



**KENNESAW STATE
UNIVERSITY**
OFFICE OF RESEARCH
Undergraduate Research

2024 - 2025 Annual Report



Office of Undergraduate Research

December 2025

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A Letter from OUR Director

The 2024-2025 academic year saw record undergraduate research engagement. We saw growth in the number of undergraduates engaged in research, and students and mentors are overwhelmingly satisfied with the programming in the Office of Undergraduate Research.

From first-year students exploring research for the first time to upper-level students contributing to research projects in the Vertically Integrated Projects program, the breadth and quality of undergraduate scholarship and creative inquiry continue to inspire us.

This past year saw the start of a new program designed to facilitate research with high school students: The Secondary Education Research Internship Funding (SERIF). We also increased the number of students participating in the First-Year Scholars Program (a 70.5 percent increase from the previous year) and in the Sophomore Scholars Program (a 60 percent increase from the previous year).

As we look ahead, the Office of Undergraduate Research will continue to focus on expanding inclusive research pathways, strengthening mentorship, preparing students for graduate study, and preparing students for professional careers. We are excited to build on this year's momentum and continue to foster a campus culture where undergraduate research thrives!



Amy Buddie

Dr. Amy Buddie, PhD

Director of Undergraduate Research
Professor of Psychology

About OUR



Kennesaw State University (KSU) is a student-centered, research-driven institution. With an emphasis on research with relevance, KSU's research portfolio is varied and far-reaching, leading to new knowledge and discoveries by faculty and hands-on opportunities for students. The Office of Undergraduate Research drives this mission forward.

In 2016, the newly created Office of Undergraduate Research (OUR), a unit of the Office of Research, took on the pivotal role of supporting the mission and strategic plan of the University. The OUR provides students with resources, mentorship, and platforms to engage in research activities that enriches their academic and pre-professional experience.

As a result, many undergraduate students have had the opportunity to present their work at national and regional conferences and even publish in the Kennesaw Journal of Undergraduate Research.

With a growing emphasis on student research, the OUR has become the launching pad for a student's journey of innovation and discovery. It is the place where students take flight!

OUR Staff



Jennifer Harb
Administrative
Coordinator

Mrs. Harb has served as the main administrative support since 2019.



Michelle Chatelain
Business Operations
Specialist

Ms. Chatelain has managed the department's budget since 2022.



Christin Richardson
Program Manager

Ms. Richardson has spearheaded all programs and initiatives since 2023.



Haleigh Edmonds
Program Assistant

Ms. Edmonds has supported programs since 2024.

Mission and Vision



Mission

The mission of the Office of Undergraduate Research at Kennesaw State University is to promote high-quality undergraduate student-faculty collaborative research and scholarship in all disciplines across campus.



Vision

We aim to make research an integral part of the undergraduate experience at Kennesaw State University and to become a premier resource for undergraduate research both at KSU and nationally.

OUR Values



INTERACT

Undergraduate students interact in all phases of the research process, developing their inquiry and analytical skills which are transferable to their future careers in the professional and/or academic environments.



INVESTIGATE

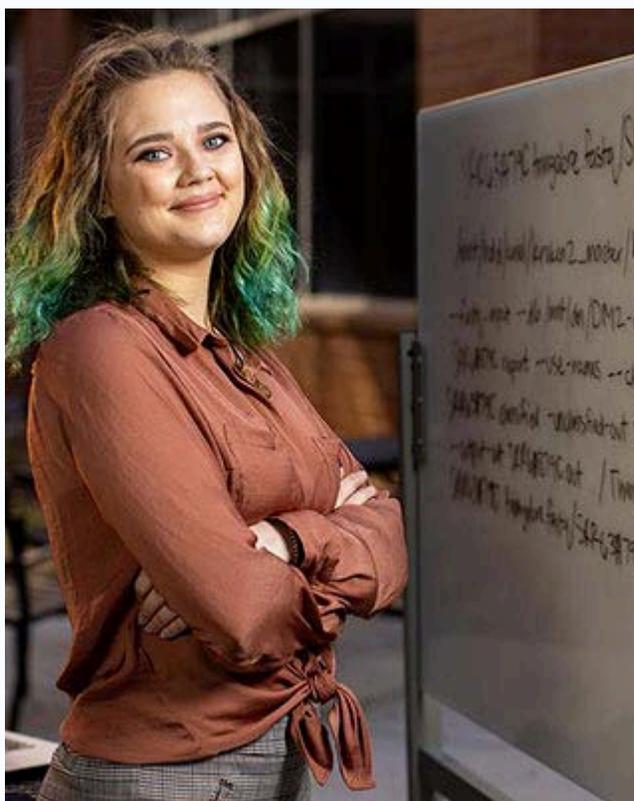
Undergraduate students investigate varied topics that match their interests and aspirations under the guidance of faculty mentors who are experts in their respective fields.



INNOVATE

Undergraduate students innovate solutions aligned to real-world applications, which leads to their transformative experience from consumers to producers of knowledge.

What We Do



The Office of Undergraduate Research is committed to empowering students to conduct meaningful and informative research.

- **Faculty Mentorship**
- **Student Project Match Process**
- **Public Dissemination**
- **Career Development**
- **Direct Research Funding**



Projects

From political studies to scientific investigations and ethical analyses, our undergraduate students are doing innovative and impactful work. Discover the breadth of research projects that have shaped our KSU academic community.



