URSA Awards
For Excellence in Undergraduate Research
2017

Baylor University
Office of the Vice Provost for Research
One Bear Place #97310
Waco, Texas 76798-7310
Thermal Stress on *Escherichia coli* B Resistance to Rifampin

Amber Ludke, Brady Walker, Kirsten Koch, Minwoo Kim and Marty Harvill, Ph.D.

*Department of Biology*

**URSA STEERING COMMITTEE**

Susan Bratton, PhD, Director
Dennis Johnston, PhD, Grants Chair
Eileen Bentsen, MLS, Chair Library Presentation Judging Team
Jasmine Stovall, Graduate Assistant
Tamara Adair, PhD
Jade Connor (BURST)
Nathan Elkins, PhD

Patrick Farmer, PhD
Mack Grady, PhD
Tanner Hood (BURST)
Paul Larson, PhD
Robert Minor, PhD
Kelly Rossler, PhD
Rich Sanker, PhD
Dianna Vitanza, PhD (OVPR)
Cindy Wu, PhD
Biology
Category 2: Cell and Developmental Biology (BIO 4108)

First place: Genetic Screen to Isolate Mutations Resistant to Serotonin
Nicholas Simitzi, Ryan Molina, Stephan Lloyd-Brown and Derek Wu; Faculty Mentor: Dr. Myeongwoo Lee

Second place: Isolation of Octopamine mutants in Caenorhabditis elegans
DeQuawn Johnson, Danielle Natividad, Jonas Kruse, and Justin Davis; Faculty Mentor: Dr. Myeongwoo Lee

Third Place: Genetic screens to compare the strength of innate resistance versus acquired tolerance of ethanol in C. elegans. Austin Hubbert, Sam Chun, Robert Shajari, and Eric Soo; Faculty Mentor: Dr. Myeongwoo Lee

Category 3: Individual Research Projects

First Place: Antibiotic Resistant Bacteria in an Urban Freshwater Ecosystem in Central Texas
Annie Kwok and Michael Davis; Faculty Mentor: Dr. Sanghoon Kang

Second Place: Role of Long Non-coding RNA on Epithelial-mesenchymal Transition of Breast Cancer
Sizhe (Tom) Niu; Faculty Mentor: Dr. Joseph Taube

Third Place: Toll-Like Receptor Activation by Outer Membrane Vesicles
Daniel Goyco, Kevin Chung, Timothy Tateossian, Leigh Greathouse; Faculty Mentor: Dr. Joseph Taube

Humanities, Social Sciences & Professional Fields

Jennings Sheffield, MFA, Department of Art

Science, Mathematics & Technology

Myeongwoo Lee, PhD., Department of Biology

LEADERSHIP EXCELLENCE AWARDS

Lisa Baker, M.D., The Honors College
For her commitment to mentoring students in health science, her impact on STEM research in the Honors programs, and her establishment of field experiences in Africa

Undergraduate Student Leadership Award
Jade Connor, President of BURST

Organizational Leadership Award
BURST: Baylor Undergraduate Research in Science and Technology, editors, officers and project leaders: Aparna Saroda, Jianna Lin, Courtney Smith, Tanner Hood, Jade Connor
Baylor Libraries Outstanding Presentation Awards

Based on Baylor library judges’ cumulative scores

Humanities Platform Presentations

Evangelicals vs. Hollywood
Dan Hibbs; Faculty Mentor: Dr. Joe Coker  
Department: Religion

Physical and Social Ailments in “El revólver” by Emilia Pardo Bazán
Kelsey Landrum; Faculty Mentor: Dr. Frieda Blackwell  
Department: Modern Languages and Cultures

Theophany in Luminosity: The Theology of Light in Gothic and Shaker Architecture
Lydia Williamson; Faculty Mentor: Dr. David Lyle Jeffrey  
Department: Great Texts, Honors

Don Juan & Don Gonzalo as Abettors: A Critique of Masculinity in “El Burlador de Sevilla”
Katerina Levinson; Faculty Mentor: Dr. Paul Larson  
Department: Modern Languages and Cultures

