announcements

Undergraduate Research Job Opportunities (Academic Year)

Undergraduate Research Assistant (Animal Technician)
Industrial & Manufacturing Systems Engineering/Biological Engineering

Field & Seed Lab Research Assistant
Division of Plant Sciences

Climate, Hydrology, Agriculture Data Assistant
Industrial & Manufacturing Systems Engineering/Biological Engineering

Undergraduate Student Assistant
Plant Science

Undergraduate Thesis Opportunity in the MU Limnology Lab
School of Natural Resources

Full job descriptions available at undergradresearch.missouri.edu/jobs-and-programs/jobs/

IDE Excellence Grant Initiative
The Division of Inclusion, Diversity & Equity is proud to announce our Excellence Grant Initiative for both students and employees! This new funding initiative provides one-time funding for students, faculty or staff to creatively strengthen teaching; pedagogical practices; or research with inclusion, diversity and/or equity implications for our increasingly diverse community and student populations enrolled at MU. Please visit our pages for more information on eligibility, the application process, criteria and more: https://diversity.missouri.edu/our-work/ide-excellence-grant-initiative-for-students/
Please contact muideinclusiveeng1@missouri.edu with any questions.

Studying a foreign language? Check out the Boren Scholarship!
Boren Scholarships, an initiative of the National Security Education Program, provide up to $20,000 for U.S. undergraduate students to study less commonly taught languages in world regions critical to U.S. interests, and underrepresented in study abroad, including Africa, Asia, Central and Eastern Europe, Eurasia, Latin America, and the Middle East. The countries of Western Europe, Canada, Australia, and New Zealand are excluded. Boren Scholars represent a vital pool of highly motivated individuals who wish to work in the federal national security arena. MU students must be nominated by the University of Missouri to apply for this award, contact MU Fellowships Office to learn more. The campus application deadline is Thursday, January 17. Visit https://fellowships.missouri.edu/fellowship/david-l-boren-graduate-scholarship/

DAAD Research Internships in Science and Engineering (RISE) program
APPLY NOW! DAAD RISE is a fully-funded opportunity for undergraduates to conduct research in Germany. 578 internships are available in summer 2019. DAAD RISE offers undergraduate students from North American, British, and Irish universities the opportunity to complete a summer research internship at top German universities and research institutions. Visit https://www.daad.de/rise/en/rise-germany/ or stop by the MU Fellowships Office for more information.

Considering a foreign affairs career? Check out the Charles B. Rangel International Affairs Program!
The Charles B. Rangel International Affairs Summer Enrichment Program is a six-week summer program designed to provide undergraduate students with a deeper appreciation of current issues and trends in international affairs, a greater understanding of career opportunities in international affairs, and the enhanced knowledge and skills to pursue such careers. The Program usually selects 15-20 participants (known as “Rangel Scholars”) each year from universities throughout the United States. Students live at Howard University, attend classes, and participate in a variety of programs with foreign affairs professionals at Howard and at diverse locations around Washington, DC.
Program details can be found here. https://fellowships.missouri.edu/fellowship/charles-b-rangel-international-affairs-summer-enrichment-program/ Contact the MU Fellowships Office as soon as possible to learn more and if you are planning to apply for the program.
Interested in studying in the UK? Look into the US-UK Fulbright Summer Institutes!

The US-UK Fulbright Summer Institute program sends US undergraduates to the UK for three to six weeks during the summer to study at various UK universities. The 2019 Summer Institutes will send students to the King’s College London, Queen’s University Belfast, the University of Bristol, and more. Students from any academic background with at least two years of undergraduate study left are eligible to apply.

Contact the MU Fellowships Office as soon as possible to discuss this exciting opportunity.

**APPLY NOW! Bond International Scholars Award**

Want to see the world, gain global skills and accelerate your degree completion? This new, competitive scholarship opportunity is available to all MU students participating on a semester or academic/calendar year MU study abroad program. The Bond International Scholars Award offers five $5,000 scholarships to full-time undergraduate or graduate students. Learn more about the scholarship and contact Heidi Prillwitz (prillwitzh@missouri.edu) with any questions.

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**Upcoming Undergraduate Research Workshops**

**Jan 28 - Summer Research Experiences, Off-Campus - Application Tips**

There are a plethora of opportunities for summer research at other universities, national laboratories, museums, and field stations. Most have deadlines in February. This session will provide suggestions for students who are putting their final touches on their applications and recommendations on how to follow up. This session is also appropriate for first year students who are planning to apply for off-campus summer programs in future years.