Presentations

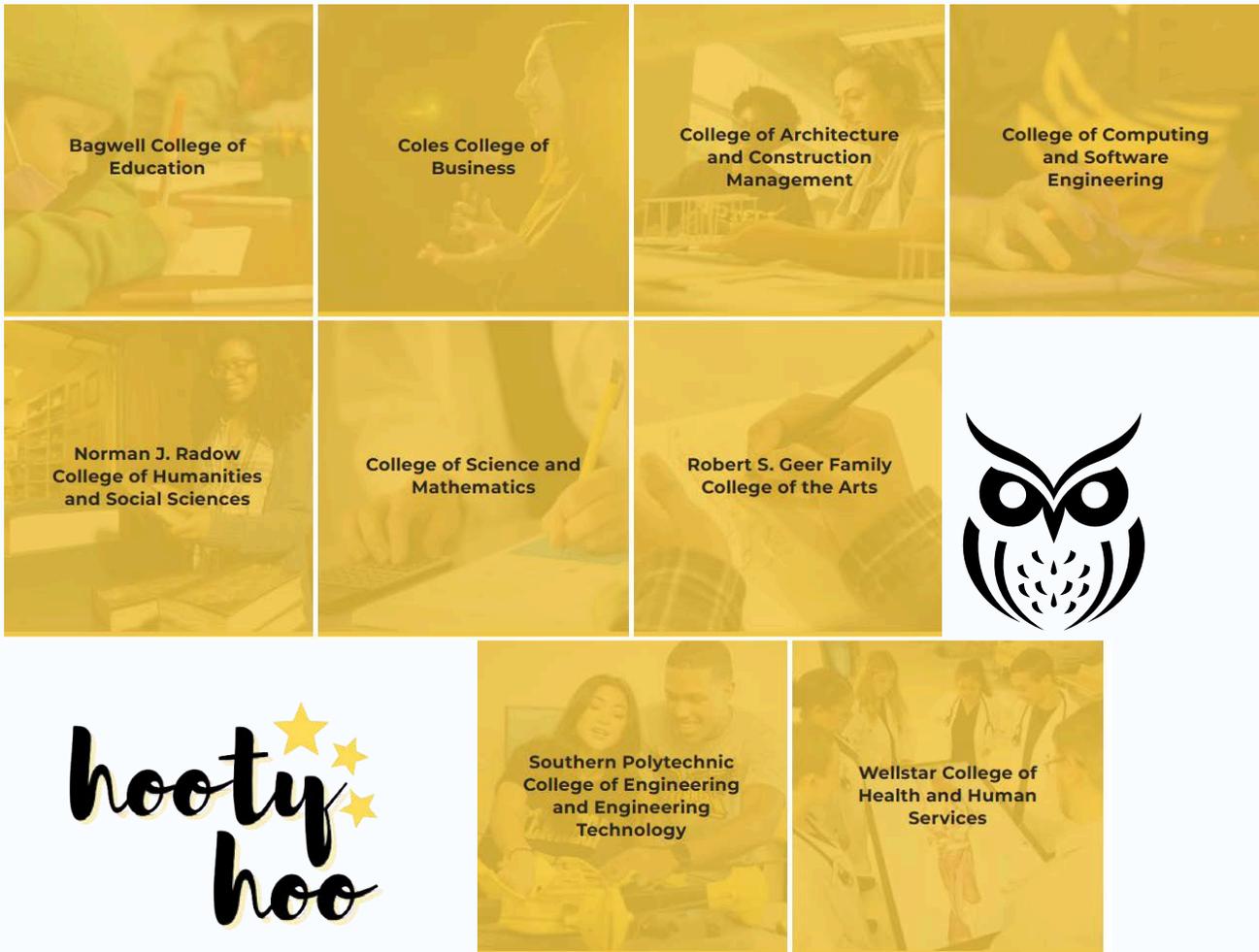
The Symposium of Student Scholars is an event to showcase student scholarship conducted at KSU during the past academic year.



Publications

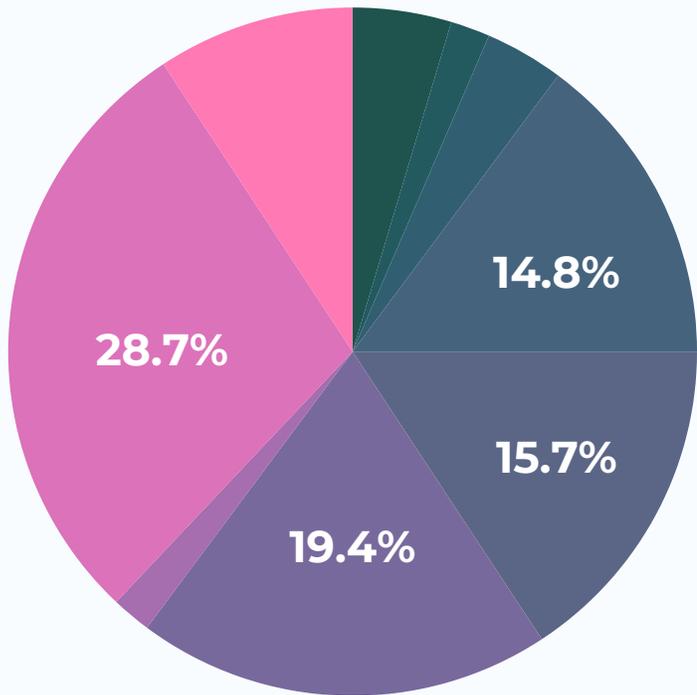
The Kennesaw Journal of Undergraduate Research (KJUR) is a peer-reviewed scholarly journal dedicated to promoting academic study and achievement among undergraduate students at KSU.

Diverse Disciplines



Each college and unit at Kennesaw State University offers our students unique educational, professional and extracurricular opportunities. By developing and strengthening research and fostering innovation, our research opportunities enhance the student experience in areas that matters most to them.

Supporting Diverse Disciplines



1136
students

312
mentors

120+
projects

\$1,522,126

Total funding
OUR FY25

- Bagwell College of Education
- Coles College of Business
- College of Architecture & Construction Management
- College of Computing & Software Engineering
- Radow College of Humanities & Social sciences
- College of Science & Math
- Geer College of the Arts
- College of Engineering & Engineering Technology
- WellStar College of Health & Human Services

Budget Allocations

	FY25 Allocations	FY26 Allocations
First-Year	\$1,026,000	\$1,119,236
Sophomore	\$119,000	\$114,000
VIP	\$30,000	\$30,000
SURP	\$223,696	\$291,390
URCA	\$78,968	\$109,505
NCUR	\$40,462	\$40,000
Mentor Award	\$4,000	\$2,000
Junior & Senior	-	\$57,000
CURES	-	\$10,000
SERIF	\$10,000	\$10,000

