

12th Annual



STUDENT
SCHOLARS
SYMPOSIUM

April 13, 2023



From the Provost of Lipscomb University

Dear Student Scholars,

It is my pleasure to welcome you all to the 12th annual Student Scholars Symposium. This event is a testament to the hard work, dedication, and intellectual curiosity of our student body. I am honored to have the opportunity to acknowledge and celebrate your accomplishments as you showcase your research and scholarship.

As scholars, you play an important role in advancing knowledge in your respective fields. Your work is not only critical to expanding the frontiers of understanding, but it is also vital to the future of our society. Your research provides insights into pressing issues, challenges existing ideas, and creates new avenues of inquiry. By presenting your research as a student, you have an opportunity to engage in scholarly conversation and contribute to the academic community.

I would like to take this opportunity to express my gratitude to Florah Mhlanga and the SSS committee for their outstanding work in organizing this event. Their commitment to making this symposium a success is greatly appreciated. I would also like to thank the College of Liberal Arts and Science for their sponsorship of this event. Their support has been instrumental in ensuring that this event continues to be a success year after year.

Finally, to all of the student scholars presenting at this year's symposium, I wish you the very best as you share your work. I hope that this event will be an opportunity for you to demonstrate your knowledge and to learn from your peers. I encourage you to engage in thoughtful discussions and to ask questions that challenge your assumptions. I have no doubt that your research will contribute to our understanding of the world around us.

Once again, congratulations on your achievements, and I look forward to seeing the results of your hard work at this year's Student Scholars Symposium.

Sincerely,



A handwritten signature in black ink that reads "Jennifer W. Shewmaker".

Dr. Jennifer Shewmaker

Opening Session: Shinn Center

Chair: *Dr. Florah Mhlanga, Senior Associate Dean of the College of Liberal Arts & Sciences*

7:30 - 8:30 a.m.	Registration and Coffee
8:30 - 8:45 a.m.	Welcome Dr. David Holmes, Dean of the College of Liberal Arts & Sciences
8:45 - 9:00 a.m.	Opening Remarks Dr. Jennifer Shewmaker, Provost
9:00 a.m.	Opening Prayer Dr. Josh Owens, Assistant Professor of Biology

9:15 – 10:45 a.m. • Concurrent Sessions **Undergraduate Students Presentations**

Paper Presentation IA: Ward Hall

Chair: *Dr. Stephen Opoku-Duah, Langford Professor of Chemistry*

9:15 a.m.	Isolation of HdcB Protein, a Member of the Histidine Decarboxylase Gene Cluster from Probiotic Lactobacillus Seth Meyer, Kamakshi Patel, Niyati Pathek, and Kent Clinger, Chemistry and Biochemistry
9:30 a.m.	Progress on the Synthesis and Analysis of Novel Dihalotetramethylcyclopropanes David Saakov and Kent Clinger, Chemistry and Biochemistry
9:45 a.m.	The X-ray Crystal Structure of the Intermediate in the Chemical Synthesis of Phenylalanine, 1,3-diethyl 2-benzyl-2-acetamidopropanedioate Compared to the Similar Structure of Ethyl 2-acetamido-2-cyano-3-phenylpropanoate Kierolles Shehata and Kent Clinger, Chemistry and Biochemistry
10:00 a.m.	Progress in the Synthesis and X-ray Crystal Structure Determination of Pyridoxyl-amino Acids Grayson Pullias and Kent Clinger, Chemistry and Biochemistry
10:15 a.m.	Development of a Cannabinoid Testing Method Using Blood Plasma Collection Cards and LC-MS/MS Lindsey Reynolds and Matthew Vergne, Chemistry and Biochemistry

10:30 a.m. **The Role of SP-B Peptides in Bacterial-Induced Pneumonia**
Haley Lewis and Kyle Brawner, Biology

Paper Presentation IB: Ezell 301

Chair: *Todd Beard, EAP Program Director*

9:15 a.m. **Understanding Children Through the Lens of the Imago Dei**
Gabriella Brandner and Lauren White, Bible and Ministry

9:30 a.m. **The Nature of Hell**
Madison Arthur and Lauren White, Bible and Ministry

9:45 a.m. **Ecclesiology: Purposeful Living in Christian Community**
Kiah Fisher and Lauren White, Bible and Ministry

10:00 a.m. **The Humanity of Jesus**
Carly Martin and Lauren White, Bible and Ministry

10:15 a.m. **A Prince After His Own Heart: An Analysis of God's Rejection of King Saul**
Tessa Lynn and Philip Camp, Bible and Ministry

10:30 a.m. **Head Coverings in Corinth: Human Hierarchy or Honoring God?**
Savannah Brouwer and Michael Williams, Bible and Ministry

Paper Presentation IC: Ezell 363

Chair: *Dr. David Holmes, Dean CLAS*

9:15 a.m. **AAVE Matters**
Elizabeth Arnold and Jan Harris, English and Modern Languages

9:30 a.m. **The Return to Babel in Brave New World**
Maddie Parrish and Kimberly Reed, English and Modern Languages

