

INQUIRIES

NEWSLETTER FROM THE UMKC OFFICE OF UNDERGRADUATE RESEARCH & CREATIVE SCHOLARSHIP



Fall Symposium

for Undergraduate Research and Creative Scholarship

Our Fall Symposium gave us the opportunity to stretch and grow. We tried some new things. We had conversations about topics ranging from dreams to vampiresses to hurricanes. And we asked a lot of questions about perspectives that were new to us.

More than 200 students presented at the symposium held on Wednesday, November 20, and Thursday, November 21, 2024. Most participants were enrolled in EUREKA! courses this fall. These courses infuse research skills into the classroom in a variety of disciplines.

Students from majors across UMKC learned about how to form a research question, collect information, and report findings. These projects were done through general education critical thinking courses like “Nature’s Fury” with Dr. Alison Graettinger and “Perspectives in Gender and Economy” with Dr. Sirisha Naidu, in English courses like “Literary Monstrosities” with Dr. Spencer Keralis and “Intermediate Academic

Prose” with URCS Director Dr. Jane Greer, and in the History course “Holocaust and Comparative Genocides” with Dr. Drew Bergerson.

Other students presented their own research projects as well, representing majors like Earth and Environmental Sciences, Psychology, Health Sciences, English, Economics, and Biology.

Students made important connections between their specific goals, interests, and experiences to their project topics. A medical student explained how writing studies and ethics relate to their professional goals. A business student was able to better understand their parent’s challenges as a teacher due to personal and sick leave policies.

These are just a few of the “aha” moments that this symposium brought to us, the participants, and the attendees that lead to new understandings because of our undergraduate researchers.

Read on for more reflections and future opportunities



Undergraduate Research and Creative Scholarship

umkc.edu/undergraduate-research

The Office of Undergraduate Research and Creative Scholarship (URCS) supports high-impact learning opportunities by funding the work of undergraduate researchers, scholars, and artists; linking students with research opportunities; providing opportunities for students to enhance intellectual and career-building skills; and supporting faculty mentorship.

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Shuhao Cao, Mathematics

Alison Graettinger, Earth & Environmental Science

Jane Greer, English

Amanda Grimes, Health Sciences

Lani Hamilton, Music Education

Kimberly Johnson, Multicultural Student Affairs

School of Education, Social Work, & Psychological Sciences

Debra Leiter, Political Science

Jesse Lowe, Computer Science

Hillary McGraw, Biological Sciences

Zahra Niroobakhsh, Mechanical Engineering

Paul Rulis, Physics

Jeff Rydberg-Cox, Classical Studies

Maria Spletter, Biological Sciences

Westley Youngren, Psychology

Student Ambassadors

Fardowsa Ahmed, Health Sciences, 2025

Julia Bruno, Environmental Science, 2025

Yasmeen Hanon, Political Science/Environmental Studies, 2025

David Keltner, Physics, 2026

Isabelle Schroeder, English, 2026

A note from your new Assistant Director, Alicen Lundberg

Since joining the team earlier this semester, I have felt so welcomed and supported. I started my UMKC career in 2010 and am grateful for some familiarity as I learn more about our URCS programs and how I can best support our students and faculty.



My academic background is in philosophy and English. I infuse research in phenomenology, design, literature, and neuroscience into my creative practices in writing, sewing, and book making. Some of my recent research joys have been participating in an artist residency through Charlotte Street Foundation, telling a story about "Home" at Shelf Life, curating for two years at PLUG gallery, and contributing to a collaborative memorial quilt project for Greenwood in Tulsa.

If you are a faculty member who is interested in getting more involved in mentoring undergraduate students, a campus partner who wants to collaborate on a workshop, or a student who wants research to be part of your student experience, I am excited to work with you!

Alicen D Lundberg
FIRST GEN PROUD

What were your early experiences with research?

Public and school libraries were my sanctuaries growing up. I would go to the librarians with strange questions and they would lead me down the rabbit holes using books, films, and microfiches as my guides. At 15, one of my classes required a public oral presentation about a yearlong research project—mine was on the history of the death penalty in the U.S. and its depictions in media. This led to a mentorship with my high school's philosophy teacher and working with the ACLU on an appeal case (which was successful). Connecting theory and practice has been important to me ever since.