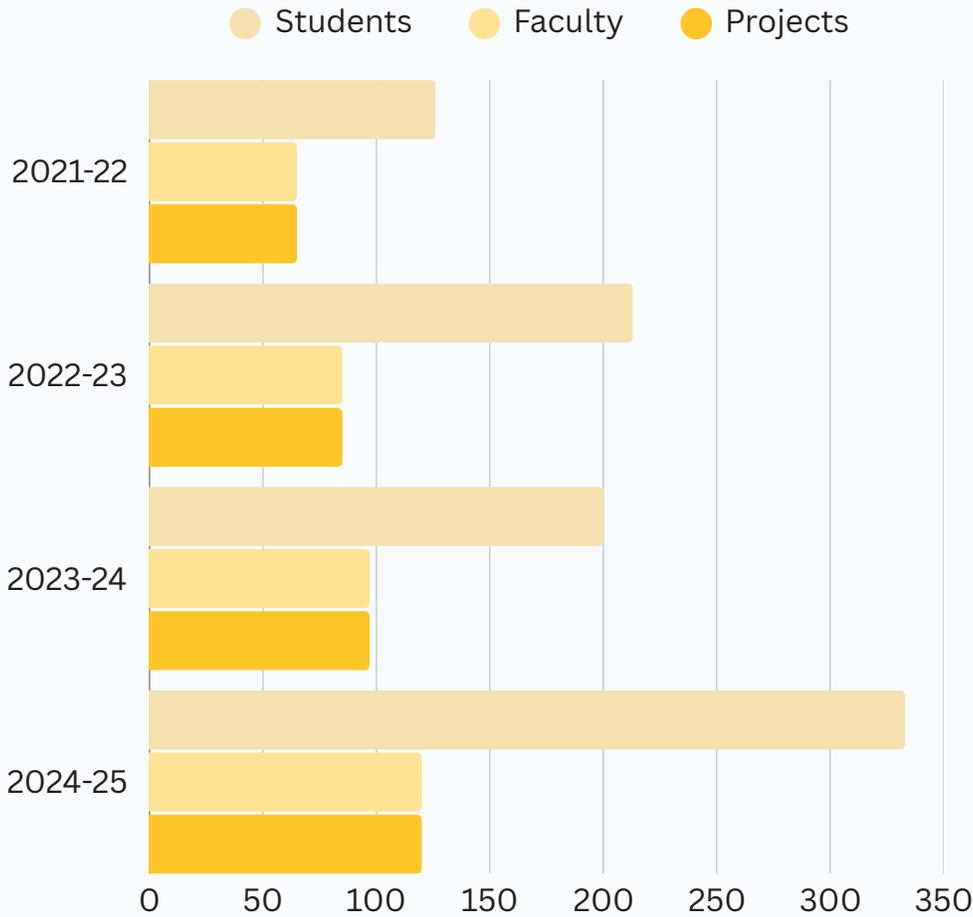
First-Year Scholars Program



The Office of Undergraduate Research launched the First-Year Scholars Program (FYSP) in Fall 2019. This program is designed to pair first-year students who are interested in research with faculty mentors who will guide them on research in their respective fields. The goal of this program is to introduce first-year students to the undergraduate research experience.

First-Year Scholars can earn stipends of up to \$1,000 in the Fall and up to \$1,000 in the Spring. Primary Investigators (PIs) can receive up to \$1,000 per matched student, for up to 5 students.





See the Growth

01

Total Admitted Students: The 2024-2025 cohort admitted 341 students into the First-Year Scholars Program, marking a significant increase from the 2023-2024 total of 200 students.

02

Strong Interest: The program received applications from 550 unique applicants, showcasing the growing interest in undergraduate research at KSU.

03

Overall Growth: With over 1,400 applications submitted across various projects, the demand for research opportunities continues to expand, reflecting KSU's commitment to fostering a vibrant research community.

First-Year Program

Team Spotlights



Documentary Film Production & Understanding of Film Festival

Documentary production is a powerful medium for exploring and capturing the uniqueness of human life through creative audiovisual expressions. Students participating in this project will be involved in every stage, from pre-production to post-production, applying and enhancing their creative skills. The project mentor will guide and support the students through workshops and group mentoring.

Creating a Digital Twin of the Human Heart Using Machine Learning

This project aims to develop a cutting-edge digital twin of the human heart through advanced machine learning techniques. Our research integrates diverse data sources, including ECG (electrocardiogram), pressure measurements, and 4D CT imaging, to create highly accurate and personalized models of heart function.



First Steps: Understanding the Biomechanical Development of Infant Crawling

In 2022, the CDC removed crawling from its updated set of infant developmental milestones, in part due to lack of data. This removal makes it difficult for pediatricians and therapists to enact early interventions for children with neuromotor disorders. We have developed a non-invasive, simple method to collect quantitative data on several important characteristics of infant crawling using a pressure-sensing mat.



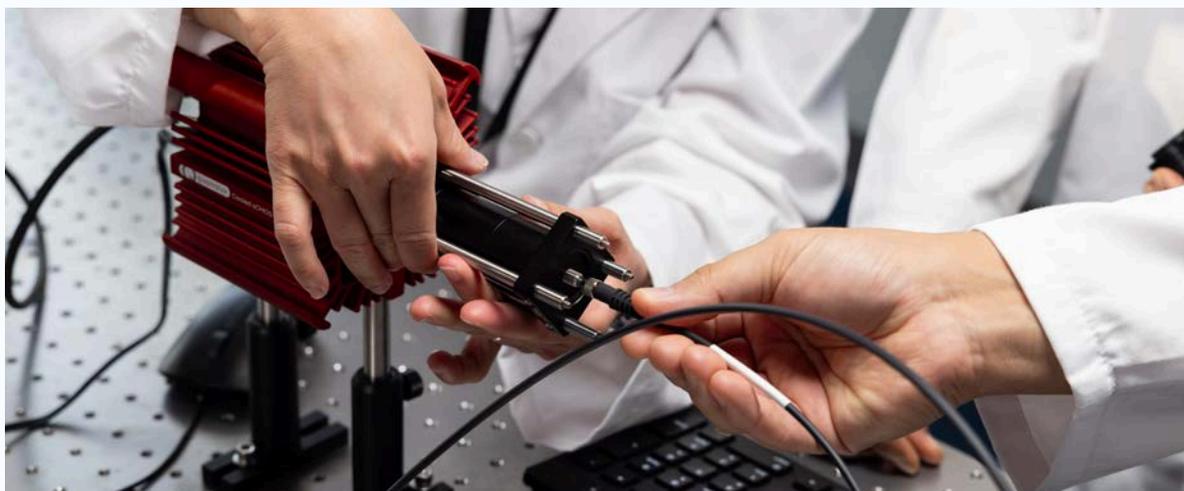
First-Year Program

Sophomore Scholars Program



The Sophomore Scholars Program (SSP) is an extension of the First-Year Scholars Program. Students and Primary Investigators (PI) receive funding to continue their project into the student's second year. Funding for the Sophomore Scholars Program is structured in the same way that FYSP is; however SSP is more competitive.