9:45 a.m. **A Single Story**
Grey Breen and Jan Harris, English and Modern Languages

10:00 a.m. **Critical Race Theory in Hansberry and Achebe**
Ashlynn Perry and Brandi Kellet, English and Modern Languages

10:15 a.m. **Strategies of Liberation and Empowerment in Black Feminist Literature**
Lydia Jernigan and Jan Harris, English and Modern Languages

10:30 a.m. **Combatting Linguicism Through Spanish Language Education**
Anna Adams and Jan Harris, English and Modern Languages

Paper Presentation ID: Ezell 147

Chair: *Dr. Brandi Kellett, Chair of English and Modern Languages*

- 9:15 a.m. **The Apprentice Clockmaker**
Shelby Hallett and Kimberly Reed, English and Modern Languages
- 9:30 a.m. **The Linguistic Reimagining of Natural Elements in Gerard Manley Hopkins' Nature Sonnets**
Leah Rice and Jan Harris, English and Modern Languages
- 9:45 a.m. **War in Heaven: The Archdeacon's Embodiment of Charles Williams' Coinherence**
Germeen Tanas and Jan Harris, English and Modern Languages
- 10:00 a.m. **From Courtly to Commercial: Opera's Emergence in Seventeenth-Century Italy and France**
Jayna Powell and Donna King, Music
- 10:15 a.m. **Vessel of Joy: An Analysis of Thematic Development and Unique Structure**
Caleb Taylor, Wesley Butler and Jennifer Snodgrass, Music

Paper Presentation IE: Art and Creative Writing Panel Session: Beaman Library, East Wing

Chair: *Dr. Jan Harris, Associate Professor of English*

Co-Chair: *Prof. Rocky Horton, Director of the School of Art and Design*

Panel Title: Battle Royale: Creating the 2023 Concrete Poetry Exhibition

Concrete Art seeks to bring “clarity” and “movement” to the written word. The 2023 Concrete Poetry Exhibition between visual artists and poets embodies the spirit of interdisciplinary collaboration and creativity that inspired the Student Scholars Symposium. In this panel, students will discuss the process of creative collaboration and how they synthesized poems into artworks. Attendees will also have an opportunity to participate in a Q&A session, and to view the installation.

9:15 - 9:55 a.m.: Panel Discussion

Facilitator: Dr. Candice McQueen, President

Panelists:

Zane Arnett, English
Finn Kise, Art
Bee Bruno, Art
Cameron Napier, English
Natalie Butler, Art
Rebecca Olesek, Art
Elaysa Deavor, Engineering
Rachel Randolph, English

Hannah Mae Dowd, Art
Grace Anne Richardson, English
Audrey Gaither, English
Gracie Richmond, Art
Mar'a Harris, English
Addy Sigmon, English
Lauren Kells, English
Sydney Stevens, English

10:00 - 10:45 a.m.: Gallery Viewing

Faculty Sponsors:

Rocky Horton, Director of the School of Art and Design, CEA
Jan Elaine Harris, Associate Professor of English, CLAS
Angela Lee, Associate Professor of Art, CEA

11:00 a.m. – 12:20 p.m.

Lunch and Keynote: Shinn Center

Chair: *Dr. Florah Mhlanga, Senior Associate Dean of the College of Liberal Arts & Sciences*

11:00 a.m. **Lunch**

11:30 a.m. **Keynote Presentation: Does Media Really Matter? Examining the Impact of Media and Marketing on Childhood Development**
Dr. Jennifer W. Shewmaker, Lipscomb University Provost

Dr. Jennifer Shewmaker serves as the Provost and a Professor of Psychology at Lipscomb University. She is the author of two books along with multiple book chapters and articles on the topics of teaching and learning and media's impact on childhood development. She is a nationally certified School Psychologist and Licensed Specialist in School Psychology, who has partnered with professionals in the educational, nonprofit, and health fields throughout her career.

12:30 – 1:50 p.m.

Poster Session: Allen Arena & Shinn Center Lobby

Chair: *Dr. Shanna Ray, Associate Dean of the College of Liberal Arts & Sciences*

Undergraduate Students Poster Presentations

Allen Arena

Group I

Chair: *Dr. Scott Bledsoe, Assistant Professor of History, Politics, and Philosophy*

- 1. Tattooing Through the Ages**
Rebekah Tarbet and Rebecca Doom, Beaman Library
- 2. Urbanization**
Jeret Crouse and Han-Sheng Chen, Business
- 3. Examining Key Aspects of the Environment in Immigration Stories through Visual Analysis in Picture Books**
Emanuela Salvitti, Camden Fain, Ella Saakian, and Jeanne Gilliam Fain, Education
- 4. The Rejection of Mendelian Genetics and How Lysenkoism Impeded Soviet Agricultural Sciences in the Mid-Twentieth Century**
S. Jade Porter and Howard Miller, History, Politics, and Philosophy
- 5. The Spice is Right: Evaluating the Spice and Herb Content of Congregate Meals**
Tessa Vanderkamp and Tracy Noerper, Nutrition