What are you looking forward to in this role?

The desire to learn from and with people different than oneself is palpable at UMKC. I'm looking forward to connecting with students and faculty across the university, expanding the complexities and ranges of viewpoints I'm able to comprehend, and using feedback to enhance our ability to provide meaningful experiences for all involved in undergraduate research.

Undergraduate Researcher Earns Grand Prize in National Student Award



Recently highlighted in *UMKC Today*, **Mya Thomas ('25)** exemplifies how to make the most of one's undergraduate experience by leaning into a variety of challenges and opportunities. She does it while pursuing her B.S. in Earth and Environmental Science with an emphasis in Geology, the Geographic Information Systems certificate, and two minors in Astronomy and Physics.

This December, Mya will present on the NASA Hyperwall at the American Geophysical Union Annual Meeting as recognition for being the grand prize winner of the 2024 AGU Michael H Freilich Student Visualization Competition. The prize comes with three years of professional development opportunities and moves her closer to her goal of working on a mission planning team at NASA.

Mya became involved in research her freshman year by joining the Baja Racing Team. Since then,

Mya has been awarded a SUROP grant and two SEARCH grants during her time at UMKC. She was selected to represent UMKC at the Undergraduate Research Day at the Capitol in Jefferson City in 2024. She also earned the distinction of being an Undergraduate Research Fellow.

[Read article >](#)

Publication Spotlight

Alum undergraduate researcher **Julia Boyd** continued to develop her research begun with a SUROP grant in 2018 even after graduating. The coauthored article "Identification of candidate martian maars in Arena Colles and Nephentes/Amenthes with extension to maars as a proxy for past ground water/ice depths" is about space volcanoes.

[Read article for free until Jan. 3, 2025 >](#)



Bailee Ehlers ('26) was a research subject before becoming a research assistant for Dr. Westley Youngren's NITE Lab. Learn about this research on sleep and dreams in *UMKC Today*.

[Read article >](#)

We want to celebrate your students' accomplishments!

Please share news of your students' projects, presentations, publications, performances, or off-campus research experiences. Email details to Alicen Lundberg at lundberga@umkc.edu.

Plan Ahead for Spring Opportunities

FRI 2.14	Lightning Talks Registration Deadline, 5:00 pm
WED 2.26	Lightning Talks on Research, Scholarship, & Art, 10:00 am-1:00 pm MNL's Digital Collaboration Studio Give a 3-minute presentation on your research.
SAT 3.1	UR Fellow Transcript Designation Deadline, 5:00 pm Apply to be recognized for your involvement in research.
SAT 3.1	UR Award for Excellence in Mentoring Nomination Deadline, 5:00 pm Nominate exceptional faculty mentors for this honor.
FRI 3.7	SUROP Grant Application Deadline, 5:00 pm Apply for competitive grants to fund student-led, faculty-mentored projects for Summer 2025.

25th Annual Symposium of Undergraduate Research & Creative Scholarship

Presentation proposals will be accepted until April 4, 2025, as space allows. Priority will be given to those who register by March 14, 2025.

FRI
3.14 **Priority Registration**
Deadline, 5:00 pm

FRI
4.4 **Final Registration**
Deadline, 5:00 pm

THU
4.24 Pierson Auditorium
Learn about students' research, scholarly, and artistic work.

Celebrating
— 25 YEARS —
of Undergraduate Research and
Creative Scholarship at UMKC

Applications and registration forms for all programs can be found on the website:
umkc.edu/undergraduate-research

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2024-2025 SEARCH Grant Awards

Julia Bruno ('25)

Geology major

"Understanding the Eruptive and Thermal History of Dotsero and Cerro Overo Maars"

Mentor: Alison Graettinger

Chloe Craig ('25)

Geology major

"A Record of Paleohurricanes from Grain-size Analysis of Sediment Cores, Clear Pond, The Bahamas"

Mentor: Tina Niemi

Andrew Custis ('27)

