexual Health: The Impact of Parental Religiosity and Relationship Quality on Risky Sexual Behavior (Dr. Cliff McKinney - Psychology)

Anna McLain - Evaluation of a Levels System to Address Food Refusal in Adolescents (Dr. Hallie Smith and Dr. Hailey Ripple - Counseling, Educational Psychology, and Foundations)

Josie Nasekos - Examining Water Expenditures Burden in the Southeastern U.S. (Dr. Matthew Interis - Agricultural Economics)

Camden Patterson - You Are What You Keep: Community-based Evaluation of the Relationship Between Hoarding Symptoms and Interconnectedness with Items (Dr. Mary E. Dozier - Psychology)

Amy Pham - The Relationship between Gender and Race and Body Image Dissatisfaction in Mississippi (Dr. Jennifer Lemacks - Education and Human Sciences, the University of Southern Mississippi)

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SUB-COMPETITIONS

Community Engagement Research Track Winners

Joshua Warnsley (Physical Sciences and Engineering) - The nexus between community socioeconomic factors and expected behavioral response to upcoming climate disaster (Dr. Nazanin Tajik Morshedlou - Industrial and Systems Engineering)

Anna McLain (Social Sciences) - Evaluation of a Levels System to Address Food Refusal in Adolescents (Dr. Hallie Smith and Dr. Hailey Ripple - Counseling, Educational Psychology, and Foundations)

Sophie Jones (Biological Sciences and Engineering) - Advancement of Methods for Quantifying Osteogenesis in Static and Dynamic Culture (Dr. Lauren Priddy - Agricultural and Biological Engineering)

Public Health Research Competition Winners

First Place: Erin Dickinson - Alcohol Consumption and Sleep Quality Among College Students at Mississippi State University (Dr. Terezia Tolar-Peterson - Food Science, Nutrition and Health Promotion)

Second Place: Emily Tucker - Survival and persistence of *Listeria monocytogenes* Bug600 and ScottA after exposure to high and low concentrations of first generation quaternary ammonium compound (benzalkonium chloride). (Dr. Ramakrishna Nannapaneni - Food Science, Nutrition and Health Promotion)

Third Place: Rachel Kalchbrenner - Backgrounds Come Back Around: Fragile Families and Early Adolescent Substance Abuse (Dr. Danielle Nadorff - Psychology)

Three Minute Thesis Competition (3MT) Winners

Grand Champion: Sarah Dulaney - Investigating Differing COVID-19 Vaccine Attitudes within Families (Dr. Holli Seitz - Communication and Social Science Research Center)

Runner Up: Satsha Burden - Aerodynamics of Winglets (Dr. Shreyas Narsipur - Aerospace Engineering)

People's Choice: Riley Cutler - Effects of Glyphosate on Recombination Plasticity in *C. Elegans* (Dr. Amy Dapper - Biological Sciences)

Theta Tau Tomorrow Builder Award

Ashutosh Shah - Invasive Aquatic Plant Species Identification on Nvidia Jetson Nano Using Computer Vision and Deep Learning (Dr. Sathish Samiappan and Dr. Gray Turnage - Geosystems Research Institute)

Thank you to the judges for their help with the Spring 2022 Undergraduate Research Symposium.