Group II

Chair: *Dr. Brandon Banes, Associate Professor of Mathematics*

- 6. Analysis of Trends in Data of NFL Kickers**
Jeffrey Castillo Kendig, Aram Jimenez, Abigail Thompson, Noah Sheets, Tyler Legere, Micah Morris, and Gary Hall, Mathematics
- 7. Wordle Solver: Writing a Computer Program to Help You Solve Wordle More Often and In Fewer Attempts**
William Fredrick, and Katie Link, Mathematics
- 8. Welcome to our "OOL." Notice that there is no "P" in it. Let's keep it that way. Measurement of acesulfame-K as a biomarker for the estimation of urine volume in pools and spas.**
Kennedy Brothers, Lindsey Reynolds, Tri Do, and Matthew Vergne, Pharmacy
- 9. Understanding the Structure of Spacetime**
Jocelyn Howland, Søren Thompson, and Michael Watson, Physics

10. Measuring the Charge to Mass Ratio (e/m) of an Electron

Leah M. Jacob, Jacqueline M. Ceballos, Christopher Wengert, Dominic Dingus, and Randy Bybee, Physics

Group III

Chair: *Dr. Jackie Spivey, Associate Professor of Psychology*

11. Racial Bias and Death Penalty Cases: A Soar Analysis of Post-Conviction

Ashley McIlvaine and Cayce Watson, Social Work and Sociology

12. When the Victim is Male: Countering Gender Bias Within the Criminal Justice System

Shelby Hobbs and Cayce Watson, Social Work and Sociology

13. Health Equity in the Minority Community

Chad Phan and Cayce Watson, Social Work and Sociology

14. Reclaiming Our Streets: A Framework for Mobility Justice

Calah Gipson and Cayce Watson, Social Work and Sociology

15. Disparities in Access to Health Care at the Intersections of Sexual Orientation and Language

Grayson Pullias and Florah Mhlanga, Biology

Group IV

Chair: *Dr. Jeanne Fain, Professor of Education*

16. Disrupting the School-to-Prison Pipeline: The Development of Strong, Stable Relationships

MacKiah Evie Hoff and Cayce Watson, Social Work and Sociology

17. Reimagining the Foster Care System Through a Trauma-Informed Lens

Carly Quenneville, Autumn Maxwell and Cayce Watson, Social Work and Sociology

18. Neonatal Abstinence Syndrome: Improving Outcomes within Foster Care

Kennedy Bradshaw and Cayce Watson, Social Work and Sociology

19. Autism Spectrum Disorder: The Gap Between Specialized and General School Systems

Alexis L Ketterman and Cayce Watson, Social Work and Sociology

20. Social Turmoil and Adolescent Aggression: A Data Analysis of Violent Crime Committed in Tennessee Amidst the COVID-19 Pandemic

Allie Melhorn, Rachel Russell, and Jaclyn Spivey, Psychology, Counseling and Family Science

Group V

Chair: *Dr. Autumn Marshall, Professor and Chair of Nutrition*

21. How Does Environmental Education Impact Behaviors That Reduce Waste?

Ava Sin and Emily Stutzman, Institute for Sustainable Practice

22. Food Distribution Disparity and Children in Appalachia

Emma Moore, Miranda Johnston, Lydia Hindt, and Emily Stutzman, Institute for Sustainable Practice

23. Exploration of Food Deserts in America

Cindy Duong, Emma Morgan, and Emily Stutzman, Institute for Sustainable Practice

24. Does Climate Change Increase Violent Crimes?

Caitlyn Fisher and Emily Stutzman, Institute for Sustainable Practice

25. Achieving the Slow Fashion Mindset in a Fast Fashion World

Emily Stephens and Emily Stutzman, Institute for Sustainable Practice

Group VI

Chair: *Professor Monica Sartain, Assistant Professor of Civil Engineering*

26. Turfgrasses Aren't Cutting It.

Ashton Edgeworth, Zechariah Olson, Magnolia Baxter, and Emily Stutzman, Institute for Sustainable Practice

27. How Do the Top Technologies Utilized in Cool Roofs Perform?

Ainsleigh Heinzmann, Noora Hama, and Emily Stutzman, Institute for Sustainable Practice

28. Regenerative Agriculture and Soil Health

Siri Gullede, Isabella Wittrig, Amelia Browning, and Emily Stutzman, Institute for Sustainable Practice

29. Urban Greening in Low-Income Communities: Helpful or Harmful?

Lily Whitt, Abigail Miller, and Emily Stutzman, Institute for Sustainable Practice