As this program was established due to growing interest and enthusiasm of freshman to continue their great research experience further, the ultimate goal is to be able to offer more students the ability to continue doing such wonderful work.





01

Accepted students receive a \$1,000 stipend in the Fall and a \$1,000 stipend in the Spring.

02

In addition to presenting at the Symposium, all students disseminate their work externally in the form of conference presentations or publications.



03

In the 2024-2025 academic year, we had 36 Sophomore Scholars paired with 29 mentors.

04

100% of students and PIs reported being satisfied with the program (end-of-year reports from Spring 2025).



Sophomore Program

Team Spotlights

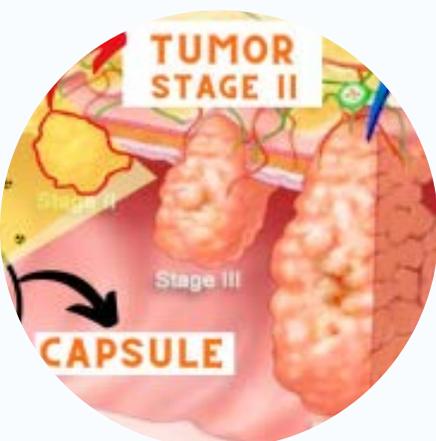


Supporting Multilingual, Immigrant-Origin Students

The research project, Supporting Multilingual Learners and Their Teachers, Parents, and Communities (MLTPC), aims to enhance educational experiences for immigrant-origin and language-minority learners in our schools and communities locally and internationally. Through the MLTPC project, this research team hopes to support teachers and immigrant families in disrupting the pervasive monolingual ideology and advocate for a more multilingual and -literate society.

Brain Augmented Technology (BAT) and STEM-Peer Augmented Success & Support (STEM-PASS).

This project aims to use the following Research and Development Tools to achieve brain augmentation for the reinforcement of learning engineering concepts and content. Creating environments that can calculate how much reward will adequately motivate an operand is of great interest in engineering.

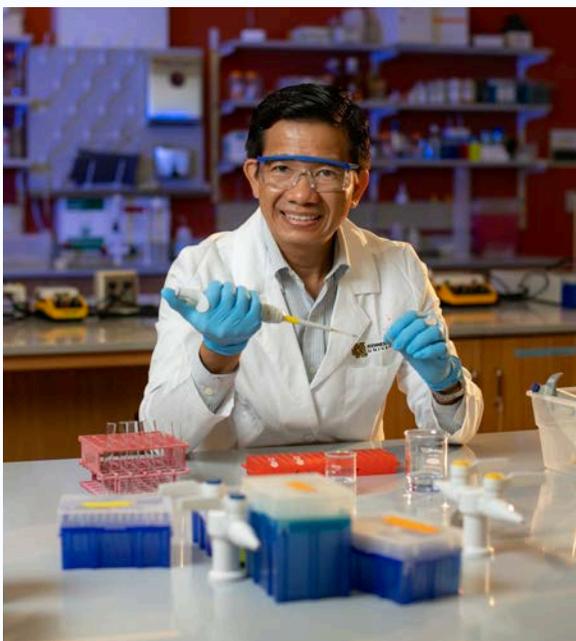


Design of a Novel Controlled Radiation Capsule for Improved Brachytherapy Cancer Treatment

We are designing a novel implantable, wireless radiation capsule, that can be opened and closed remotely, to deliver or block radiation with several openings designed to deliver radiation dose only to the target tumor area with minimum to no radiation to surrounding healthy tissue.

Sophomore Program

Vertically Integrated Projects



The Vertically Integrated Projects (VIP) learning model is designed to facilitate multidisciplinary, team-based learning by connecting students with ambitious faculty-led research. In VIP teams, undergraduate students work with faculty on long-term, high-impact research projects at KSU.

- VIP enrollments in Fall 2024: 32 undergraduates and 1 graduate student
- VIP enrollments in Spring 2025: 46 undergraduates and 1 graduate student

Kennesaw State University is part of the VIP Consortium, which promotes high-impact, interdisciplinary, large research teams involving undergraduate researchers. Students earn course credit for conducting research on a team (RES 4000 for undergraduates; RES 7000 for graduate students). Students are encouraged to participate for more than one semester.



Vertically Integrated Projects

Multidisciplinary by design: VIP teams are intentionally multidisciplinary, bringing together students from different majors to tackle complex problems from multiple perspectives.

Learning from experience: The "vertically integrated" structure means that students at different levels of their education mentor one another. Seniors might mentor sophomores, creating a system where knowledge is passed down within the team.

Long-term commitment: Teams work on ambitious, long-term projects that can last for several years, allowing students to see projects through to completion and build significant experience.

Real-world research: VIP teams engage in real, faculty-led research that can lead to external funding, publications, and presentations, giving students hands-on experience in a professional research environment.

Diverse projects: Projects range widely across disciplines, from building solar energy prototypes to creating new networking algorithms and working with innovative materials like self-repairing polymers.

Building future careers: Participation significantly benefits students by improving communication, critical thinking, and problem-solving skills and enhancing credentials for graduate school or future careers.

VIP Program

Team Spotlights



XRAI-E: Extended Reality with Artificial Intelligence in Education

The XRAI-E project aims to develop an intelligent virtual agent-assisted eXtended Reality (XR) platform, encompassing both Virtual and Augmented Reality, to enhance learning experiences and task performance in immersive online education and training environments.

AI for Resilient & Smart Communities

Our research theme is broad, encompassing issues such as community environmental pollution, transportation, energy efficiency, and decarbonization. Our research team is committed to leveraging artificial intelligence to devise innovative solutions that enhance community health, equity, sustainability, and safety in urban areas.



