

JSU Student Research Symposium Spring 2020

From its 1995 inception in the College of Arts and Sciences, the Symposium has served to highlight the creative activities of JSU students. Beginning in 2017, the Symposium was extended to include the entire university. It is the intent of the Symposium to provide a forum to publicly display and acknowledge the best work of our students.

The faculty members who have provided guidance and mentoring to the student presenters are to be commended for their dedication. By spending many hours both inside and outside the classroom introducing students to research activity, these professors are investing in the future.

These student participants, by choosing to go beyond the requirements and limits of the classroom, have demonstrated an understanding of the importance of expanding and adding value to their educational experience. We are proud of their initiative and accomplishments.

Thank you for attending the Symposium and supporting our faculty and students in this endeavor.

Dr. David Thornton, Symposium Chair

Cover design by Brooklee Mason

The Jacksonville State University, Schools of Science, Arts and Humanities, Health Professions and Wellness, and Human Services and Social Sciences will also be holding an awards ceremony for the 2020 Symposium. We invite you to join us in this ceremony, which will take place in the Houston Cole Library, 11th floor, at 1:00 p.m. on Friday, February 14, 2020.

Awards will be given in the following categories: Best of School of Science (Undergraduate and Graduate) Best of School of Human Services and Social Sciences (Undergraduate and Graduate)

Best of School of Arts and Humanities (Undergraduate and Graduate)

Best Paper (Undergraduate and Graduate)

Best Poster (Undergraduate and Graduate)

Best Cover Design

Houston Cole Award for Research Excellence

Award for Best in Showcase

Symposium Contributors: Chad Anderson, Student Cover Design Jan Case, Symposium Scheduling Tracy Casey, Program and Refreshments Jason Cleveland, YouTube Videos George Cline, Biology Department Cynthia Connor, Publicity Sarah Donley, Judging Rubric and Tally and Judge Christian Dunn, Student Cover Design Angie Finley, Online Submission Arup Ghosh, Judge Jennifer Green, Judge Scheduling and Judge Betsy Gulledge, Judge Dana Ingalsbe, Social Media Karlie Johnson, Judge Leigh Ann Keith, Judge

Tim Lindblom, Dean, School of Science

Gina Mabrey, Kinesiology Department

Allison McElroy, Judge

Brooklyn Miles, Certificates

Chris Newsome, Online Submission

Allison Newton, Judge

Allison Pearce, Nursing Department

Teresa Reed, Judge

Shannon Robertson, Proceedings

Mary Springer, Judging Rubric and Tally

David Thornton, Symposium Chair

Monica Trifas, Judge

Falynn Turley, Judge

Cover Design Participants

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Anna Milner Marvin Wills
Hannah Jones Lulu Hamissou

Shankar Dayal Dayalan

Faculty Mentors: Professors, Chad Anderson and Christian Dunn

Wednesday, February 12, 2020

Morning Session (10:00 – 11:40)

10:00 - 10:10 Paper (UG)

Olivia Sims (Mary Springer– Mentor)

A Discussion of the Guggenheims: The Links between the Solomon R. Guggenheim Museum and the Guggenheim Museum Bilbao

10:15 - 10:25 Paper (UG)

Miranda Ivey (Mary Springer - Mentor)

Andy Warhol's Influence in the American Pop Art Culture

10:30 -10:40 Paper (UG)

Austin Reed (Sarah Wofford - Mentor)

Turn It Down! The Effects of Acoustic Stimuli on Crayfish Fighting Behavior

10:45-10:55 Poster (UG)

Andrea Adams (Sarah Wofford - Mentor)

Using a complex chemical landscape to find an ideal habitat under predation threat

11:00-11:10 Paper (G)

Melanie Spaulding (Jimmy Triplett - Mentor)

Flora of Cleburne County, Alabama

11:15 – 11:25 **Poster (G)**

Melanie Spaulding (Jimmy Triplett - Mentor)

Lemon Daylily - Hemerocallis lilioasphodelus (Hemerocallidaceae) New Plant Species to the Flora of Alabama

11:30 - 11:40 Paper (UG)

Jordyn Platt and Erin Dempsey (Heidi Dempsey – Mentor)

When are People Glad versus Upset with Themselves for Forgiving?