30. Alternative Lawns and Their Environmental Impact

Kobe Cox and Emily Stutzman, Institute for Sustainable Practice

31. How does extreme heat affect our homeless population in the United States?

Janeyah Anderson and Emily Stutzman, Institute for Sustainable Practice

Group VII

Chair: *Dr. Kyle Brawner, Assistant Professor of Biology*

- 32. Ecological Diversity in the Lebanon Cedar Glades**
Kobe Cox and John Lewis, Biology
- 33. Topoisomerase II affects Zebrafish Mauthner Neurons and Neural Organization**
John Cruz and Bonny Millimaki, Biology
- 34. Effects of Withania Somnifera on Zebrafish**
Diyari Bekhtyar and Bonny Millimaki, Biology
- 35. Evaluating the Effectiveness of the Anthelmintics Mebendazole and Ivermectin on C. elegans Beginning in Larval 1 (L1) Stage**
Raegan Plummer, Eric Schall, Audrey Cox, Justin Hockaday, Giselle Domingo Diaz, Caleb Taylor, and Brian Ellis, Biology
- 36. Examining the Effectiveness of Mebendazole on Larval Stage One C. elegans**
Malia Bennie, Anna Thurman, and Brian Ellis, Biology
- 37. Utilization of Soybean Meal as a Protein Source for Ruminant Livestock**
Kelly Paulson and Florah Mhlanga, Biology

Group VIII

Chair: *Professor Holly Spencer, Instructor and Graduate Program Assistant, Biology*

- 38. Microbial Effect On IDO-1 Expression in Intestinal Epithelial Cells: Implications For Necrotizing Enterocolitis**
Mohraeil Endraws, Arlo Colvard, and Kyle Brawner, Biology
- 39. Effect of Cronobacter sakazakii on Aryl Hydrocarbon Receptor Expression and Activity: Implications For Necrotizing Enterocolitis**
Mariam Bushra, Paul Agaiby, and Kyle Brawner, Biology
- 40. The Relationship Between Oral Pathogen F. Nucleatum and Colorectal Cancer**
Youssef Hanna and Kyle Brawner, Biology
- 41. Using Neonatal Airway Simulators to Teach Surfactant Administration through Laryngeal or Supraglottic Airways in Indian NICUs**
Kaylee Grace Wu and Florah Mhlanga, Biology
- 42. Organic Anion Transporter Trafficking and Uptake in Human Renal Proximal Tubular Epithelial Cells**
Haley Lewis, and Scott Akers, Pharmacy

Group IX

Chair: *Dr. John Lewis, McClure Professor of Biology*

43. The Effects of HD5 on Wound Healing and VTN Expression in Human Colonic Epithelial Cells

Haley Lewis, Madelyn Stephenson, Eli Brooks, Mina Ibrahim, and
Amanda Williams, Biology

44. The Effects of HD5 on Wound Healing and Expression of MMP2 in Human Colonic Epithelial Cells

Ellie Lynn Kowitz, Meredith Comstock, Emily Ibarra, Paige Rietman, and
Amanda Williams, Biology

45. Gaining A Better Understanding of The Pathogenesis Of IBD By Studying The Effects Of HD5 And WISP1 On Colonic Wound-Healing

Sam Attalla, Phillip Murray, Michelle Guzman, Mariam Shalaby, and
Amanda Williams, Biology

46. The Effects of HD5 On Wnt5A Expression and Wound Healing In Intestinal Epithelial Cells In Regards to IBD

Hunter Emanis, Mohraeil Endraws, Timothy Khalil, Toby Renfrow, and
Amanda Williams, Biology

47. The Effects of Monocyte Chemoattractant Protein-1 on Annexin A6-dependent Migration and Proliferation of Triple Negative Breast Cancer Cells

Mina Ibrahim and Amanda Williams, Biology

Group X

Chair: *Dr. Bonny Millimaki, Associate Professor of Biology*

48. Implications of P53 Reactivation in Cervical Cancer

Joyce Lawson and Joshua Owens, Biology

49. The Effects of Valerobetaine in Fatty-Acid Induced Breast Cancer Chemotherapy Resistance

Carolyn Tran, Maryam Mina, Diyar Fadhil, Emerson Kremer, and
Joshua Owens, Biology

50. Elucidating the Effect of Fat Metabolism Inhibition on Breast Cancer Migration

Audrey Birdwell, Lincoln Brown, Joy Hana, and Joshua Owens, Biology

51. A Novel Discovery Platform to Elucidate Novel Microbe-Derived Metabolites And Their Effects On Fatty-Acid Metabolism

Helana Khalif, Carin Ayad, Jackson Head, and Joshua Owens, Biology

52. Using eDNA Metabarcoding to Detect Endangered Freshwater Ray-Finned Fishes

Caton McCarty and Emily Stutzman, Institute for Sustainable Practice

Group XI

Chair: *Dr. Ruth Henry, Professor of and Chair Kinesiology*

53. The Global Impact of COVID-19 on Postpartum Depression:

A Literature Review

Vivienne Hutchins, Jennifer Herring, Lauren Howerton, Tolulope Oshomoji, and Jennifer Hicks, Nursing

54. Quality of Life Comparison of Childhood Versus Adult Onset of Dyskeratosis Congenita: A Literature Review

Caleigh Elwood, Isabella Bogart, Elizabeth Bass, Meray Ayoub, Ashley Emmert, and Jennifer Hicks, Nursing

55. Development and Efficacy of a Fentanyl Vaccine to Reduce Drug Overdose Deaths: A Review of the Literature

Kileigh Rice, Bri Love, Hallie Pennington, Austin Marfell, Emily Upton, and Jennifer Hicks, Nursing