The Social Sins of Don Juan Tenorio in “El Burlador de Seville”
McKenna Middleton; Faculty Mentor: Dr. Paul Larson  
Department: Modern Languages and Cultures

The Women’s Oath of The Morte Darthur
Stephanie Hoffman; Faculty Mentor: Dr. D. Thomas Hanks  
Department: English

Theater as a Metaphor of Hypocrisy in Galdós’ La de Bringas
Annie Tarver; Faculty Mentor: Dr. Frieda Blackwell  
Department: Modern Languages and Cultures

Interdisciplinary

Restrictive Breathing Mask Reduces Total Repetitions in Resistance- Trained Males: An Ongoing Study
Emily Ziperman, Thomas L. Andre, Joshua J. Gann, Paul Hwang, Matthew O. Mccullough, Ashley Bascom, Brooke Roemer; Faculty Mentor: Dr. Darryn S. Willoughby  
Department: Health, Human Performance, and Recreation

Standing is a Valid Position for Maximal Isokinetic Hip Strength Measurements
Zach Hostetler and Carley Fuller; Mentor: Dr. Jonathan Rylander  
Department: Mechanical Engineering

Biology

Category 1: Introductory Inquiry-Based Laboratories

First place: Isolation and Purification of Arthrobacteriophages from Environmental Samples
Caroline M Addison, Nirupama T Ancha, Joshua Baker, Thomas Van Eckenrode, Haley BrooksEverroad, Christina A Gaw, Jacob F Hanna, Julia Elizabeth Hawes, Catherine Corinne C Hughes, Alec Michael Ingros, Roshni Trujillo Jaffery, Emily Angela Johnson, Pranav Kapoor, Navya Katragadda, Niharika Koka, Hugh S Mair, Alex A Munoz, Micheal C Munson, Noah Davis Patton, Madison Courtney Powell, Christian Sessa, Andrea Jane Springman, Natalie Celeste Widdows and Daniel Gregory Zeter; Mentor: Dr. Tamarah Adair

Second place: Investigating Potential Sources of Antibiotics Against E.S.K.A.P.E. Pathogens Within the Soil Bacterial Flora
Aarón Murillo-Ruiz and Beatriz Castillo-Rodriguez; Faculty Mentor: Dr. Diane Hartman

Third place: Effect of Thermal Stress on Rifampin Resistance in Escherichia coli B
Minwoo Kim, Kristin Koch, Amber Ludtke and Brady Walker; Faculty Mentor: Dr. Marty Harvill
Environmental Science

The Influence of Copper Oxide Nanoparticles on the Arsenic Uptake in Rice Seedlings
Madie J. Simms, Madison Stewart, and Jing Liu; Faculty Mentor: Dr. George P. Cobb

Long Term Trends in Atmospheric Particulate Matter in Central Texas
Jessica Su; Faculty Mentor: Dr. Rebecca Sheesley

The Development of a Universal Standardized Microplastic Color Classification Protocol
Graham Bates and Colleen Peters; Faculty Mentor: Dr. Susan Bratton

Geosciences

A Case Study of a Horizontal Well Completion Project and Measured Production Changes in A Re-Entered Well, Fayette County, Texas
Reed Rightmer, Faculty Mentor: Wayne Hamilton, MS

Psychology and Neuroscience

A Single Seizure Induces Anterograde Amnesia in Mice
James T. Okoh, Andrew J. Holley and Matthew S. Binder; Faculty Mentor: Dr. Joaquin N. Lugo

Reasons for Non-suicidal Self-Injury in Veterans Diagnosed with PTSD: The Role of Emotion Regulation
Lauren Longcor, Nathan Kimbrel, Ph.D., Eric Meyer, Ph.D., Sandra Morissette, Ph.D., & Bryann B. DeBeer, Ph.D.; Faculty Mentor: Dr. Sara Dolan