11:40 - 12:50 BREAK

^{*}Contest Winner

Afternoon Session (1:00 – 3:40)

1:00-1:10 Paper (UG)

Sumer Al-Saadi and Lauren Usrey (Chris Murdock - Mentor)

Isolation and Identification of a Potential Brewing Yeast from Northeast Alabama

1:15 – 1:25 Paper (UG)

Alexa Grace Baldwin and Taylor West (Mijitaba Hamissou – Mentor)

Possible Method of Storing Plant Cells at Subfreezing Temperatures and Recovering Viable Cells

1:30-1:40 Poster (UG)

Caleb Hudson (Benjie Blair, Richard Watkins and Jeremy Prokop – Mentors)

Unraveling R44P: A SLC6A1 Variant Which Induces Childhood Epilepsy

1:45-1:55 Poster (UG)

Britney Barker (Benjie Blair, Richard Watkins and Jeremy Prokop – Mentors)

SLC6A1 I220V is Projected to Not Impact Protein Function but Could Cause Epilepsy

2:00-2:10 Poster (UG)

Tyler Hilyer (Ross Martin – Mentor)

Hydrology of JSU Campus Following Tornado

2:15-2:25 Paper (G)

Alex Rocco (Sarah Wofford - Mentor)

Battle of the Benthic: Comparing Aggression Differences Between a Native and Invasive Species

2:30-2:40 Paper (G)

Andrew Shirley, Johnny Ubi and Ansley Winter (James Rayburn,

George Cline and Lori Tolley-Jordan - Mentors)

Toxicity of native and invasive apple snail egg proteins on developing Xenopus laevis

2:45-2:55 Poster (UG)

Eryn McCoy (Benjie Blair, Richard Watkins and Jeremy Prokop – Mentors)

SLC6A1, its variations, and their link to epilepsy

3:00-3:10 Paper (UG)

Ellie Thamert, Emma Schaffer and Andrew Kirk (Lori Hensley – Mentor)

Cannabidiol and Cancer: Adventures from Cell Biology

3:15-3:25 Paper (G)

Karine Parker (Tray Ridlen – Mentor)

Gender Performance

3:30-3:40 Demo (G)

Karine Parker (Chad Anderson – Mentor)

How UI/UX principles can be applied to non-traditional projects in an academic-centered environment

Thursday, February 13, 2020

Morning Session (10:45 – 11:25)

10:45-10:55 Paper (UG)

Hannah Jones (Mary Springer – Mentor)

Piet Mondrian's Stylistic Development

11:00-11:10 Poster (UG)

Jerod Sharp and Shelby Harris (Roger Sauterer – Mentor)

Testing Different Blocking Buffers and Concentration effects on signal strength by Western Blotting against Cytochrome C

11:15-11:25 Poster (G)

Emily Hamilton, Emily Aldredge, Jane Anglea, Jessica Hullander, Faith Naumcheff and Tiffany Works (Kimberly Wickersham –

Mentor)

Generalist Practice with Individuals, Families, and Groups:

Competency Implementation and Evaluation

11:30 - 12:50 BREAK

Afternoon Session (1:00 - 4:10)

1:00 - 1:10 Paper (G)

Brett Johnson (Manabu Saeki – Mentor)

Positive and Negative Aspects of the United States Social Security Program

1:15 - 1:25 Paper (UG)

Ansley Winter (James Rayburn – Mentor)

Comparing the accuracy of the ImageJ ReadPlate plugin to the spectrophotometer

1:30-1:40 Paper (UG)

Benjamin Junkins (Jaedeok Kim – Mentor)

Expanding "the Quadrature of a Parabola" to Cubic Functions

1:45-1:55 Paper (UG)

Ansley Winter, Zebbian Hill and Kayla Clark (Sarah Wofford – Mentor)

Investigating the Effects of Pharmaceuticals on Decomposition Rates in Aquatic Environments

2:00-2:10 Paper (UG)

Charles Highfield (Benjie Blair – Mentor)

A Bioinformatic Evaluation of a Variant in GABA Transporter Gene SLC6A1 in Conjunction with a Clinical Condition Known as Stormorken Syndrome

2:15-2:25 Paper (UG)

Kaitlin Rayburn (Daniel McGowan and Vicki Tinnon Brock –

Vikings: Heroes or Villians?