Dr. Adrienne Costasti	Wildlife, Fisheries and Aquaculture
Dr. Amy Moe-Hoffman	Geosciences
Dr. Anthony Bowden	Coastal Research and Extension Center
Dr. Anthony Neal	Philosophy
Dr. Anurah Theradiyil Sukumaran	Poultry Science
Dr. Barb Kaplan	Comparative Biomedical Sciences
Dr. Becky Bickford	Library
Dr. Ben Porter	Social Science Research Center
Dr. Bouteina Driouche	Raspet Flight Research Laboratory
Bradly Thornton	Wildlife, Fisheries & Aquaculture
Dr. Casey Iwamoto	Forestry
Dr. Chandra Sarap	Chemical Engineering
Dr. Chathuri Gamlath Mohottige	Chemistry
Chiranjibi Shah	Electrical and Computer Engineering
Dr. Christopher Snyder	Shackouls Honors College
Dr. Cory Gallo	Landscape Architecture
Dr. Critz Campbell	Art
Dee Dee Baldwin	Library
Dr. Elaine Wei	Counseling, Educational Psychology, & Foundations
Elizabeth Baach	Forestry
Emma Schultz	Wildlife, Fisheries, and Aquaculture
Grace Adegoye	Food Science, Nutrition, and Health Promotion
Dr. Haifeng Wang	Industrial and Systems Engineering
Dr. Hallie Smith	Counseling, Educational Psychology, & Foundations
Dr. Iva Ballard	Marketing, Quantitative Analysis, and Business Law
Dr. Jamie Rutter	Comparative Biomedical Sciences
Jasmine Sorrell	Counseling, Educational Psychology, & Foundations
Dr. Jenny Bibb Ryals	Coastal Research and Extension Center
Dr. Joseph Faello	Meridian Division of Business
Dr. Julie Jessop	Chemical Engineering
Dr. Justin Thornton	Biological Sciences
Dr. Juyoung Lee	School of Human Sciences
Dr. Kathleen Ragsdale	Social Science Research Center
Kathryn New	Library
Dr. Kay Morgan	Instructional Systems & Workforce Development
Dr. Kayla Bates-Brantley	Counseling, Educational Psychology & Foundations
Dr. Laya Khademibami	Sustainable Bioproducts
Dr. Leyla Rios	Animal and Dairy Sciences
Dr. Li Zhang	Poultry Science
Dr. Lori Staton	Human Sciences
Dr. Marcus McGee	Animal and Dairy Sciences

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Dr. Mary Dozier	Psychology
Dr. Mehdi Ghahremani	Counseling, Educational Psychology, & Foundations
Dr. Mitchell Berman	Psychology
Dr. Mostafa Mohammadabadi	Sustainable Bioproducts
Muhammad Riaz	Human Development & Family Studies
Dr. Nisarga Kodadinne Narayana	Genomics, Biotechnology and Biocomputing
Dr. OP McCubbins	Human Sciences
Dr. Priyadarshini Chakrabarti Basu	Biochemistry, Molecular Biology, Entomology and Plant Pathology
Dr. Purushothaman Ramamoorthy	Geosystems Research Institute
Rabina Kumpakha	Biological Sciences
Dr. Rachel Allison	Sociology
Dr. Reheleh Miralami	Center for Advanced Vehicular Systems
Dr. Rajendra Panda	Geosystems Research Institute
Dr. Raju Bheemanahalli	Plant and Soil Sciences
Rebecca Bracken	Wildlife, Fisheries & Aquaculture
Dr. Reshman Ramachandran	Poultry Science
Dr. Saman Fatemi	Poultry Science
Dr. SaMin Han	Landscape Architecture
Dr. Sathish Samiappan	Geosystems Research Institute
Dr. Seamus Freyne	Civil Engineering
Dr. Seung-Joon Ahn	Biochemistry, Molecular Biology, Entomology and Plant Pathology
Dr. Shankar Ganapathi Shanmugam	Genomics, Biocomputing & Biotechnology
Dr. Sheida Riahi	Marketing, Quantitative Analysis & Business Law
Dr. Shengfa Liao	Animal & Dairy Sciences
Dr. Sujan Anreddy	Social Science Research Center
Dr. Sumudu Athukorale	Chemistry
Taylor Deer	Human Development & Family Studies
Dr. Vitor S. Martins	Agricultural and Biological Engineering
Dr. Wenmeng Tian	Industrial and Systems Engineering
Dr. Yashpal Singh	Chemical Engineering
Dr. Ziming Yue	Plant and Soil Sciences