

NEWS FROM THE UNDERGRADUATE RESEARCH CENTER

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Major: Chemistry

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Mitchell-Fostyk/Haruna
Publication

Welcome to the Undergraduate Research Center (URC)

Hello, students and faculty! The URC team is excited to have everyone back on campus this semester and looking forward to supporting your research and creative activity projects through a variety of events, opportunities and activities we have planned for this fall.

For those of you new to MTSU, please check out our mission below.

We also invite you to meet our team on page 3 of this newsletter and learn a little more about us, the events we host, and the programs we offer. Our [website](#) is also an excellent source of information.

NEW this semester -- the unveiling of our SOAR Ambassadors! These exceptional students are committed to furthering the mission of the URC by serving as ambassadors to our MTSU community in areas of need. Their roles are highlighted on pages 5 and 6.

Please never hesitate to reach out with suggestions, recommendations, comments, or constructive feedback related to the our newsletter, programs, workshops, or other activities. Our goal is to make this newsletter a source of information and enjoyment to all who peruse the pages.

Best wishes for a great fall semester!

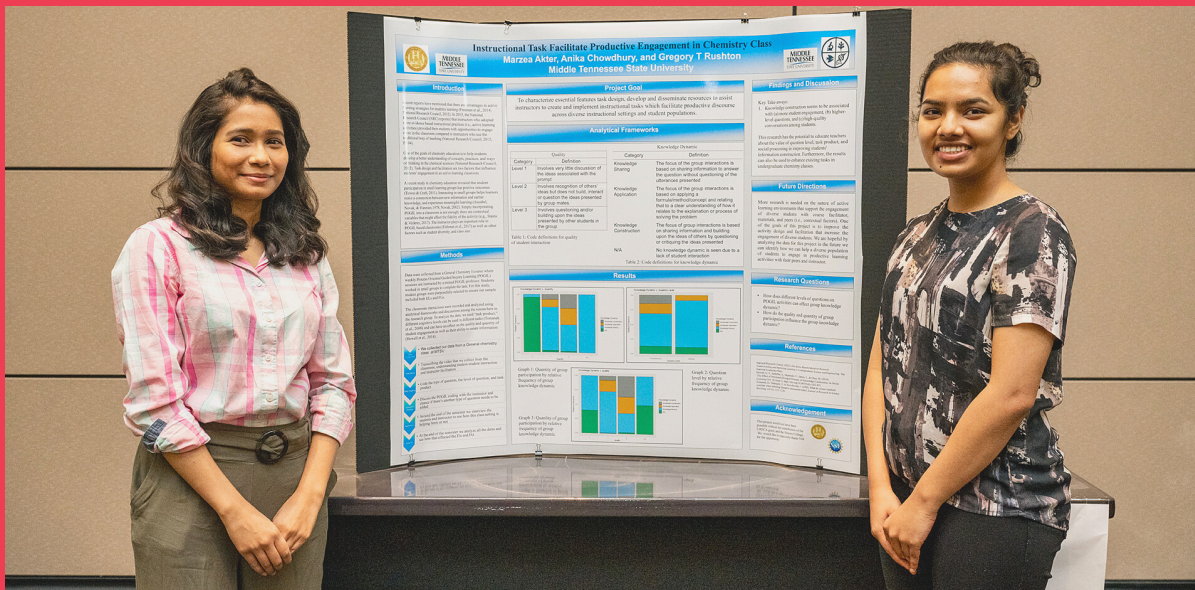
The URC Team

URC'S MISSION

The Undergraduate Research Center's (URC) mission is to be the central hub for communication about undergraduate research grant programs and other related opportunities on and off campus, to distribute university funds for undergraduate research and creative projects, and to promote dissemination of results through travel grants and by offering opportunities for students to present their research findings.

FALL URECA GRANTS

APPLICATION DEADLINE: SEPTEMBER 2ND BY 4:30PM



Want to get paid to do research or work on a creative project?

THEN CHECK OUT OUR UNDERGRADUATE RESEARCH AND CREATIVE ACTIVITY GRANTS



To support our vision of nurturing a culture of research and creative activity at MTSU, the URC offers Undergraduate Research Experience and Creative Activity (URECA) grants to students three times a year. Awards range from \$500 for beginners to \$3,500 for experienced researchers.

Team applications are now being offered during the fall, spring, and summer semester. More information about the team structure can be found [here](#).

To learn more about URECA grants and how to submit proposals, check out our [website](#).