MycoSolutions - Solving Problems with Fungi

The goal of this team is to address issues of sustainability and resource utilization by using fungi in novel ways. From making foods to commodity chemicals and medicines, fungi possess an amazing capacity for biological conversion and synthesis. We hope to leverage the intriguing capacities of this diverse and cryptic group of organisms to make the world more sustainable, safe, and delicious.



VIP Program

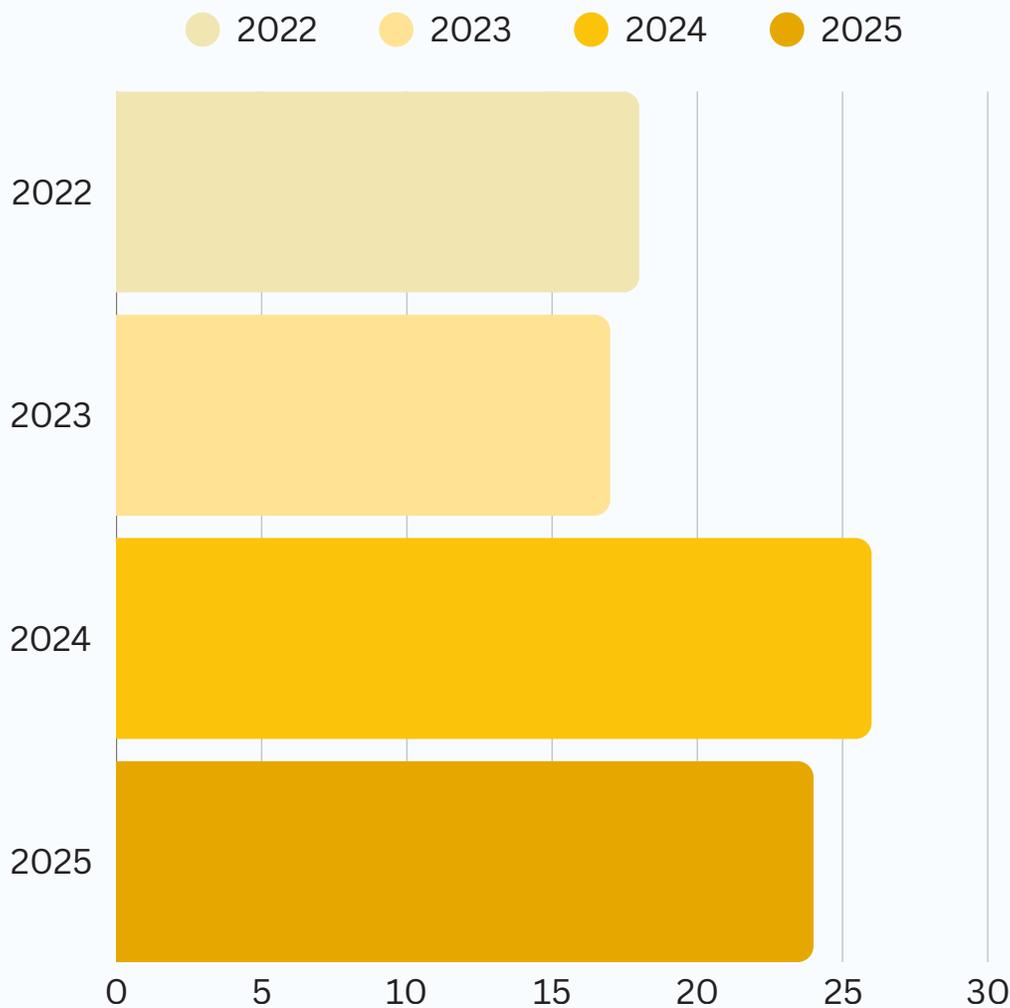
Summer Undergraduate Research Program



The Office of Undergraduate Research (OUR) is proud of the Summer Undergraduate Research Program (SURP), which helps support students in full-time research endeavors during the 8-week summer session.

Selected students will conduct research under the guidance of a full-time tenured or tenure-track faculty member (Primary Investigator [PI]) at Kennesaw State University. Faculty and students are paid a stipend in order to work collaboratively full-time on a research project.





See the Impact

- 01** In 2025, 24 SURP projects were accepted (out of 47 applications, a 51% acceptance rate).
- 02** All mentors in 2025 (100%) reported being satisfied with the program
- 03** 23 of 24 students (96%) reported being satisfied with the program
- 04** Outcomes listed in the end-of-year report include the following:
 - Conference presentations for all projects
 - Half (50%) report using SURP data to apply for external funding
 - 67% report working on manuscripts to submit to peer-reviewed journals
 - 4 report working toward Intellectual Property (IP) disclosures

Summer Program

Project Highlights

An Exploration of Parent's Decisions to Give Kids Smart Phones and Manage Use

Smart phones are deeply integrated into daily life, with most parents feeling pressure to give kids smartphones at earlier ages. This study continues our first-year scholars' project, where we conducted a first round of in-depth interviews to explore parental motivations for the distribution and regulation of smartphones. Initial themes emerged: safety, challenges, effects on children and family, perceived influences, and types of regulation styles. The summer research continues in-depth interviews with a larger sample and a survey to test original findings. This study adds valuable information to a quickly evolving cultural landscape around regulation and effects of kids' smartphone use.



Math Anxiety and Pre-Service Teachers: Impact and Possible Solutions

In this study we will research how Pre-Service Teachers (PSTs) define “math anxiety”, how they think it impacts them, and what strategies have worked when managing it. To do that we will first ask PSTs to fill out a survey. After conducting preliminary analysis of that data, we will invite some PSTs to complete an interview. We will share our results with the education community, so math and math education professors can implement changes to support students. And we also hope to share with the PSTs community so they will learn about ways to manage this anxiety as well.