Resting State fMRI Changes as a Result of EEG Neurofeedback Treatment Observed in Participants with Traumatic Brain Injury
Robert Athey Dr. Laura Zambrano-Vazquez, Dr. Richard Seim, Dr. Geoff May, Dr. Evan Gordon, Bradley Gary, Ramy Swidan, Dr. Steven Nelson; Faculty Mentor: Dr. Sara Dolan

Baylor Libraries Outstanding Presentation Awards

Humanities Platform Presentations

The Influence of Charismatic Christianity
Harrison Eid; Faculty Mentor: Dr. Joe Coker
Department: Religion

Yahwistic Names and Economic Success of Judean Exiles in Babylon
Charlie Campbell; Faculty Mentor: Dr. Deirdre Fulton
Department: Religion

Social Sciences Platform Presentations

Syrian Refugee Resettlement and National Security
Megan Starkweather; Faculty Mentor: Dr. Peter Campbell
Department: Political Science

The Impact of Chinese and Japanese Heads of State on the Senkaku Islands Dispute
Parker Walton; Faculty Mentor: Yoshiko F. Gaines, MA
Department: Modern Languages and Cultures

The Effect of Parental Leave on Fertility Rates
Taylor Demons; Faculty Mentor: Dr. Ivy Hamerly
Department: Political Science

The Opportunity for Insurgency in the Sudanese Civil Conflicts
Caroline Caywood; Faculty Mentor: Dr. Ivy Hamerly
Department: Political Science

Police Oversight for Beginners: A Comparison of Two Agencies
Aaliyah Thomas; Faculty Mentor: Elizabeth Cano, JD
Department: Political Science/ Baylor in Washington, D.C.
Baylor Libraries Outstanding Presentation Awards

Based on Baylor library judges’ cumulative scores

Sciences Platform Presentations

Magnetostratigraphy of the Lower Paleocene Upper Nacimiento Formation, San Juan Basin, New Mexico
Tyler Leggett; Faculty Mentor: Wayne Hamilton, MS
Department: Geosciences

Comparison of Environmental Education and Engagement Approaches in the United States and Hong Kong
Brianna S. Jones; Faculty Mentor: Dr. George Cobb
Department: Environmental Science

Texas Undergraduate Research Day at the Capitol 2017: Transforming Texas Through Undergraduate Research — Baylor Posters

The Excavations of a Late Roman Synagogue at Huqoq, Israel
Nathaniel Eberlein; Faculty Mentor: Dr. Nathan Elkins
Departments: University Scholars and Art

Patterns of Microplastic Ingestion by Pinfish (Lagodon rhomboides) Collected between Galveston and Freeport on the Texas Gulf Coast
Peyton Thomas, Maddy Doyle, Graham Bates, and Colleen Peters; Faculty Mentor: Dr. Susan Bratton
Department: Environmental Science

Outstanding Poster Presentation Awards

Based on departmental scoring, interdisciplinary category judged by URSA

Anthropology

Frequencies of Bone Surface Modification Vary According to Specimen Size
Kristen Anderson: Faculty Mentor: Dr. Joseph Ferraro

Inter/Intra Observer Reliability in Human Craniometric Measurements
Kristen Anderson, Molly Jaskina, and Kelly Schaeffer; Faculty Mentor: Dr. Katie Binetti

Temperatures and Scalding in Medicolegal Context
Lukas Patterson, Kendall Pratt, and Avalon Stutzman; Faculty Mentor: Dr. Katie Binetti

Chemistry and Biochemistry

Cruzain Inhibition by Thiosemicarbazone Compounds for Potential Therapeutic Use Against Chagas Disease
Issac Lill; Faculty Mentors: Dr. Mary Lynn Trawick, Samuel O. Odutola, Dr. Erika N. Parker and Dr. Kevin G. Pinney

Physics

Exoplanet Observations Using Transit Photometry
Rocky Katch; Faculty Mentor: Dr. Dwight Russell

Effects of Heat Transfer in Dust Aggregates on the Photophoretic Force
Dustin Sanford; Faculty Mentor: Dr. Lorin Matthews