56. The Effect of Platelet-Rich Plasma Injections on ACL Injuries Compared with Surgical Repair Among Young Adults: A Review of the Literature

Ghia Gutierrez, Ahmi Ten Napel, Gabrielle Wilhelm, Sydney Liddle, Rosy Vergara, and Jennifer Hicks, Nursing

57. The Efficacy of Ozone Therapy to Treat Diabetic Foot Ulcers: A Review of the Literature

Bella Segundo, Abigail Brust, Cara Gann, Hope Tomlinson, Diana Saleh, Katelyn Belding, Shealey Payne, and Jennifer Hicks, Nursing

Group XII

Chair: *Dr. Roletha Pillow, Assistant Professor of Nursing*

58. Comparing Pediatric AML Stem Cell Transplant vs Bone Marrow Transplant Rejection Rates: Literature Review

Jenna Martin, Sydni Wolder, Alyssa Gatlin, Claire Graham, Kaitlyn Pruitt, Joe Brown, and Jennifer Hicks, Nursing

59. Are the Children of Parents Who Had Adverse Childhood Experiences (ACEs) at Increased Risk of ACEs Compared to Children of Parents Who Did Not: A Literature Review

Emily Johnson, Morgan Udell, Noah Lennox, and Jennifer Hicks, Nursing

60. **Elevated Cortisol Stress Related Biomarker Among Pregnant Women and the Association with the Onset of Labor: A Literature Review**
Zoe Shah, Abigail Gunter, Savannah Doege, Stephanie Childs, Halema Abdullah, Emma Coles, and Jennifer Hicks, Nursing
61. **Evaluation of the Association between Finnegan Neonatal Abstinence Scoring System (FNASS) and Treatment; A Review of the Literature**
Ashlyn Holmes, Abigail Shanklin, Lindsey Steele, Michelle Garcia, Natasha Hernandez, and Jennifer Hicks, Nursing
62. **The Effects of Intrapartum Epidurals and General Anesthetics on Newborn APGAR Scores**
Camila Gomez, Challise Martin, Jenna McFarland, Shuntivia Campbell, Regiknee Ware, and Jennifer Hicks, Nursing
63. **Pharmaceutical and Non-pharmaceutical Interventions for Infants Born with Neonatal Abstinence Syndrome: A Literature Review**
Meghan Fiorini, Kaitlynn Rankin, Alyssa Lewis, Lydia Miller, Elizabeth Miranda Martinez, Gabriel Trisko, and Jennifer Hicks, Nursing

Group XIII

Chair: *Dr. Stephen Opoku-Duah, Langford Professor of Chemistry*

64. **Isolating an E. Coli Adhesin Protein (PapGII) for Future Thermodynamic Characterization**
Meti Regaa and Brian Cavitt, Chemistry and Biochemistry
65. **Quantitative Assessment of Pozzolanic Effect as a “Green” Supplement for Portland Cement Concrete**
Aaron Huandi Hardy and Brian Cavitt, Chemistry and Biochemistry
66. **Thermodynamic Analyses of papGII, an E. Coli Adhesin**
Sidney Hinson and Brian Cavitt, Chemistry and Biochemistry
67. **Development and Fixation of Latent Prints on Thermal Paper with Nitrogen Dioxide Fuming**
Anna Froemming and Brian Cavitt, Chemistry and Biochemistry
68. **Thermodynamics Analyses of FimH, an E. coli Adhesin**
Angie Sarcona and Brian Cavitt, Chemistry and Biochemistry
69. **To Thermodynamically Characterize Adhesins Contributing to Reversible Primary Colonization**
Antonious Mikael and Brian Cavitt, Chemistry and Biochemistry

Group XIV

Chair: *Dr. Josh Owens, Assistant Professor of Biology*

70. Optical Spectroscopic Detection of Toxic Metals in Victorian Era Book Cloths as part of the Beaman Library Collection

Timothy Khalil, Jafer Aljorani, Leila Ais, and Joseph Weinstein-Webb,
Chemistry and Biochemistry

71. Development of a Simple Method for the Assay of Amino Acid Decarboxylases through Ion Exchange HPLC

Joseph Helmy and Kent Clinger, Chemistry and Biochemistry

72. Organic Chemistry Laboratory Multi-Step Synthesis of Phenylalanine

Kierolles Shehata and Kent Clinger, Chemistry and Biochemistry

73. Progress in the Synthesis of Tetrahalotricyclooctanes

Joy Osipchuk and Kent Clinger, Chemistry and Biochemistry

74. Removal of Cyanotoxins from Drinking Water Sources Using Copper Sulfate and Sodium Peroxyhydrate (PAK 27) Compounds

Kenneth Owusu Klutse and Stephen Opoku-Duah, Chemistry and Biochemistry

75. Heavy Metal Detection in Selected Middle Tennessee Waters Using Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES)