NEW!! Need assistance finding a mentoring or figuring out which level grant is best for you?

Contact our Peer Mentor Scholar, Jared Frazier, at jf5s@mtmail.mtsu.edu. Jared can also help with proposal development, budget and justification, creating a timeline, and proposal review. More info on the next page about our new SOAR Ambassadors!

Also, check out our virtual workshop! This YouTube video features several of our undergraduate researchers and provides an overview of the services we provide in the URC. It also walks students through the necessary steps to apply for a URECA grant. [CLICK HERE](#) to access the video.

STUDENTS MAY APPLY FOR THE FOLLOWING LEVELS:

Assistant - beginners, one semester project, \$500 stipend

Silver Scholar - experienced student researcher, one semester project, \$1000 stipend

Gold Level - experienced student researcher, 2 semester project (fall & spring), \$2,400 stipend

THE URC TEAM

YOU, our students and faculty, are our #1 priority. We are here to help however possible, whether it is getting you involved in undergraduate research, helping you find a faculty mentor, thinking through a research or creative activity project, hosting a workshop on a topic of need, or facilitating events. Meet our team!



Dr. Jamie Burriss

Program Manager, Office of Research and Sponsored Programs

Dr. Burriss oversees the URC, the Student Organization for the Advancement of Research (SOAR), our newly created SOAR Ambassador program, the URECA grant program, communications, Scholars Week, Posters at the Capitol, and all other activities related to the URC.

Prior to returning to MTSU, Dr. Burriss served as the Curriculum Administrator for the SELECT MD Program at the University of South Florida while pursuing her doctorate. After USF, she accepted a position at Vanderbilt University as the Assessment Analyst for the College of Medicine. But, her heart has always been TRUE BLUE and she is happy to once again serve her undergraduate alma mater.

Jamie.Burriss@mtsu.edu
Phone: 615.494.7669



Casey Penston

Program Assistant, Office of Research and Sponsored Programs

Casey assists in overseeing the URC, the Student Organization for the Advancement of Research (SOAR), our newly created SOAR Ambassador program, the URECA grant program, communications, Scholars Week, Posters at the Capitol, and all other activities related to the URC.

Casey has a decade of experience in the fields of environmental compliance and permitting, administration, and ecological restoration. She holds a Bachelor of Science in Biology and has completed graduate coursework in coral reef research.

Casey.Penston@mtsu.edu
Phone: 615.904.8398

URC Student Workers

Meet our wonderful student team! These ladies balance school work, extra curriculars, multiple jobs, and several other commitments. They are always eager to help and serve our MTSU research community!



Jenshi Patel

Major: Information Systems



Molly Mihm

Major: Healthcare Administration



Hannah Hudson

Major: Biochemistry & Psychology



Ha Bui

Major: Chemistry

What is the Student Organization for the Advancement of Research? AKA "SOAR"



A new student organization comprised of undergraduate students who are committed to developing and sustaining an active and successful undergraduate research environment at MTSU.

SOAR's Mission

To enhance student's research capacity through increased awareness, collaboration and skill building.

Why Join?

- SOAR will enhance a student's research capacity through increased awareness, collaboration and skill building by offering workshops and trainings to fulfill the needs of undergraduate researchers.
- SOAR will assist students in the preparation of poster presentations and development of abstracts to increase conference presence on a national level, encourage students to attend the National Conference on Undergraduate Research, and facilitate travel preparations.
- SOAR will provide peer mentoring to students new to undergraduate research.

the
**Undergraduate
Research
Center**
presents

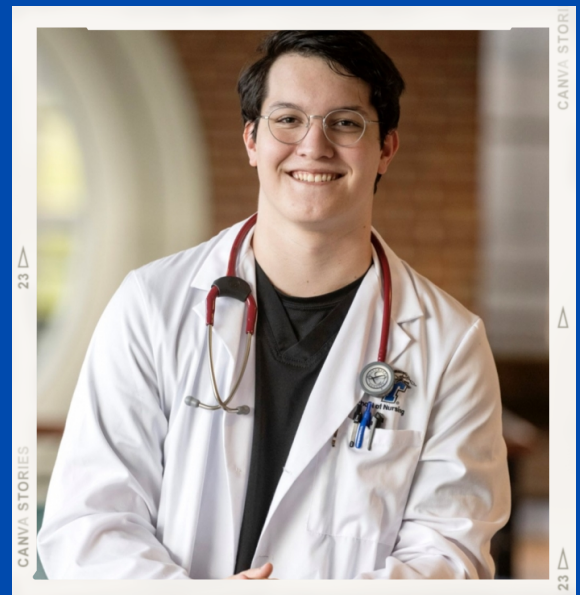


SOAR
Student Organization for
the Advancement of Research

**Luncheon &
Business Meeting**

The Student Organization for the Advancement of Research, joined by Dr. David Butler, *Vice Provost for Research*, and Dr. Greg Ruston, *Co-Director of ORSP*, will discuss business items and share thoughts and opportunities for the upcoming school year. All are welcome!