Geology major

"Enhancing Analytical Techniques for Faster and Accurate Estimation of Microplastic Concentration in Groundwater"

Mentor: Jejung Lee

Johnny Diep ('26)

Physics & Computer Science majors

"Linking the Atomic and Electronic Structure of

Amorphous Silicon Rings"

Mentor: Paul Rulis

David Keltner ('26)

Physics major

Sienna Ficken ('27)

Biology major

"Investigation of PKA dependency of Bru1 nuclear translocation in Drosophila muscle"

Mentor: Maria Spletter

Olivia Fritz ('26)

Biotechnology major

"Investigating the Structural Basis of Lomitapide Inhibition of the Ceramide Transfer Protein CERT"

Mentor: XiaoLan Yao

Yasmeen Hanon ('25)

Political Science & Environmental Studies majors

"Swimming Upstream: Water Conflicts as Resource War Outliers"

Mentor: Rebecca Best

Ruweyda Hassan ('25)

Chemistry & Political Science majors

"Media Framing and its Impact on Muslim Political Ambition"

Mentor: Debra Leiter

Marc Herman ('28)

Six Year Medicine program

"An Epigenetic Approach to Controlling Cytokine Release Syndrome in CAR-T Cell Therapy"

Mentor: Daniel Scott

Sam Herman ('27)

Biology major

"Investigation of How Axon Guidance Molecules Operate in a Lineage-Restricted Manner"

Mentor: Haluk Lacin

Z Kemp ('25)

Civil Engineering major

"Properties of Kaolin Slurries and Burned Soil: Applications in Post-Wildfire Debris Flow"

Mentor: Megan Hart

CJ Kreeger ('25)

Environmental Science major

"Assessment of Macro- and Microplastic Pollution at Beaches and in Beach Sand on San Salvador Island in The Bahamas"

Mentor: Tina Niemi

Rachel Marquart ('25)

Geology major

"Characterization of the Elm Branch Shale in Kansas City, MO"

Mentor: Tina Niemi

Cadao P Nguyen ('25)

Chemistry major

"Investigation of anti-fogging properties of surfactants"

Mentor: Xiaobo Chen

Spencer Norman ('27)

Urban Planning and Design major

"Public Transportation Stop Improvement within Kansas City"

Mentor: Sungyop Kim

Vari Patel ('25)

Finance & Political Science majors

"State Legislative Term Limits and Representational Loss"

Mentor: Greg Vonnahme

Ainsley Pickering ('26)

Psychology & Criminal Justice and Criminology majors

"Dreaming, a Reflection of Mental Health"

Mentor: Westley Youngren

Wylie Putnam ('26)

Physics & Chemistry majors

"Characterization of Malassezia pachydermatis Isolates from the Oral Cavity of Kansas Canines"

Mentor: Brooke Esquivel

Alex Rose ('26)

Biology & Chemistry majors

"Solar-Powered Reactor for Clean Energy"

Mentor: Xiaobo Chen

Mya Thomas ('25)

Geology major

"Field and remote identification of small diameter lava tubes from 1961 lava flow at Askja, Iceland"

Mentor: Alison Graettinger

Gabriel Worcester ('26)

Biomedical Engineering major

"Physics-Driven Force-Feedback Haptics for Augmented Reality Mid-Urethral Sling Surgical Training"

Mentor: Antonis Stylianou

Undergraduate Research Fellows

Students who have been deeply involved in research or creative scholarship may be recognized as Undergraduate Research Fellows, a designation that appears on their official transcripts. To be recognized, students must demonstrate that they have developed a research question, identified appropriate methods to pursue that question, carried out the project, and circulated the work to a wide audience. The following students were awarded the Undergraduate Research Fellow transcript designation in Fall 2024.