Tony Marine Khalil and Stephen Opoku-Duah, Chemistry and Biochemistry

Group XV

Chair: *Dr. Todd Lynn, Associate Professor and Chair of Civil Engineering*

76. Deployable Truss Bridge for Remote Locations

Jonathan Smith, Ben Reichard, Isaac Braaten, Ryman Lollar, Mathias White,
Ben Aviles, Grayden Shafer, and Fort Gwinn, Engineering

77. Uncovering Diversity, Equity, and Inclusion and Humanitarian Engineering Engagement in the Engineering Field

Amelia Cook, Lewis Ngwenya, and Kirsten Dodson, Engineering

78. Santa Rosita Water Project

Liz Sass, Joshua Purnell, Chase Goodwin, Ryan Pope, David Downs,
Greyson Isenburg, and Kevin Colvett, Engineering

79. Biomedical Waste Incinerator for Developing Communities

McKenna Shepherd, Tim Earles, Summar Hill, Joe Spillers, Josh Hanslip, and
David Collao, Engineering

Group XVI

Chair: *Dr. Kirsten Dodson, Associate Professor of Mechanical Engineering*

80. Wind Tunnel Instrumentation Design

Sierra Moody, Joseph Laporte, Will Welch, Travis Hester, Lui Ngwenya,
and John Hutton, Engineering

81. Evaluation of the Accuracy of Geographic Survey Data using GNSS and UAV Data

Dylan Maynard, Alhawrra Kareem, Jocelyn Sierra-Amaya, and
Jordan Wilson, Engineering

82. Lipscomb Rocketry: University Student Launch Initiative

Elaysa Deaver, Joshua Vielmette, Kevin Tumolva, Austin Justman,
Joseph Malham, Benjamin Powell, and David Elrod, Engineering

83. LEED Senior Design: Engineering Building (Fields Phase II)

Kaitlyn Kirby, Amelia Cook, Amanda Higginbotham, Lesley Mendez,
Jose Mata, Noah Stephens, and Monica Sartain, Engineering

Graduate Students Poster Presentations Shinn Center Lobby

Group XIII

Chair: *Dr. Joseph Bamblér, Associate Professor of Marketing*

84. Better Bones: The Impact of a Pharmacist-Led Preventative Screening Service to Evaluate Osteoporosis-Related Risk of Fractures in Patients with Type II Diabetes

Danielle Oliver and Justin Kirby, Pharmacy

85. The Effect of Push-Pull Factors and Gender on Propensity to Leave Accounting Firms.

Logan Jacobs, Kimberly Ferrari, Mary Kate Smith, and Bonnie Brown, Business

86. Privacy Regulations and Association with Cybersecurity Breach Incidents

Connor Ward, Carley Mitchell, Ruben Hassell, and Jacob Arthur, Business

87. ESG Reporting Effectiveness on Firm Performance

Riley Coggin, Alida Leroux, Eli Self, and Tim Creel, Business

88. ESG Activity and Women in Leadership

Madison Allie, Karoline Nyland, and Marcy Binkley, Business

Group XVIII

Chair: *Dr. Rachel Crouch, Assistant Professor of Pharmacy*

89. Assessing Motivations and Goals for Attending Supplemental Instruction in Student Pharmacists

Gabrielle Jones and Sarah Collier, Pharmacy

90. Advocacy for the Pharmacy Profession by Student Pharmacists – Forget Simply Counting Pills!

Jamessa Cummings, Tri Do, Damian Hardison, Kammeran Cleaves, Samantha Randlett, Anna Grace Scott, Kristen Hammer, Amber Person, David Ray, Chance Hall, James Torr, and Sarah Collier, Pharmacy

91. Getting to Specialty Treatment in Dermatologic Inflammatory Conditions: Treatment Requirements and Patient Journey

Mackenzie Ellis and Kamala Nola, Pharmacy

92. **Repurposing Supplemental Instruction to Cultivate Self-Assessment Skills in Student Pharmacists.**
Lindsey M. McInturff, Madeline DiCenso, and Sarah Collier, Pharmacy
93. **Development of a Clinical Pharmacist Role in Community Pharmacy Practice**
Alyssa Vogel and Justin Kirby, Pharmacy
94. **Outcomes of Pharmacist Led Medication Synchronization in Collaboration with a Primary Care Clinic**
Emily Ward and Justin Kirby, Pharmacy
95. **Knowledge, Beliefs, and Practices of NCAA Coaches and Sports Dietitians on Low Energy Availability**
Laurel Card, Amy Banaszek, and Tracy Noerper, Nutrition

Undergraduate Performances Ezell 147

Poetry and Performances I: *Ezell 147*

Chair: *Dr. Matt Hearn, Professor of English and Modern Languages*

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|------------|---|
| 12:30 p.m. | Dappled by Fire
Austin Mitchell and Dana Carpenter, English and Modern Languages |
| 12:40 p.m. | An Ode to the End of the World (and other things we love that we cannot save)
Erynn Barrett and Steve Prewitt, English and Modern Languages |
| 12:50 p.m. | Where Sun Kisses Skin
Mac Chamberlain and Dana Carpenter, English and Modern Languages |
| 1:00 p.m. | I didn't grow up in a forest
Abigail Miller and Jan Harris, English and Modern Languages |
| 1:10 p.m. | leave the windows open
Lydia Jernigan and Jan Harris, English and Modern Languages |
| 1:20 p.m. | The Truth about Ambrosia
Rachel Randolph and Dana Carpenter, English and Modern Languages |

