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ORCA Annual Report 2022-23

MSU ORCA

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Office of Research and Creative Activity

Annual Report 2022-23

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Annual Report 2022-23

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Contacts

A.J. Boston
Associate Professor, University Libraries
ORCA Coordinator
aboston@murraystate.edu

Cris Ferguson
Dean, University Libraries
cferguson13@murraystate.edu

Advisory Board Members 2022-23

Arthur J. Bauernfeind College of Business

- Dr. Ismail Karabas, Dept. of Management, Marketing, and Business Administration
- Dr. Melony Shemberger, Dept. of Journalism & Mass Communication

College of Education and Human Services

- Dr. Andrea Willson, Dept. of Early Childhood and Elementary Education
- Dr. Miguel Gomez, Dept. of Adolescent, Career, and Special Education

College of Humanities & Fine Arts

- Dr. Tracey A. Garcia McCue, Dept. of Psychology
- Mr. T. Michael Martin, Dept. of Art and Design

Hutson School of Agriculture

- Dr. Megan Taylor, Dept. of Agricultural Sciences
- Dr. Jeffrey Young, Dept. of Agricultural Sciences

Jesse D. Jones College of Science, Engineering & Technology

- Dr. Rupkatha Bardhan, Dept. of Occupational Safety and Health
- Dr. Christopher Trzepacz, Dept. of Cell and Molecular Biology

School of Nursing and Health Professions

- Dr. Kelly L. Taylor, Dept. of Occupational Therapy

University Libraries

- Mrs. Dana Thompson, Associate Dean

21st Annual Posters-at-the-Capitol

TOTAL # of SLOTS ALLOWED: 12

TOTAL # of SLOTS FILLED: 12

Projects on Display

Arthur J. Bauernfeind College of Business

- *Accounting*
 - Students: Christopher Hill, Bria James
 - Mentors: Najib Sahyoun
- *Computer Science / Information Systems*
 - Students: Joel Bulkley
 - Mentors: Marc Beck

College of Humanities & Fine Arts

- *Political Science and Sociology*
 - Students: Akayla Henson
 - Mentor: Brittany Wood

Hutson School of Agriculture

- *Agriculture Science*
 - Students: Allison Croslin, Anna Griggs, Ashley Himmelsbaugh, Ashton A. Crowe, Ava Isaacs, Eva Brogue, Gracey Moffitt, Madilyn Adamchik, Miranda Rudolph
 - Mentors: Alyx Shultz, Iin Handayani, Megan Taylor, Shea Porr

Jesse D. Jones College of Science, Engineering & Technology

- *Biology*
 - Students: Daniel R. Wahl
 - Mentors: Christopher W. Lennon
- *Chemistry*
 - Students: Elizabeth McGrew
 - Mentors: Kevin M. Miller
- *Earth and Environmental Science*
 - Students: Skylar Ross
 - Mentors: Jessica B. Moon



Murray State University again planned the statewide *Posters-at-the-Capitol* program. All of Kentucky's public universities participated. The event took place on March 2, 2023. The welcome ceremony was emceed by **MSU Provost Dr. Tim Todd**, with special remarks from **KY CPE President Dr. Aaron Thompson**, **Senator Stephen West**, and **Representative James Tipton**.

All projects available at <https://digitalcommons.murraystate.edu/postersatthecapitol/2023/Murray/>

Fall & Spring Scholars Week 2022-2023

Scholars Week events took place in Waterfield Library, the Curris Center Ballrooms, and other locations on campus and online. During AY 22-23, 350+ students gave presentations with 88 faculty mentors.