FRI • AUG 27 • 12:00 - 1:00 PM
STUDENT UNION • ROOM 220



Zachary Sanchez, SOAR President

Register
Here



Meet our 2021-22

SOAR Ambassadors!

JARED FRAZIER

PEER MENTOR SCHOLAR

ROLES & RESPONSIBILITIES:
MENTOR STUDENTS INTERESTED IN GETTING INVOLVED WITH UNDERGRADUATE RESEARCH. PROVIDE GUIDANCE RELATED TO URECA GRANTS (PROPOSAL, BUDGET, TIMELINE) AND THE DISSEMINATION PROCESS.



DARA ZWEMER

URC SOCIAL MEDIA & COMMUNICATIONS

ROLES & RESPONSIBILITIES:
ASSIST WITH THE URC MONTHLY NEWSLETTER, SOCIAL MEDIA TAKEOVERS, FACEBOOK & INSTAGRAM POSTS, AND MARKETING FOR EVENTS AND HAPPENINGS.



MIQUELLE BONNER

SCHOLARS WEEK CHAIR

ROLES & RESPONSIBILITIES:
HELP ORGANIZE EVENTS FOR SCHOLARS WEEK, PRIMARILY FOCUSED ON THE RESEARCH AND CREATIVE ACTIVITY EXPOSITION. SERVE AS STUDENT LIAISON TO MTSU SCHOLARS WEEK COMMITTEE.



KAP PAULL & LUKE GORMSEN **READY TO SOAR COORDINATOR**



ROLES & RESPONSIBILITIES;

OVERSEE THE CREATION AND IMPLEMENTATION OF THE “READY (RESEARCH EXPERIENCE ACTIVITY DESIGNED FOR YOUTH) TO SOAR PROGRAM. THIS NEW PROGRAM IS AN OPPORTUNITY FOR AREA HIGH SCHOOL STUDENTS TO VISIT MTSU’S CAMPUS FOR AN IMMERSIVE RESEARCH OR CREATIVE ACTIVITY EXPERIENCE. THE GOAL OF THE PROGRAM IS TO SHOWCASE MTSU’S UNDERGRADUATE RESEARCH OPPORTUNITIES TO POTENTIAL STUDENTS INCLUDING A SITE VISIT (EXAMPLES: LAB, MTSU FARM, THEATRE, ETC.).

HA BUI **ORSP DATA ANALYST AND** **COMMUNICATIONS** **AMBASSADOR**

ROLES & RESPONSIBILITIES;

ASSISTS WITH RESEARCH AND DATA ANALYSIS PROJECTS; ASSISTS WITH ORSP NEWSLETTER, WEBSITE, AND OTHER COMMUNICATIONS.



INTERNSHIPS & RESEARCH OPPORTUNITIES

Check out the following opportunities for fall research !

- Spring 2022 Science Undergraduate Laboratory Internships (SULI), US Dept of Energy | Deadline October 6, 2021
- Various internships, US Environmental Protection Agency | Summer and fall deadlines
- Visiting Scientist Program, Counterterrorism, and Forensic Science Research Unit, FBI | Applications reviewed on a rolling basis
- Various Fall Internships, American Civil Liberties Union | Applications considered on a rolling basis