2:00 – 5:00 p.m. • Concurrent Sessions

Undergraduate Students Presentations II

Paper Presentation IIA: *McFarland 219*

Chair: *Dr. Bonny Millimaki, Associate Professor of Biology*

- 3:00 p.m. **Fuel Your Fitness**
Payton Carpenter, Kourtney Cummins, and Ruth Henry, Kinesiology
- 3:15 p.m. **Determining the Accuracy of Heart Rate (HR) Measured by an Apple Watch**
Olivia DiPaolo, Claire Stephens, Abby Bare, and Ruth Henry, Kinesiology
- 3:30 p.m. **The effects of Meditation and Imagery on Putting Performance**
Austin Tyler Webb, Tanner Burris, Trafton Houck, and Ruth Henry, Kinesiology
- 3:45 p.m. **Significance of known Rab38 Functional Mutations on Lamellar Body Membrane Association in Mouse Lung Epithelial Cells**
Timothy Khalil and Florah Mhlanga, Biology
- 4:00 p.m. **Mebendazole's Impact on the Late Development of *Caenorhabditis elegans*: Stopping Hookworm Larva from Entering the Digestive System**
Mary Mousa and Brian Ellis, Biology
- 4:15 p.m. **A Study to Observe the Effects of Approved and Candidate Anthelmintic Drugs on Varying Larval Stages in *C. elegans***
Sam Attalla and Brian Ellis, Biology
- 4:30 p.m. **Purple Martins at the Nashville Symphony**
Anna Money, Laura Cook, Sandy Bivens, Melinda Welton, Kim Bailey, and John Lewis, Biology

Paper Presentation IIB: *Ezell 301*

Chair: *Dr. Phillip Camp, Professor of Bible*

- 3:00 p.m. **Homosexuality and Christianity: A Brief History**
Benjamin Massa and Lauren White, Bible and Ministry

- 3:15 p.m. **“I Wanted To Do My Part”: Why Female Soldiers in the Civil War Chose to Fight**
Erynn Barrett and Tim Johnson, History, Politics, and Philosophy
- 3:30 p.m. **Time, Relations, and Tensed Facts: A Case for God in Time**
Preston Scott and Caleb Clanton, History, Politics, and Philosophy
- 3:45 p.m. **Maternal Essentialism, Depression, and Internalizing Behaviors: Implications of Intensive Mothering on Child Wellbeing**
Rachel Shannon and Casey McGregor, Psychology, Counseling and Family Science
- 4:00 p.m. **Children’s Spirituality and Resilience**
Meredith Leslie and Holly Allen, Psychology
- 4:15 p.m. **Shostakovich’s Fifth Symphony- Defiance in the Face of Death**
Matthew Martin, and Donna King, Music

Graduate Paper Presentation IIC: Ezell 363

Chair: *Dr. Marcy Binkley, Assistant Professor of Accounting*

- 3:00 p.m. **The Psychology of Web Design: How to Influence User Behavior**
Maggie Bevins and Ken Mayer, Computing
- 3:15 p.m. **Democracy in Honduras**
Oliver Orellana and Scott Bledsoe, History, Politics, and Philosophy
- 3:30 p.m. **Methodology for Communicating Regenerative Design in the Built Environment**
Chloe Trinh and Emily Stutzman, Institute for Sustainable Practice
- 3:45 p.m. **Proximity to Amenities and Urban Mixed-Use Development: An Analysis of Nashville’s Gulch**
Mattie Boles and Emily Stutzman, Institute for Sustainable Practice
- 4:00 p.m. **Is the United States’ Political Climate Responsible for its Diverse Food System?**
Camryn Given and Scott Bledsoe, Leadership and Public Service

Graduate Paper Presentation IID: Ezell 241

Chair: *Dr. Kimberly Reed, Professor of English and Modern Languages*

- 3:15 p.m. **“Anne of Green Gables” and “Anne with an E”: An Analysis of Contemporary Theory on a Classic Text**
Mattie Boles and Dana Chamblee Carpenter, English and Modern Languages

- 3:30 p.m. **Raising the Iron Curtain: Healing Collective Oppression Through Literature**
Alisa Chirkova-Holland and Brandi Kellett, English and Modern Languages
- 3:45 p.m. **How Political Aspirations Conceived A Dramatic Linguistic Shift**
Sean McConnell and Jan Harris, English and Modern Languages
- 4:00 p.m. **Russia's Long War Against Ukraine's Language**
Katherine Shell and Jan Harris, English and Modern Languages
- 4:15 p.m. **Rebuilding the Chorus: Revitalizing Scottish Indigenous Languages**
Austin Mitchell, and Jan Harris, English and Modern Languages
- 4:30 p.m. **My Body Hates Me, I Hate It Back: The Language Surrounding Postural Orthostatic Tachycardia Syndrome (POTS) and Its Effect on Identity**
Courtney Grable, and Jan Harris, English and Modern Languages