5th Annual Fall Scholars Week

Total Number of Events/Panels Included: 12
Total Number of Individual Presentations Reported: 88

Total Number of Individual Faculty Mentors Listed: 31
Total Number of Individual Students Listed: 132

Arthur J. Bauernfeind College of Business

- [New Research Insights in Media History](#)
- [Public Relations: A Digital Poster Showcase of Research Proposals](#)

College of Humanities & Fine Arts

- [Psychology Department Showcase: Completed Projects](#)
- [Psychology Department Showcase: Projects In-Progress](#)
- [Phi Alpha Theta Panel](#)
- [Senior Seminar in Literature](#)

Hutson School of Agriculture

- [Soils and Sustainability](#)

Jesse D. Jones College of Science, Engineering & Technology

- [Conservation Biology Service Learning Poster Session](#)
- [Earth and Environmental Sciences Poster Session](#)

School of Nursing and Health Professions

- [Senior Nursing Poster Session \(Virtual\)](#)

University Libraries

- Images of Research Competition

Honors College

- [Senior Thesis Presentations](#)

21st Annual Spring Scholars Week

Total Number of Events/Panels Included: 12
Total Number of Individual Presentations Reported: 143

Total Number of Individual Faculty Mentors Listed: 57
Total Number of Individual Students Listed: 212

College of Humanities & Fine Arts

- [Global Languages Senior Colloquium](#)
- [Political Science and Sociology Panel](#)
- [Psychology Department Showcase: Completed Projects](#)
- [Psychology Department Showcase: Projects In-Progress](#)
- Spring 2023 Art & Design Senior Capstone Exhibitions

Jesse D. Jones College of Science, Engineering & Technology

- [Conservation Biology Service Learning Poster Session](#)
- [Sigma Xi Poster Competition](#)
- [Watershed Studies Institute Research Symposium](#)

School of Nursing and Health Professions

- [Senior Nursing Poster Session \(Virtual\)](#)

University Libraries

- Images of Research Competition

Honors College

- [Senior Thesis Presentations](#)

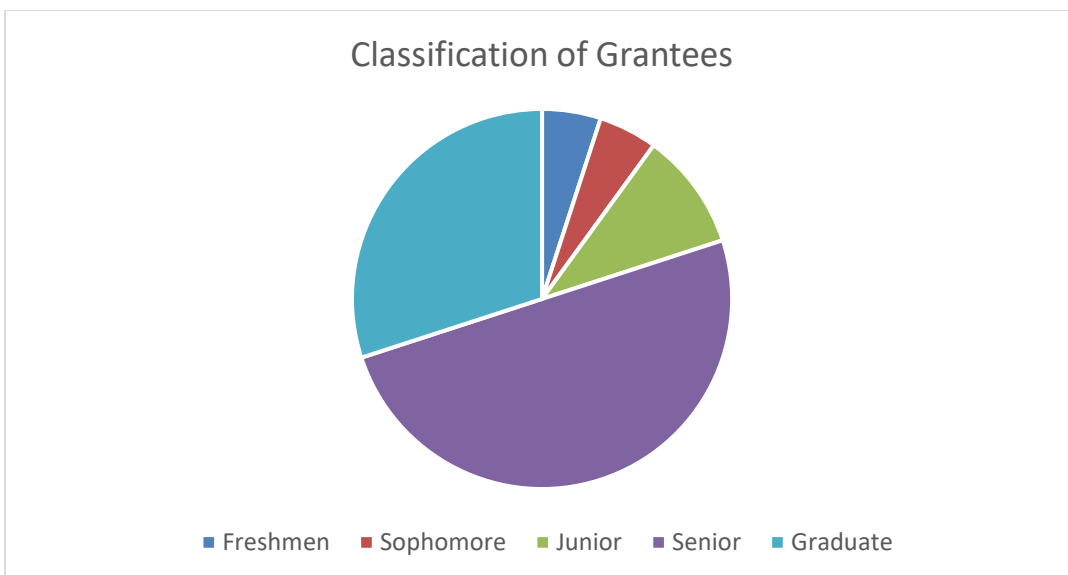
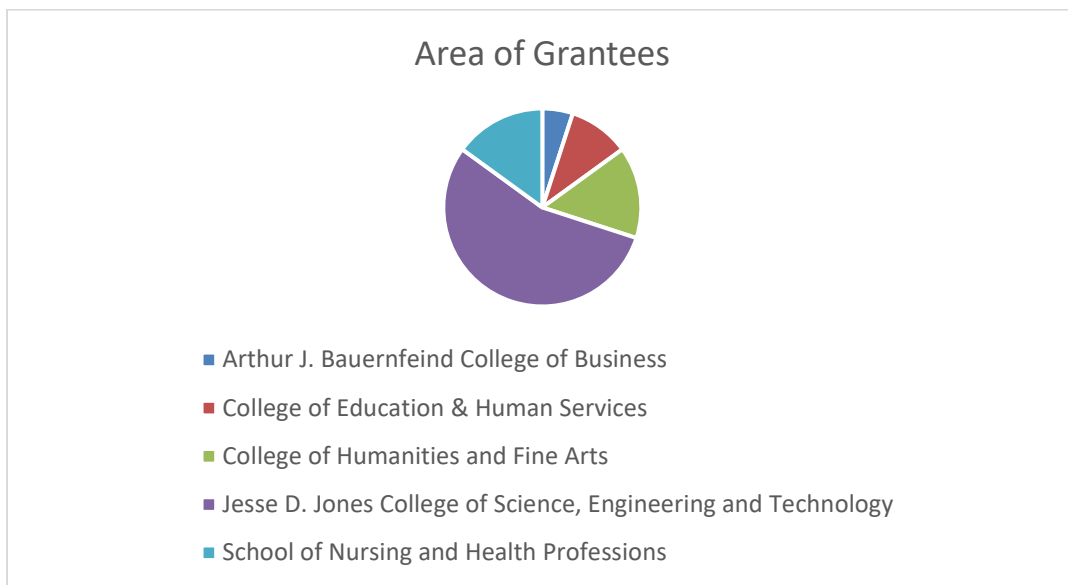
Phi Kappa Phi