**Feb 18 - Planning Successful Abstracts, Posters & Research Displays**

The deadline for the Spring Forum is March 15th. Posters and displays will be presented at the Forum on April 23rd. This workshop (offered twice) will cover essentials for writing abstracts/artist statements and designing research posters and displays. Examples of excellent and not-so-excellent abstracts and posters will be shared.

All workshops are held on Mondays from 4-5pm 171 Bond Life Sciences Center [undergradresearch.missouri.edu](http://undergradresearch.missouri.edu)
Before Thanksgiving Break, twenty-six IMSD undergraduates traveled to Indianapolis, Indiana for this year’s Annual Biomedical Research Conference for Minority Students. 17 students presented their research at this national conference after their abstract was completely reviewed and selected.

For the eighth year in a row, at least one IMSD Scholar from MU has been selected as an Outstanding Research Presentation Award Recipient in her/his category. This year’s receipts are James Ball (Sr, Biological Sciences) and Paxton Kostos (Jr, Biochemistry).

Paxton Kostos presented her poster titled, “Delineating roles for PMR4 in the constitutive callose phenotype of dynamin-related protein network mutants.”

“Being recognized for the work I have put in over the last 2 years felt very rewarding,” said Paxton. “After working on a project for that long you feel a strong sense of ownership and responsibility over the research, seeing that work acknowledged felt very fulfilling.”

The conference included more than 2,200 undergraduate presentations. Only 319 of these presentations were selected for this recognition.

This was James Ball’s third and final year attending ABRCMS. He presented his posted titled, “The regulatory effects of diet and exercise on glucose metabolism and vascular insulin signaling in obese mice.”

“Over the years I’ve watched so many of my deserving peers win awards in their discipline,” said Ball. “I honestly was really surprised when they called my name, and I was just happy that I was able to represent the university on stage.”
The IMSD program is funded by a grant to MU from the National Institutes of Health. The goal of IMSD (Initiative for Maximizing Student Diversity) is to increase the number of underrepresented students entering and completing research PhDs in biomedicine and related sciences.

Christian G. Aragonez (Sr, Bioengineering) presented his poster titled, “Vascular Cell Mineralocorticoid Receptor Signaling Coronary Microvascular Dysfunction, and Cardiac Capillary Rarefaction in Obesity.”

“Overall, the conference was really motivating. I was able to meet and network with like-minded students,” said Aragonez.

The conference also included workshops that students could attend. “I attended an MD/PhD workshop that was extremely interesting and a “Developing Your Scientific Swag” seminar that talked about how to use social media as a part of your brand as a scientist,” said Ball.

“The Ceremony was an excellent ending to the conference – yielding well-deserved recognition for students after weeks of preparation for this year’s meeting,” said IMSD Undergraduate Director Brian Booton. “The camaraderie and scientific prowess exhibited was an omnipresent reminder of the bright hope for our future!”

Congratulations again to the IMSD Students selected to present at the 2018 Annual Biomedical Research Conference for Minority Students!

Ashley Aguillard (Sr. Biochemistry – Faculty Mentor: Charlotte Phillips / Biochemistry)
Christian Aragonez (Sr. Bioengineering – Faculty Mentor: Shawn Bender / Biomedical Sciences)
James Ball (Sr. Biological Sciences – Faculty Mentor: Jaume Padilla / Nutrition & Exercise Physiology)
Kaia Davis (Sr. Biochemistry – Faculty Mentor: David Kline / Biomedical Sciences)
Laura Ellenberger (Sr. Biological Sciences – Faculty Mentor: Kristina Aldridge / Pathology & Anatomical Sciences)
Lorena Fernandez (Sr. Psychology – Faculty Mentor: Nicole Campione-Barr / Psychological Sciences)
Maha Hamed (Sr. Biochemistry – Faculty Mentor: Antje Heese / Biochemistry)
Joshua Jones (Sr. Biological Sciences – Faculty Mentor: Manuel Leal / Biological Sciences)
(Mr. Jones presented research from his summer research internship at University of Massachusetts Boston, Faculty Mentor: Michael Shiaris, Microbial Ecology)
Paxton Kostos (Jr. Biochemistry – Faculty Mentor: Antje Heese / Biochemistry)
Madison Ortega (Sr. Biological Sciences – Faculty Mentor: Cheryl Rosenfeld / Biomedical Sciences)
Gilberto Perez (Jr. Biochemistry – Faculty Mentor: Kamlendra Singh / Biological Sciences)
Zereque Powell (Sr. Biological Sciences – Faculty Mentor: Elizabeth Parks / Nutrition & Exercise Physiology)
Alana Rodney (Sr. Biological Sciences – Faculty Mentor: James Birchler / Biological Sciences)
Mathew Sexton (Jr. Biological Sciences – Faculty Mentor: Adam Schrum / Molecular microbiology & Immunology)
Adit Shah (Sr. Chemistry – Faculty Mentor: Susan Lever / Chemistry)
Serena Stoddard (Sr. Biological Sciences – Faculty Mentor: Charles Nilon / Urban Wildlife Management)
(Ms. Stoddard presented research from her summer research internship at Rhodes College, Faculty Mentor: Shanna Stoddard, Chemistry)
Christopher Zachary (Jr. Chemical Engineering – Faculty Mentor: David Mendoza-Cózatl / Plant Sciences)
Class Research Project Day