Graduate Paper Presentation IIE: *Ezell 147*

Chair: *Dr. Dana Chamblee Carpenter, Associate Professor of English and Modern Languages*

- 3:00 p.m. **The Economics of Elizabeth Bennets**
Sydney Stevens and Kimberly Reed, English and Modern Languages
- 3:15 p.m. **The Regency Era Art of Netting: A Project of Research and Reconstruction**
Anna Adams and Kimberly Reed, English and Modern Languages
- 3:30 p.m. **The Power to Name Disability**
Ryley Jordan Menges and Jan Harris, English and Modern Languages
- 3:45 p.m. **Infinitely, Her Body Sees**
Cassidy Fesmire and Jan Harris, English and Modern Languages
- 4:00 p.m. **Neil Gaiman's Elevated Fairy Tale: Childhood Trauma Through the Lens of Postmodernism**
Faith Adams and Brandi Kellett, English and Modern Languages
- 4:15 p.m. **No Breather**
James Caleb Davis and Brandi Kellett, English and Modern Languages

Poetry and Performances II: *Beaman Library, East Wing*

Chair: *Mrs. Eby Browning, Associate Director of IDEAL*

- 2:00 p.m. **The Small and Violent Means of Liberation**
Leah Rice and Jan Harris, English and Modern Languages
- 2:10 p.m. **Safer Together**
Grace Anne Richardson and Jan Harris, English and Modern Languages
- 2:20 p.m. **List of Lamentations**
Kearra Weiting and Jan Harris, English and Modern Languages
- 2:30 p.m. **Sound of the Vacuum**
Peyton Anderson and Jan Harris, English and Modern Languages
- 2:40 p.m. **I don't want to face the ending alone**
Martha Pauline Harris and Jan Harris, English and Modern Languages
- 2:50 p.m. **Remind yourself why you're here**
James Caleb Davis and Jan Harris, English and Modern Languages

Poetry Performances III: *Beaman Library, East Wing*

Chair: *Professor Rebecca Clark, Associate Professor and Chair of Social Work and Sociology*

- 3:30 p.m. **How Much of Us Are Relics**
Sydney Stevens and Jan Harris, English and Modern Languages
- 3:40 p.m. **I am Remnants**
Addy Sigmon and Jan Harris, English and Modern Languages
- 3:50 p.m. **strawberry seeds in the cornfield**
Rachel Randolph and Jan Harris, English and Modern Languages
- 4:00 p.m. **Do not be concerned**
Elaysa Deaver and Jan Harris, English and Modern Languages
- 4:10 p.m. **to resist phantom voices**
Lauren Kells and Jan Harris, English and Modern Languages
- 4:20 p.m. **All My Drunken Ghosts**
Emma Visker and Jan Harris, English and Modern Languages

3:00 – 4:40 p.m. • Concurrent Sessions
Graduate Students Presentations

Graduate Paper Presentation: *Ward Hall*

Chair: *Dr. Trace Hebert, Associate Provost for Research and Graduate Studies*

- 3:00 p.m. **Relations Between Canaan and Egypt During the Middle Kingdom**
Andrew T. Cahill and Mark Janzen, Archaeology
- 3:20 p.m. **In the Footsteps of Sheshonq I: Narrowing the Gap for the Date of the Levantine Campaign of Sheshonq I**
Matthew Bronson and Steven Ortiz, Archaeology
- 3:40 p.m. **Emotional Recognition in the Face of Depression and Anxiety**
Bailey McCarl, and A. J. Heritage, Psychology, Counseling and Family Science
- 4:00 p.m. **Impact of Bacterial Metabolite δ -Valerobetaine on Triple-Negative Breast Cancer Proliferation**
Madeleine Enos, and Joshua Owens, Biology
- 4:20 p.m. **In Vitro Drug Metabolism Study of the Antiarrhythmic Molecule ent-Verticilide**
Tri Do and Rachel Crouch, Pharmacy

5:00 – 6:00 p.m.
Reception and Awards Ceremony: Shinn Center

Chair: *Dr. Joseph Weinstein-Webb, Assistant Professor of Chemistry*

Presentation of Awards: *Dr. Jennifer Shewnmaker, Provost*

Closing Remarks: *Dr. Florah Mhlanga, Student Scholars Symposium Director*

Announcement of Outstanding Student Presenters

Undergraduate Oral Presenters: *Dr. Josh Owens, Assistant Professor of Biology*

Undergraduate Poster Presenters: *Dr. Shanna Ray, Associate Dean and Professor of Psychology*

Graduate Oral Presenters: *Dr. Brandon Banes, Associate Professor of Mathematics*

Graduate Poster Presenters: *Dr. Brandon Banes, Associate Professor of Mathematics*

Acknowledgments

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Organizing Faculty and Staff

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Dr. Jan Harris • Dr. Joseph Weinstein-Webb • Dr. Brandon Banes
Danna Perry • Andrea Davis • Lori Martin

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