- "Love of Learning" Panel

Research & Travel Grants

ORCA has a modest amount of funds available to assist faculty-mentored, student research projects **or** to assist students in support of travel to present, perform, or exhibit their faculty-mentored research or creative activity at off-campus professional conferences or gatherings. Research Grants are vetted by the full ORCA Advisory Board whereas Travel Grants are awarded based upon receipt of conference acceptance notification for the student and remaining funds.

Total Number of Grants Awarded: **20**
Total Number of Individual Faculty Mentors: **17**
Total Amount Awarded: **\$15,485**



ORCA Research & Travel Awarded Projects, 2022-23

| | | | | |
|--|-----------|-------------|----------|---|
| <u><i>A Bayesian Examination of the Effect of a Mental Health Psychosocial Education Vignette on Stigma Toward Persons with Schizophrenia and Depression</i></u> | Lainie | Krumenacker | Graduate | Clinical Psychology |
| <u><i>Addressing Burnout in New Graduate Nurses</i></u> | Shan | Gordon | Graduate | Nursing |
| <u><i>Amplifying the "A" in STEAM Education</i></u> | Grace | Floerke | Freshmen | Middle School Education |
| <u><i>Analyzing Post-fledging Movements, Survival, and Space Use of First-year Black Vultures (<i>Coragyps atratus</i>) in Kentucky</i></u> | Philip | Kavouriaris | Graduate | Biology |
| <u><i>Assessing the Influence of Urban Greening on Urban Arthropods</i></u> | Brendon | Lawrence | Senior | Wildlife and Conservation Biology |
| <u><i>Competitive Marching and Psychological Needs</i></u> | Xavier | Brown | Graduate | Major: Psychology Minor: Biology |
| <u><i>Does Real-Life Location Matter in The Electronic World? How New Esports Fans Choose What Team to Support</i></u> | Gavin | Nolin | Senior | Marketing |
| <u><i>Dual-ionic liquid functionalized cellulosic materials: Thermal, mechanical and conductive properties</i></u> | Elizabeth | McGrew | Senior | Biochemistry |
| <u><i>Engineering Technology Undergraduates Assisting PhD Research through Automation</i></u> | Jake | Hildebrant | Junior | Electromechanical Engineering and Technology with a focus in Automation |
| <u><i>Immersion and Handicapping</i></u> | Tyler | Robinson | Graduate | Psychology |
| <u><i>Interactive Addressing of Body Image Insecurity in Adolescent Females</i></u> | Haylee | Cox | Senior | Middle School Education- ELA |
| <u><i>One-Dimensional and Two-Dimensional Simulations of Helical Homopolymers</i></u> | Matthew | Hooks | Senior | Engineering Physics |