Virtual UR Presentation & Paper Opps

- Call for Abstracts, Virtual Pop-Up Conference on Popular Culture, Lone Star College–University Park | Deadline August 29, 2021
- Call for Abstracts, "Home Economics: Soaring toward Sustainable Development," 2022 World Congress International Federation for Home Economics | Deadline August 31, 2021
- Call for Poster Abstracts, Virtual Conference, Black Doctoral Network (open to undergrads from all disciplines and all ethnic/racial backgrounds) | Deadline August 31, 2021
- Call for Poster Abstracts, 2021 Virtual Conference, International Center for Responsible Gaming | Deadline September 1, 2021
- Call for Abstracts, Virtual 2021 Symposium on Substance Use Research, UNL Rural Drug Addiction Research Center/COBRE on Opioids and Overdose–WVCTSI/WV-INBRE | Deadline September 1, 2021
- Call for Abstracts, "Medieval Global Encounters" and "Race and Medieval Studies," 31st Annual Conference, Texas Medieval Assn | Deadline September 1, 2021
- Call for Poster Abstracts, 2021 West Virginia Rural Health Conference, West Virginia Rural Health Assn | Deadline September 3, 2021
- Call for Papers, "The Role of the Arctic in International Relations and International Cooperation," Global Affairs Review | Deadline September 3, 2021
- Call for Posters, "Emerging Approaches to Omics Questions: Data Science for the 21st Century," Sixth Annual MidAtlantic Bioinformatics Virtual Conference | Deadline September 8, 2021
- Call for Abstracts, Conference on Digital Experimentation, MIT | Deadline September 15, 2021
- Call for Proposals, "Indigenous-Mennonite Encounters in Time and Place" Conference, University of Waterloo | Deadline September 30, 2021
- Call for Proposals, International Academic Conference on the Sustainable Development Goals, Utah Valley University | Deadline November 1, 2021
- Call for Abstracts, April 2022 Technical Meeting, Rubber Division, American Chemical Society | Deadline November 6, 2021
- Call for Proposals; "Literary Geographies: Space, Place, and Environments"; Conference on Christianity and Literature, Biola University | Deadline November 15, 2021
- Call for Papers, Young Journal of European Affairs, Ludwig-Maximilians-Universität Munich | Submissions accepted on a rolling basis



National Science Foundation Opportunities

- **Industry-University Cooperative Research Centers Program** | Deadline September 8, 2021
- **Dear Colleague Letter: Call for Ideas and Proposals for GEO-Themed Industry University Cooperative Research Centers** | Deadline September 8, 2021
- **Call for Nominations, Alan T. Waterman Award** | Deadline September 20, 2021
- **2024 American National Election Study Competition** | Deadline September 20, 2021
- **Computer and Information Science and Engineering Research Initiation Initiative** | Deadline September 20, 2021
- **Development grants, the Predictive Intelligence for Pandemic Prevention Initiative** | Deadline October 1, 2021
- **Competition for the Management of Operations and Maintenance of the National Ecological Observatory Network (NEON)** | Deadline October 1, 2021
- **Community Facility Support: Synchrotron-Based Analytical Capabilities Advancing Earth and Environmental Sciences Research and Training** | Deadline March 4, 2022
- **Dear Colleague Letter, Opportunities for Collaboration between CISE and SBE Researchers**
- **Computational and Data-Enabled Science and Engineering** | Various fall deadlines
- **Tribal Colleges and Universities Program** | Various deadlines
- **Dear Colleague Letter, Advancing Discovery with AI-Powered Tools (ADAPT) in the Mathematical and Physical Sciences**
- **Dear Colleague Letter, Envisioning the Future of NSF EBSCoR (Established Program to Stimulate Competitive Research)**



National Institutes of Health Opportunities

- **Request for Information: Developing Consent Language for Future Use of Data and Biospecimens** | Deadline September 29, 2021
- **Listening sessions cohosted by NIH and the White House Office of Science and Technology Policy on the proposed Advanced Research Projects Agency for Health that will seek to speed health research. Search Upcoming Dates and Times.**

STUDENTS! Are you presenting at a virtual conference this fall and would like assistance in paying for your travel? The URC can help!



The Undergraduate Research Center strives to support students in dissemination of their research. Undergraduates who are accepted to present their research at a regional, state, national, or international conference are eligible to receive financial assistance for registration fees.

Awarded travel funds are payable on a reimbursable basis only.

Please contact Wendi.Watts@mtsu.edu for more information.