Class Research Project Presentation Day took place on Thursday, December 6. Students presented research from this past semester. Participating classes included Parks, Recreation, Sport and Tourism 2080, English 2100, General Honors 2461, Biological Sciences 3002, Theatre 4570, and Biological Engineering 4980.

The spring Class Research Project Day is scheduled for Thursday, May 9. Interested faculty should contact Linda Blockus in the Office of Undergraduate Research.
The Kinder Institute on Constitutional Democracy has been creating an engaged, scholarly community at Mizzou since the fall of 2014. The Institute’s Society of Fellows program allows undergraduate students to create the *Journal on Constitutional Democracy* while earning course credit.

“We are looking for students who are intellectually curious,” said Dr. Carli Conklin, an associate professor of law who teaches the *Journal on Constitutional Democracy* class with Thomas Kane, a communications associate in the Kinder Institute. “Creating the Journal from start to finish gives students an opportunity to explore topics that they might not be exposed to through their other coursework.”

The *Journal on Constitutional Democracy* is published each fall and reflects the work of the previous academic school year.

“Teaching is my favorite part of the job,” said Conklin. “It is a gift to be able to come in every day to work with students who are asking questions about what they are interested in and be able to aid them in that exploration.”

About 12 to 15 undergraduate students contribute to the Journal each year with varying topics bound together by the theme for the year. The students’ journal submissions result in a high quality writing piece that can be used when applying for graduate school or in job interviews.

“At Mizzou, students are not just recipients of knowledge,” said Conklin. “They are disseminating knowledge as well and that is why research is so important.”

Dylan Cain is a first-year graduate student from Tulsa, Oklahoma, pursuing a Master’s in Public Affairs. He earned a bachelor’s degree in political science from Mizzou in May 2018.

Dylan wrote about folk music and folk art during the Dust Bowl era for his journal manuscript during the 2017-2018 academic year.

“Research allows us to think more critically about the topics we explore,” said Dylan. “I enjoyed making qualitative arguments and learning from my classmates about their topics as well.”

Now, Dylan works as a research assistant at the Institute of Public Policy, a non-profit unit in the MU Truman School of Public Affairs. He plans to complete his graduate degree in May 2020.

Alex Galvin is a senior from St. Louis double majoring in history and political science. As a sophomore, Alex wrote about the Vietnamese Declaration of Independence by Ho Chi Min in the 1950s for his manuscript in the journal. As a junior, Alex was design editor of the Journal and also wrote about the 1969 occupation of Alcatraz by a Native American advocacy group.

“Regardless of what grade or major you are, getting involved with the *Journal on Constitutional Democracy* is a great experience,” said Alex. “Learning how to gather information and present it in a way for other people to read and understand is an important skill.”

After his sophomore year, Alex studied abroad in Europe as part of Dr. Marvin Overby’s Developing Dynamics of Democracy program, which takes students “from Plato to NATO” on the path of democracy. Alex also participated in the Kinder Scholars Summer Program after his junior year, where he held an internship in Washington D.C. working with Congresswoman Vicky Hartzler, who represents Missouri’s 4th congressional district in the U.S. House of Representatives.

Taylor Tutin is currently an administrative project manager for the Office of Research at Mizzou. She graduated in May 2018 with degrees in political science, philosophy and psychology. As a junior, she wrote about the legal history of the insanity defense for the Journal. As a senior, she was the copy editor of the Journal.