| | | | | |
|--|----------|--------------|-----------|---|
| <u>Physicochemical properties of urethane-containing imidazolium ionic liquids from a non-isocyanate synthetic approach</u> | George | Timmermann | Senior | Chemistry/Materials Science/Mathematics and Physics |
| <u>Standardized Oral Care Regimen</u> | Abigail | Breite | Graduate | Family Nurse Practitioner |
| <u>Structure-property behavior of ionenes-based polyurethanes</u> | Jeremiah | Coughlon | Sophomore | Chemistry |
| <u>Swelling behavior of poly(ionic liquids) in different solvents and salt solutions</u> | Pierson | Perdue | Senior | Polymer and Materials Science/Mathematics |
| <u>The Relationship Among Vertical Jump Height, Sprint Time, and Fatigue Index in College Students</u> | Makenna | Morefield | Senior | Exercise Science |
| <u>Titer Concentration Testing for Leptospirosis in Equine</u> | Ashley | Himmelsbaugh | Senior | Equine Science |
| <u>Wastewater-based epidemiological determination of drugs discharged at the rest areas and truck servicing facilities during federal holidays in the U.S.</u> | Andrew | Windhorst | Junior | Biology/Chemistry |
| <u>Water solubility structure activity relationship of chalcones for aqueous applications</u> | Grace | Yocum | Senior | Chemistry Polymer/Material Science |

Steeplechase: An ORCA Student Journal

Current Issue: Volume 6, Issue 2 (2023) Spring 2023
digitalcommons.murraystate.edu/steeplechase/vol6/iss2/

- [Letter from our outgoing Student Editor](#)
- One feature research summary
 - [A Bayesian Examination of the Effect of a Mental Health Psychosocial Education Vignette on Stigma Toward Persons with Schizophrenia and Depression](#), Lainie Krumenacker
- Four ORCA Travel Grant Spotlights
 - Three posters
 - One recorded presentation
- One "Inside Research" recorded interview
 - Research Discussion with Philip Kavouriaris
- Five *Images of Research* Competition winners
 - 1st Place: [Hoy No Hoy Gasolina](#) by Jesus Moreno [featured below]



Volume 6, Issue 1 (2022) Fall 2022
digitalcommons.murraystate.edu/steeplechase/vol6/iss1/

- Featured *Images of Research* Competition winners
 - "Bald and Beautiful" (1st Place)
 - Evan Barr
 - "Automotive Decline" (2nd Place)
 - Kaylee Vanlue
 - "Regrowth" (3rd Place)
 - Madison Hernandez
 - "Infinity Ingress" (Honorable Mention)
 - Boaz Burnett
 - "Wonder" (Honorable Mention)
 - Bethanie Bailey

Note: In 2023-24, Steeplechase will move from a once-per-semester publishing schedule to a once-per-academic year publishing schedule. Additionally, Steeplechase will focus more narrowly on highlighting recipients of ORCA Grantees.

University Distinguished Mentor Award

ORCA continued the tradition of coordinating Murray State University's 17th annual University Distinguished Mentor Award (UDMA). The Office of the Provost, in conjunction with the Office of The Office of Scholarly and Creative Activity, is present the Distinguished Mentor Award in recognition of extraordinary efforts of Murray State faculty in the area of undergraduate and graduate student mentoring, which is understood as a sustained partnership of mutual concern significantly fostering students' intellectual, ethical and academic development above and beyond expectations of even excellent advising and teaching.

UDMA 2023 Recipient

Dr. Miguel Gomez, Middle School Education Program

Award Chair, 2021-22

Dr. Amanda Joyce

Selection Committee Members

Arthur J. Bauernfeind College of Business

- Dr. Brian Perna

College of Education and Human Services

- Dr. Donna Crouch

College of Humanities & Fine Arts

- Dr. Jie Wu

Hutson School of Agriculture

- Dr. Brian Parr

Jesse D. Jones College of Science, Engineering & Technology

- Dr. Michael Flinn

School of Nursing and Health Professions

- Nancy Armstrong, RN, DNP

University Libraries

- Mrs. Megan Wilson

Previous Recipient Serving on Committee

- Dr. Iin Handayani