FEATURED SOAR STUDENT

KODA HENGSTENBERG

Major: Chemistry

Faculty Mentor: Dr. Scott Handy

Current Research Focus: Further Exploration of Aurone System in Mercury Sensing

Additional Interests: Exploration of Aza-Aurone, Thioaurone, and Triazole System in Bio-imaging

Project Description: In previous research conducted at MTSU, the aurone system has been shown to be a valuable scaffold for fluorescent probes. In general, they offer fast and predictable results while also negating the use of harmful UV-light due to the high photostabilities. Mercury remains one of the most toxic heavy metal pollutants today. Mercury finds its way into ecosystems through air, water, soil and many natural processes. For this reason, it is necessary to identify mercury at very low concentrations; fast, reliable and safe techniques are also vital for early detection. Some of the many symptoms from mercury poisoning include, loss of neurons with reactive proliferation of glial cells, microvacation, vascular congestion petechial hemorrhage and edema. With the effects ultimately leading to death, it is fundamental that detection is prioritized. Reacting with an alkene to form a cyclic mercury compound, the UV/Fluorescence properties have been shown to change, ultimately providing for an "ON-OFF" switch. Testing of the reaction's specificity and sensitivity will be conducted. Enhancing the specificity and sensitivity of the reaction with respect to fluorescence will create a better detector molecule capable of detecting mercury ions present in concentrations lower than those deemed toxic by the USA Environmental Protection Agency (EPA) in safe drinking water (2.0 ppb).



Student Organization for
the Advancement of Research

Why does this topic interest you?

Organic synthesis, spectroscopy, and characterization are very enjoyable! With organic chemistry being the heart of fields such as pharmacy, it is beneficial in emphasizing the effects chemicals have on biological systems.

What are your professional aspirations?

I plan on pursuing a PharmD/Ph.D. degree, with a Ph.D. concentration in Medicinal Chemistry

Do you have any advice for future researchers?

Reach out to your professors! You will not know where your passion in research lies without trying some fields out. Have fun with it! You are on the edge of scientific discovery which will provide a clearer understanding on the classes you take in undergrad.

UNDERGRADUATE RESEARCH GRADUATION DISTINCTION



LEVELS OF RECOGNITION

Distinction in Undergraduate Research

- Students receive a dark blue, light blue, and white cord

Scholar Distinction in Undergraduate Research

- Students receive a dark blue, light blue and white cord
AND a medallion (see image to the right)

DISTINCTION CRITERIA

Distinction in Undergraduate Research

*Students must fulfill all requirements

- 1 Successful completion of an Assistant level URECA project - 50 hours of research or more.
- 2 Poster presentation or creative performance at one of the URC's signature events: Fall Open House, Scholars Week or Summer Research Celebration.
- 3 Active participation for at least one academic year in the Student Organization for the Advancement of Research (SOAR).
- 4 Letter of support from URECA faculty mentor.

Scholar Distinction in Undergraduate Research

*Students must fulfill all requirements

- 1 Successful completion of a Scholar level URECA project - 100 hours of research or more.
- 2 Poster presentation or creative performance at one of the URC's signature events: Fall Open House, Scholars Week or Summer Research Celebration.
- 3 Active participation for at least one academic year in the Student Organization for the Advancement of Research (SOAR).
- 4 Poster or presentation at the National Conference on Undergraduate Research or published in a peer-reviewed academic journal.
- 5 Letter of support from URECA faculty mentor.

SAVE THE DATE!*Fall Research
Open House*

November 4, 2021

Science Building Atrium | 11-1pm

The Undergraduate Research Center presents our 4th Annual Open House on November 4 from 11-1pm in the Science Building atrium, 2nd floor. This event is an informal poster session that showcases a sampling of current undergraduate research and creative projects at MTSU. All students, particularly new students and transfer students, are invited to attend.

This event presents the following opportunities for students:

- Introduction to undergraduate research and the importance of dissemination;
- Experience a variety of academic poster presentations representing an array of majors and disciplines;
- Present questions to current researchers about how they became involved in undergraduate research, how they balance coursework and research, and how they selected a faculty mentor;
- Find out more about our spring & summer URECA grants; and
- Learn about SOAR from current members.

FACULTY: We invite you to feature this event as an extra credit opportunity for your students. Attendees will be required to talk with a minimum of 5 student presenters, which will be verified by the presenter initialing their program. I will sign off on the program once all requirements are met. Students can then submit the program to you for extra credit.

Sign up information coming soon!

**PUBLICATION
ALERT**

Congrats to Brendan Mitchell-Fostyk and Dr. Samuel Haruna for their recent publication in Soil Science Society of America Journal titled *Spatial and fractal characterization of soil hydraulic properties along a catena.*

Check out the full article [HERE!](#)

***DID YOU KNOW?***

The URC has a facebook page!

Follow us :

Undergraduate Research Center at MTSU or click the facebook icon for updates and stories.