2:30-2:40 Poster (UG)

Kyra Watral and Dianna Thompson (Mijitaba Hamissou – Mentor) Production of Competent Cauliflower Protoplast

2:45-2:55 Poster (UG)

Reveca Tomas (James Rayburn – Mentor)

Preliminary investigations into the metrics that can be used to assess Grass shrimp for environmental and ecological studies

3:00 – 3:15 BREAK

3:15-3:25 Poster (UG)

Nichole Taymon (Benjie Blair – Mentor)

SLC6A1 Gene Variant R479: the effects of a mutant stop signal on the GABA transporter protein

3:30-3:40 Paper (UG)

Christopher White (Jason Cleveland - Mentor)

Analyzing tutoring data using regression

3:45-3:55 Paper (G)

Carol Record (Tray Ridlen - Mentor)

Escape from Tox City

4:00-4:10 Poster (UG)

Peighton Tavis and Shelby Harris) (Roger Sauterer – Mentor)

Blocking Buffers and their effects on Mammalian Histones

Friday, February 14, 2020

Morning Session (8:00 – 11:40)

8:00-8:10 Poster (G)

Cecilia Davis (Lori Tolley-Jordan – Mentor)

Urban Cover Impact on Freshwater Snail Distribution

8:15-8:25 Paper (UG)

James King, Madeline Miles and Dexter Ferguson (Sean

Chenoweth – Mentor)

Explorer to Starlink: An Examination of Satellite Imagery Collected

from Disaster Stricken Areas

8:30-8:40 Poster (G)

Taylor Weaver (Tray Ridlen – Mentor)

Women in Visual Arts: A Conversation about Agency and the Male Gaze

8:45-8:55 Paper (UG)

Claire Behan (Allen Gilbert – Mentor)

The Burnout of Student Athletes

9:00-9:10 Paper (UG)

Katelynn Shadoan and Faith Myers (Brianna Turgeon and Sarah

Donley – Mentors)

Ladies, Do Not Pass Go: Changing Cultural Gender Beliefs Through a Gender Monopoly Simulation

9:15-9:25 Paper (G)

Emmanuel Rock (Heidi Dempsey - Mentor)

Identification of Delay Discounting and Associated Measures of Impulsive Behavior

9:30-9:40 Paper (UG)

Kaitlyn Williams (Heidi Dempsey - Mentor)

What's Your Type? The comparison of the Myers-Briggs Type Indicator and the Howell Enneagram Test

9:45-9:55 Poster (UG)

Marcus Shell, Nathan Butler, Joshua Luce and Chao Lin (David Thornton – Mentor)

A Leaderboard Application for Learning Management Systems:

Project Planning with UML

10:00-10:10 Poster (UG)

Shelby Harris (Benjie Blair, Richard Watkins and Jeremy Prokop)

The role of SLC6A1 Variant 468 C R in Myoclonic-Atonic Epilepsy and Autism

10:15-10:25 Paper (UG)

Mariana Alvarez (Chris Murdock – Mentor)

Isolation and Characterization of a Venom Protein, Cratrin, From Crotalus horridus (Timber Rattlesnake)

10:30-10:40 Paper (UG)

Rebecca Blair (Sarah Wofford – Mentor)

Analysis of the Aversive: The Impact of Negative Chemical Stimuli on Faxonius erichsonianus Fighting Behavior

10:45-10:55 Paper (UG)

Mariana Alvarez (Mijitaba Hamissou – Mentor)

Evaluation of anti-wrinkling properties of chili pepper (Capsicum annum) extract

11:00-11:10 Paper (G)

Jessica Maxwell (Mijitaba Hamissou – Mentor)

The effects of cannabidiol (CBD) oil on the growth and proliferation of callus cells and the in vitro embryogenesis in pepper, Capsicum annum, explants

11:15-11:25 Poster (G)

Chelsea Toyer (Mijitaba Hamissou – Mentor)

Evaluation of antiaging-like activity in tigernuts (Cyperus esculentus)

11:30-11:40 Paper (U)

Avery Lowe, William Milner, Kyra Watral, Matthew Hillgartne, Gabrielle Armstrong, Laura Dempsey, Thomas Galbreath, Jamall James, Emma Lindsey, McKenna Mitchell, Amanda Pinkard, Abigail Read, Reagan Tidmore, Ruby Thamert (Allison McElroy – Mentor)

The JSU Biodesign Challenge: Imagine, Experiment, Solve!

11:40 - 12:50 BREAK

Award Ceremony Friday, February 14 at 1:00pm

Awards for Best of School

Best of School of Science (Undergraduate)

Best of School of Human Services and Social Sciences (Undergraduate)

Best of School of Arts and Humanities (Undergraduate)

Best of School of Science (Graduate)

Best of School of Human Services and Social Sciences (Graduate)

Best of School of Arts and Humanities (Graduate)

Awards for Best in Category

Best Paper (Undergraduate)

Best Poster (Undergraduate)

Best Paper (Graduate)

Best Poster (Graduate)

Best Cover Design

Houston Cole Library Award for Research Excellence

Award for Best of Showcase