Summer Program

Undergraduate Research & Creative Activities Grant



The Office of Undergraduate Research sponsors a limited number of Undergraduate Research & Creative Activities (URCA) funds during the academic year. This funding supports researchers in one or more of the following ways: (1) travel to present at a conference, (2) purchasing supplies or equipment for their research, (3) publication costs, (4) a stipend for the student researcher, or (5) participant incentives for human subject research. In FY25, \$81,782 funds were dispersed:

- Fall 2024: 43 URCA's funded, totaling \$28,461 (August - December)
- Spring 2025: 55 URCA's funded, totaling \$53,331 (January - June)



National Conference on Undergraduate Research



The National Conference on Undergraduate Research (NCUR) is the largest conference on undergraduate research in the country. Each year, the OUR funds students to present their scholarship as posters, oral presentations, performances, and works of art. In 2025, 25 students (out of 73 who applied; 34% acceptance rate) were funded.

It is a great opportunity for students to present their research and network with other undergraduate researchers. In addition, there are graduate school and career fairs at the conference.



Student Quotes



2025 NCUR fund awardee

“My time at NCUR was very beneficial and educational to me. It was a very unique experience to be able to be surrounded by scholars and be able to learn about a variety of ongoing research from across the country. While there, I was able to connect with fellow undergraduate researchers who were working on projects that aligned with mine, and here we were able to talk and compare our ideas and projects. This was very cool for me to be able to do, as I haven't met anyone here who is working on a similar project as mine. It was cool to also see ongoing research on other topics that I am interested in and be able to talk to these current researchers about their interests.”



2025 NCUR fund awardee

“Attending NCUR 2025 was an incredible opportunity that broadened my perspective on research and innovation beyond my own field. Presenting my work on antibiotics research and engaging with other passionate students helped me see the real-world impact of academic research. It was fulfilling to share my findings with peers and faculty from across the country, and I appreciated the thoughtful questions and feedback I received—it made the experience feel like a true academic exchange. One of the highlights for me was the interdisciplinary nature of the conference. I explored projects in areas like social sciences, engineering, and public health, which allowed me to think more broadly about how different disciplines intersect. Seeing how other students approached research challenges sparked new ideas and made me even more excited about the possibilities for collaboration in the future.”

NCUR Experience

Peer Ambassador Program

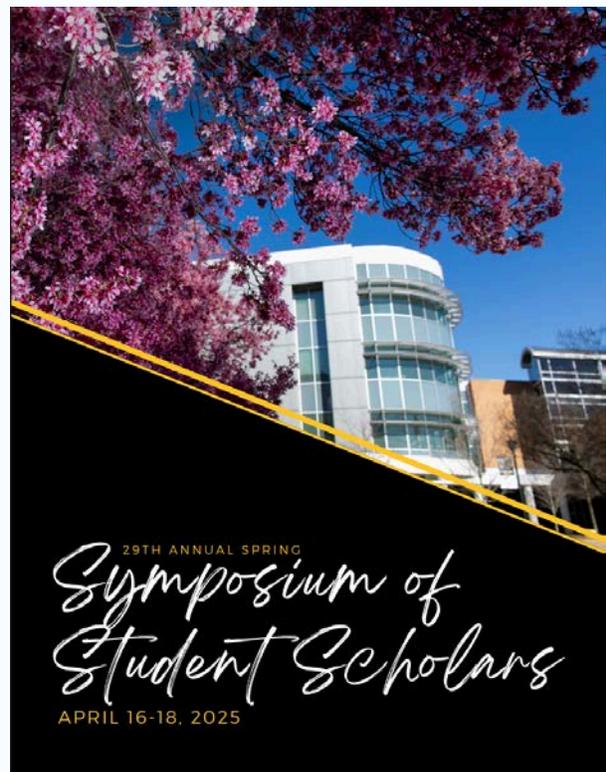
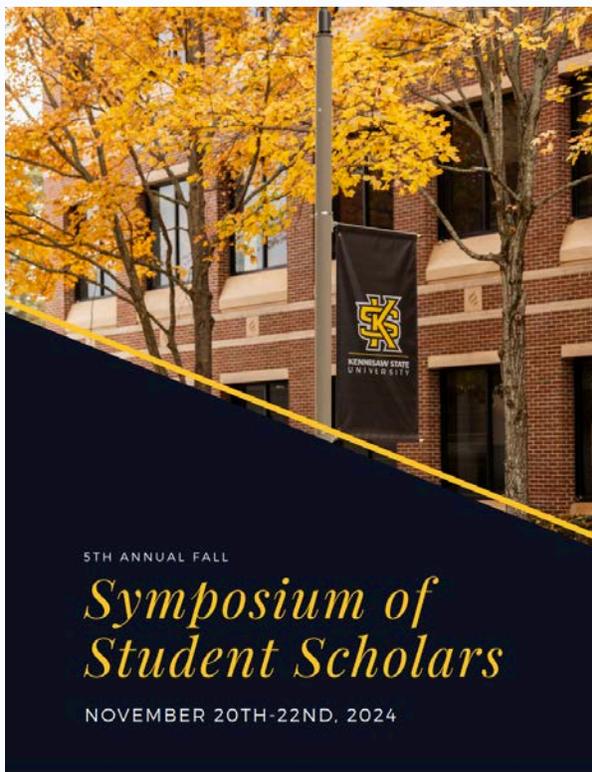


These are experienced student researchers who offer workshops, meet with students one-on-one, and promote research within their college. Peer ambassadors work to promote undergraduate research at KSU in general and specifically work with students in the First-Year Scholars Program. In academic year 2024-2025, the peer ambassadors saw increased participation.

- In total, the peer ambassadors saw over 221 participants across 14 Fall 2024 and 17 Spring 2025 workshops that were hosted.