“As an editor I focused on fostering an environment where creativity and collaboration could flourish,” said Taylor. “Working on the journal allowed me to learn more about what I was interested in and shape me into a more well-rounded individual.”

For more information on the Kinder Institute’s undergraduate opportunities and the *Journal on Constitutional Democracy*, visit [https://democracy.missouri.edu](https://democracy.missouri.edu)
Dr. Aaron Stoker is the associate director of the Thompson Laboratory for Regenerative Orthopaedics in the Missouri Orthopaedic Institute. He has received three degrees from Mizzou: a bachelor’s degree in biology, a master’s degree in biomedical science and a doctoral degree in pathology while working with Dr. James Cook, the director of the Thompson Laboratory for Regenerative Orthopaedics. Dr. Stoker has been working in the lab for over 18 years and has provided many opportunities for students to get involved in orthopaedic research. Currently in his lab are two doctoral students, four master’s students, two post-baccalaureate students, six seniors, six juniors, 10 sophomores and two freshmen.

“The students bring a lot of energy and excitement into the lab,” said Dr. Stoker. “Watching the students grow and gain confidence is cool because they create a sense of community, and teams defeat individuals any day.”

Emma LePage (pictured below) is a senior from St. Charles, Missouri, majoring in biological sciences. She has been working in the Thompson Laboratory for Regenerative Orthopaedics since May of 2017 and her research has included examining the intervertebral discs of rats.

“Getting hands-on experience and learning about the specific functions of different parts of the body has been very beneficial,” said Emma. “My drive as an aspiring physician is to help people, and I have been able to acquire so much knowledge working in Dr. Stoker’s lab.”

Emma attended a musculoskeletal research conference at Washington University in St. Louis last summer. In February she plans to present a research poster at the Orthopedic Research Society Annual Meeting in Austin, Texas.

As a junior at Mizzou, Emma presented at Health Sciences Research Day, the Undergraduate Research & Creative Achievements spring Forum, and Life Sciences Week. In addition to conducting research, Emma is the president of Mizzou’s National Residence Hall Honorary and a member of the service fraternity Alpha Phi Omega. Currently in the process of applying to medical school, Emma has considered working in pediatrics or family medicine.

Nikki Greco is a sophomore from Chicago majoring in biology. She is a pre-vet scholar and part of her research in Dr. Stoker’s lab has included examining the intervertebral discs of rat tails.

“Research has allowed me to make great connections and opened the door to a bunch of different opportunities,” said Nikki. “It’s really important to see what is out there because you might find you have a passion for something you did not know about before.”

Nikki is also a member of the Initiative for Maximizing Student Diversity program at Mizzou and enjoys shopping and hiking in her free time.

“Watching the students grow and gain confidence is cool because they create a sense of community, and teams defeat individuals any day.”
Will Costigan is a sophomore from Bloomington, Illinois, majoring in biochemistry. This is his first year as a student ambassador for the Office of Undergraduate Research and he learned about the opportunity through his involvement with Freshmen Research in Plant Sciences (FRIPS).

“Our main goal as ambassadors is to encourage undergraduate participation in research,” said Will. “Through tabling at events, giving presentations to classes and participating in workshops, we aim to provide undergraduates with the advice and resources necessary to get involved in research.”

Will’s mentor is Dr. Scott Peck, a professor of biochemistry. In Peck’s lab, Will studies how plants use metabolites, which are compounds that are synthesized within the plant, to defend themselves from bacteria.

“Being involved in research has definitely augmented my educational career, and I want to extend that opportunity to other people as well,” said Will. “Through the study of biochemistry, I think we can solve some of the world’s most complex questions regarding life, evolution and medicine.”

Will plans on pursuing a doctoral degree in biochemistry after graduation. In his free time, he enjoys hanging out with friends and playing basketball.
The Connection is the Office of Undergraduate Research’s official newsletter and provides undergraduate researchers and faculty mentors with information regarding research-related events and workshops, as well as featured faculty mentors and student research projects at the University of Missouri. The Connection is published monthly.

The publication’s goal is to connect undergraduate researchers from science and non-science disciplines across MU’s campus. Check out the newsletter’s monthly featured research websites and fellowships! Readers are welcome and encouraged to submit story tips and ideas. If you want to receive an electronic copy of the newsletter each month, email contact the Office of Undergraduate Research at ugr@missouri.edu.