Kailynn Barnt ('25)

Computer Science

Tessa Eads ('24)

Biology

Yasmeen Hanon ('25)

Political Science/Environmental Studies

Audrey Harper ('24)

Psychology/Chemistry

Ruweyda Hassan ('25)

Chemistry/Political Science

Jordan Jackson ('25)

Psychology

Rahma Mohamed ('24)

Health Sciences

Semire Olatunde-Salawu ('26)

Electrical & Computer Engineering

Theo Raitzer ('25)

Economics

Krystal Towne ('24)

Health Sciences

Nathan Vanzeyl ('26)

Urban Planning & Design



SUROP Symposium

There were 24 students who made the SUROP Poster Symposium on August 29, 2024, an inspiring day. They shared information about microplastics, community exercise programs, Martian craters, home loans in Kansas City, folklore influences on language in Peru, and more.

Nineteen of the projects stemmed from grants awarded through UMKC's Summer Undergraduate Research Opportunity (SUROP) program. Other presentations came from participants in the Practical STEM Workforce Preparation Program.

The attendees inspired the presenters with their questions and insights. Each conversation continued the growth and expansion that comes from being involved in undergraduate research and creative scholarship.

Prepare for the next round of SUROP Grants

Undergraduate students who wish to conduct scholarly, research, or creative projects under the direction of a faculty mentor may apply for a competitive Summer Undergraduate Research Opportunities (SUROP) Grant. SUROP provides students with a \$2,250 tuition grant and up to \$1,500 in reimbursable research expenses for projects undertaken during the summer.

For the 2025 Summer Term, applications will open by early January. They will be due by 5:00 p.m. on March 7, 2025.

[Learn more on the URCS website >](#)

Advisory Board Welcomes New Members

We have a number of new members to our Advisory Board for Undergraduate Research and Creative Scholarship. As strong advocates for undergraduate research and creative scholarship across the university, our board members are integral to the success of our programs. They provide constructive feedback so we can continually evaluate and improve the URCS experience for students and faculty. In this newsletter, we'll introduce Dr. Maria Spletter (Biology) and Dr. Westley Youngren (Psychology). [Learn more about our Advisory Board >](#)

Maria Spletter's research interests are in understanding how the regulation of RNA processing and alternative splicing defines the structure and function of muscles.

What were some of your early experiences with research?

My earliest experiences with research in middle and high school were tagging along with a family friend who studies Bald Eagle, Goshawk, and Pygmy owl populations in northern Wisconsin. In college, I gravitated towards the genetics and molecular biology fields, and from my freshman year worked in a lab studying epidermal patterning in the plant *Arabidopsis*. The highlight of my sophomore year was a weeklong trip to UC-Davis to do a pilot laser ablation study. These early experiences with independent research taught me to think and plan experiments on my own, and they provided an early introduction to collaborative research and grant writing.

How do you incorporate undergraduate students into your research?

I design projects for undergrads aimed at producing a panel for a figure and have the students work through all of the steps in the experiment to actually produce that data panel. They get to experience the scientific

process in action, from planning and executing all steps in the experiment, to troubleshooting and hopefully ultimately completing a figure panel and earning an authorship on a publication. We proceed to the next experiment based on their results, providing lessons in hypothesis testing and generation. I support undergraduates for experiences tailored to their own availability and interests, from one-semester research course experiences all the way up to doing a senior thesis and presenting completed projects at national conferences.

What have you found unique about UMKC students?

UMKC students are very diverse and come from many different backgrounds, and I find it rewarding to see their personal and professional growth, and watch them achieve their educational and career goals. I also find that a lot of UMKC students have a good knowledge of their abilities and time, gained from balancing studies with work and other non-academic responsibilities. I hope the research experiences I provide fuel their passion for biology, help justify the hardwork they put into their courses, and provide an entry point for careers in research and STEM fields.



Westley Youngren researches the intersection of sleep and trauma, with a particular emphasis on trauma-related nightmares.



What were some of your early experiences with research?

During undergrad I was involved in an IO-Psychology lab, and sleep and trauma lab, and worked at the Laureate Institute for Brain Research.

How do you incorporate undergraduate students into your research?

Undergraduates in my lab help with protocol creation, data cleaning, running subjects in our sleep and dreaming study, and creating poster presentations. Learn more from article linked on page 3!

What have you found unique about UMKC students?

The undergraduate students at UMKC are hungry to be involved and to learn. I love their enthusiasm and passion for being involved!