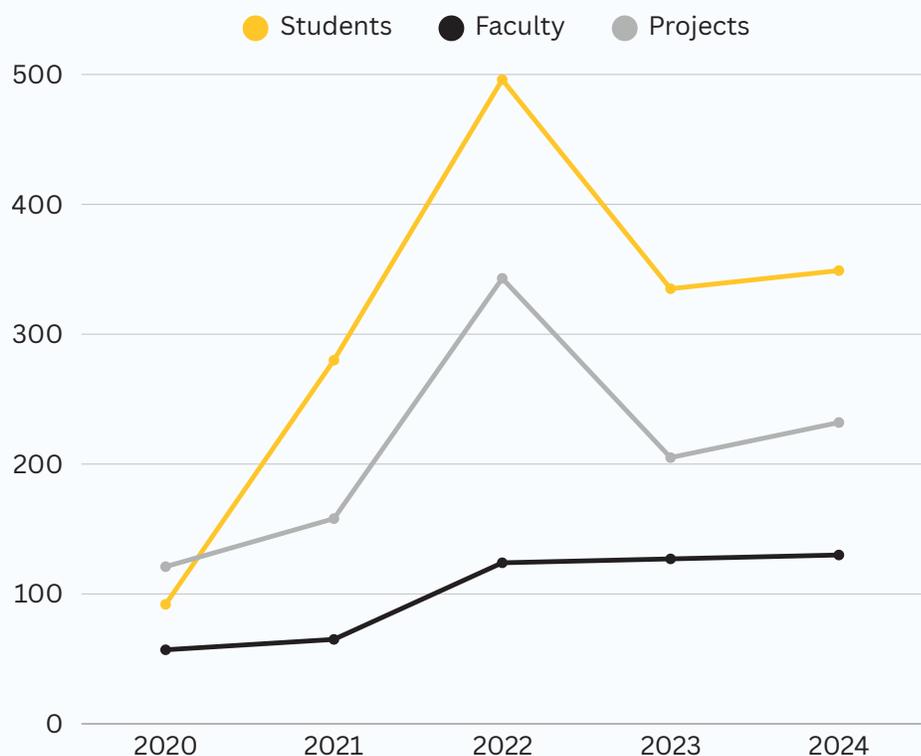


Symposium of Student Scholars



The Symposium of Student Scholars is an event to showcase student scholarship conducted at KSU during the past academic year. In previous years, we have had a great deal of disciplinary diversity in projects presented, including readings of new works from authors, performances of new compositions from musicians, explanations of curricular innovations from educators, innovative business models from entrepreneurs, urban landscape analyses from geographers, and a wide variety of scientific research papers.

The Symposium of Student Scholars showcases research conducted by ALL KSU students, not solely undergraduates. KSU graduate students are encouraged to present the results of their research projects. Since fall 2020, the Symposium of Student Scholars has been held in the fall and spring.



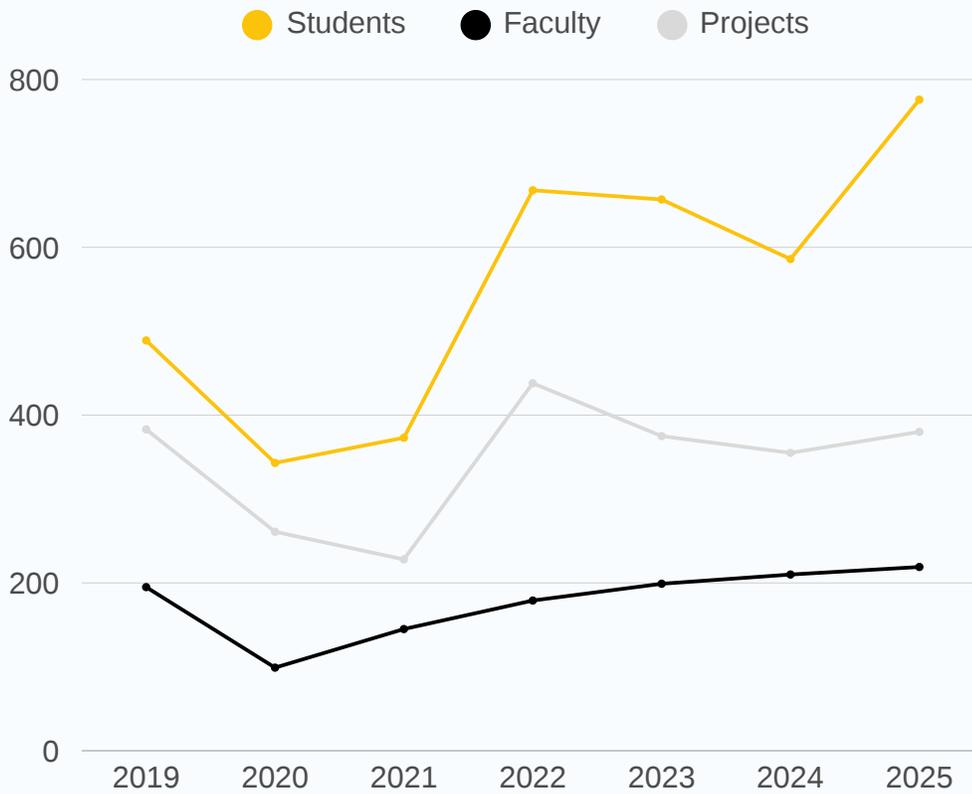
In Fall 2024, we saw a total of 974 attendees across three days of hosting. As for presentations, there were 18 oral presentations, 174 posters, and 30 virtual presentations. Below are the breakdowns by college and presentation type:

<u>ORAL</u>
4 CACM
1 CCSE
3 GCA
1 CSM
4 RCHSS
4 SPCEET
1 WCHHS

<u>POSTER</u>
33 CACM
2 CCOB
16 CCSE
2 GCA
61 CSM
27 RCHSS
18 SPCEET
15 WCHHS

<u>VIRTUAL</u>
13 CACM
1 CCSE
2 GCA
1 CSM
10 RCHSS
3 SPCEET

Fall Symposium



In Spring 2025, we saw a total of 1235 attendees across three days of hosting. As for presentations, there were 27 oral presentations, 275 posters, and 58 virtual presentations. Below are the breakdowns by college and presentation type:

<u>ORAL</u>
3 BCOE
2 CACM
1 CCOB
4 CCSE
1 GCA
4 CSM
4 RCHSS
4 SPCEET
4 WCHHS

<u>POSTER</u>
6 BCOE
7 CACM
5 CCOB
31 CCSE
1 GCA
97 CSM
50 RCHSS
59 SPCEET
19 WCHHS

<u>VIRTUAL</u>
4 BCOE
10 CACM
1 CCOB
5 CCSE
2 CSM
29 RCHSS
7 SPCEET

Spring Symposium

Kennesaw Journal of Undergraduate Research



The Kennesaw Journal of Undergraduate Research (KJUR) is a peer-reviewed online journal exclusively dedicated to publishing the excellent work of undergraduate students from Kennesaw State University (KSU).

Our mission is to provide a platform where undergraduate researchers can share their findings and contribute to academic discourse to ultimately advance knowledge within their respective fields of study. Through this journal, we aim to highlight the creativity, critical thinking and intellectual rigor taking flight at KSU.

This journal seeks to encourage inquiry among undergraduates by providing them with an avenue for spreading and exchanging knowledge through publication of their research.

IT'S IN THE DATA

- At least one volume a year
 - Average of 5 published submissions per issue
- Most common disciplines by year:
 - 2021-22: History
 - 2022-23: History
 - 2024-25: Psychology
- Downloads from 7,862 institutions
- Downloads from 212 countries
- Most readers find our articles through Google searches

33%

Manuscripts accepted

90,000+

Downloads of published articles

OUR Students



First Year Scholar
Survey Response

"I really enjoyed my time as a First-Year Scholar! I was able to learn so much about the research process that I was not initially aware of. This was a great way to get introduced to undergraduate research. It definitely pushed me at times, but it also made me more passionate for the project and research overall."



Sophomore Scholar
Survey Response

"The Sophomore Scholars program served as a way to expand my research skills as well as concentrate on publication, which I have never done before...I feel the Sophomore Scholars program allowed me to explore other avenues of research while not having to start from scratch."



Summer Scholar
Survey Response

"I have greatly enjoyed the research project I'm working on and am excited to keep it going. I always look for ways to improve myself, even if it means stepping out of my comfort zone. Public speaking is one of those areas, and SURP gave me many chances to practice it this summer."



VIP Student
Survey Response

It was so fun! The Myco lab has a lot of great grad students working on really cool projects that provided me with invaluable experience in research. I was able to work under four of the grad students in the lab. I worked on one project primarily and the others if they needed extra hands. The experience I've gained so far has been fantastic!

Outstanding Mentor Award

In 2025, Maria Valero de Clemente named 2025 Undergraduate Research Mentor of the Year. Maria Valero de Clemente has mentored more than 50 undergraduate students during her time at Kennesaw State University, motivated by her commitment to a student-first approach to research. Valero is the recipient of the 2025 Outstanding Undergraduate Research Mentor Award, given annually by the Office of Undergraduate Research to a faculty or staff member at KSU who has exhibited not only success, but also a sustained diligence to their students.

Valero describes her mentoring style as student-driven, adjusting her approach to fit each student. “Much of my mentoring style is giving the students the opportunity to discuss their ideas with me,” Valero said, “and to guide them carefully at the beginning about what they are going to do and how they are going to do it.”

Her research sits at the intersection of technology and healthcare, particularly using the Internet of Things (IoT), a vast network that connects physical objects to one another through the internet. The objects, referred to as things, include anything that is connected to the internet, such as a smart plug or thermostat, and the goal of these “things” is to increase everyday efficiency by allowing people to automate tasks.



“I’m very thankful for this award,” Valero said, “because my number one goal always has been to encourage my students to do research in an area that they like.”

Dr. Maria Valero

Associate Professor
Department of Information Technology
OUR Mentor Award Winner, 2025

Past Winner Spotlights



Ayse Tekes
Mechanical Engineering

Tekes joined KSU in 2016 as a tenure-track faculty member. In 2017, Tekes established the Dynamics and Control Group, and since then she has worked with more than 200 undergraduate students. She makes it clear that her students come first which is a mentality that has deeply resonated with them.



Eric Albrecht
Molecular and Cellular
Biology

Albrecht has been a KSU faculty member since 2006, and 21 of his students have earned creditable undergraduate research awards, with two published in peer-reviewed journals. He wants to ensure students have outcomes that make their resumes stand out.



Garrett Hester
Exercise Science and
Sport Management

In his time with KSU since his employment in 2016, Hester has mentored more than 12 undergraduate students. Hester engages these students in a variety of applied exercise physiology techniques and laboratory skills, so students learn a diverse skillset.



Charles Parrott
Theatre & Performance
Studies

Since his employment at KSU in 2010, Parrott has mentored hundreds of students in different contexts, ranging from research-based classwork to directing the KSU Tellers, a storytelling troupe housed within the Department of Theatre and Performance Studies.

OUR Achievements



17% Overall participant growth since the previous year



1,242

Registered members in the Undergraduate Research Club, a student-led organization.



98%

Student and faculty satisfaction

Over the past few years, our undergraduate researchers have presented their work at regional and national conferences, earned prestigious awards, and collaborated on ground-breaking projects that address real-world challenges. Our students have contributed to research that has garnered national recognition, advancing knowledge in fields ranging from sustainability and engineering to social sciences and health.

As the Office of Undergraduate Research at KSU continues to expand its research programs, the collective achievements of our students serve as a testament to the transformative power of hands-on learning and the dedication of our university to fostering the next generation of scholars and innovators.

Looking Foward

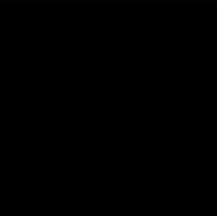
Conduct
innovative
research that
advances society.

While our programs are important and interrelated, some will be more relevant to the future of our department for the upcoming year. This section identifies the specific targets we are prioritizing and demonstrate how they align with KSU's strategic plan.



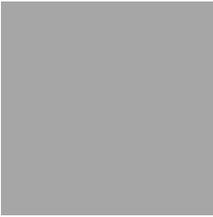
PRIORITY 1

We have the goal to increase retention for our student researchers by furthering the pipeline through the creation of a Junior & Senior Scholars program.



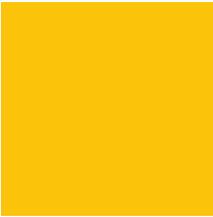
PRIORITY 2

To expand access to research opportunities, we will offer a funding opportunity for Course-based Undergraduate Research Experiences (CUREs). In a CURE, faculty embed research experiences into an existing course.



PRIORITY 3

We will offer funding to support faculty who are currently integrating high school students into their research projects as part of a high school internship requirement.



PRIORITY 4

To offset inflation, the URCA grant will be increasing the maximum funding amount for the conference registration and travel award.

Thank You!



KENNESAW STATE
UNIVERSITY
OFFICE OF RESEARCH

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Kennesaw State University Research