

# NEWS FROM THE UNDERGRADUATE RESEARCH CENTER

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## MTSU Represented at Scholars Transforming Through Research (STR): Council on Undergraduate Research's Advocacy Program

The Council on Undergraduate Research (CUR) congratulated 75 teams accepted to be a part of the 2022-23 Scholars Transforming Through Research (STR) Program. The STR Program is a competitive application-based professional development opportunity for teams consisting of a campus representative and one to two undergraduate students.

The teams will participate in a 6-month program aimed at developing their communication and advocacy skills which will empower them to convey the power of the high-impact practices of undergraduate research, scholarship, and creative inquiry experience to diverse stakeholder groups.

The STR teams represent 62 institutions from 28 states and are made up of 75 campus representatives and 124 undergraduate researchers. Saman Kittani, Luke Gormsen, and Dr. Jamie Burriss were selected to represent MTSU in the STR Program.

More details about the program follow on page 2.



## 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.

# STR Kick-off Training

October 23-24, 2022  
Alexandria, VA



Scholars Transforming Through Research (STR) held its initial in-person training on October 23-24. Teams received training from advocacy and communication specialists. They began their advocacy work by writing to local, state, and federal legislators, and enjoyed networking time with agency stakeholders and local Congressman Don Beyer.

STR teams will participate in various training engagement experiences, scheduled advocacy meetings with representatives, and a Virtual Spring Showcase happening over the course of the next 6 months.

## Upcoming STR Trainings

**Op-Ed Writing +  
Pitching**

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**Engaging with  
Government Agencies**

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**Policy Mapping:  
Navigating Your  
Network**

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**Media Interviews +  
Building Relationships  
with Reporters**

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**Online Meetings with  
Policymakers**



### Connect with CUR on Social Media

Stay up-to-date between eNews by following CUR via these social media accounts.

Our Twitter handle is [@CURinAction](#).

Make sure to follow [@CURpresident](#) on Twitter as well.

The Council on Undergraduate Research has a [Facebook](#) page, and you can find us on [LinkedIn](#).

Our video content can be found on our [YouTube](#) site.



**MIDDLE  
TENNESSEE**  
STATE UNIVERSITY.

Office of Research and Sponsored Programs

Undergraduate Research Center

The Undergraduate Research Center presents our 5th Annual Open House on November 3 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  
HERE!**



To sign-up as an  
**ATTENDEE,**  
please click [HERE](#).

**\*Max capacity: 50**

**Presenters and attendees  
will receive free lunch!**



***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.

## PRESENTATION OPPORTUNITIES



# POSTERS AT THE CAPITOL

Wednesday, February 15th, 2023

Applications Open November 1, 2022  
Due by November 11, 2022

Posters at the Capitol is the Undergraduate Research Center's most prestigious annual event, during which selected MTSU students present their research\* to state legislators at the state capitol alongside undergraduate representatives from other participating Tennessee universities.

Posters are limited to STEM disciplines. A tour of the TN State Capitol, time to meet with your respective legislators, and lunch will be provided.

## SCHOLARS WEEK 2023

March 20-24

Scholars Week is a week long tradition during which MTSU's academic colleges celebrate scholarship, research, and creative activity through a variety of events and activities.



## SCHOLARS WEEK 2023



**Abstract Reviewer Volunteers Needed!** All faculty, staff, administrators, and graduate students who have expertise in one or more of the abstract categories are encouraged to help review. The deadline to volunteer is November 10, 2022. [Sign Up Here](#) >>





# FEATURED SOAR STUDENT

## BROOKE BUSBEE

**Major:** Psychology

**Faculty Mentor:** Dr. Jamie Burriss

**Current Research Focus:**

The Effects of Anonymity on Classroom Participation

**Project Description:**

Social pressure and psychological safety in classrooms is an impactful, often overlooked, factor in classroom participation. By exploring methods to circumvent these pressures, we can form an environment that encourages the social risks required to speak up in class, volunteer, and collaborate with peers. Past methodology of mine showed that optional anonymous avenues in classroom activity encouraged more participation from students that otherwise tended to be disengaged in class. I am interested in how this effect functions in various group activity settings, such as general classroom discussion, small group work, and POGIL learning methods.

**Why does this topic interest you?**

When I was in school, I noted how often myself or my peers wished to participate in class, did not due to purely social reasons, such as being afraid to be wrong, to stand out in the room, or to incite judgement from peers. This inspired me to explore avenues to alleviate this problem, especially through anonymous classroom participation. I believe that having optional anonymous participation avenues would not only level out social disparity, but would also be viable given the post-Covid rise of digitization in classrooms.



**What are your professional aspirations?**

I would like to research the psychology of education, particularly regarding classroom participation, student satisfaction, and student retention. Through this, I wish to create a safer learning environment for students and a more engaging classroom for educators.

**Do you have any advice for future researchers?**

If you discover a problem in the world that you wish someone would fix, be the one to fix it.

**Check out more  
SOAR profiles here!**

[MTSU.EDU/URC/SOAR-  
PROFILE/](https://MTSU.EDU/URC/SOAR-PROFILE/)

# URC FEATURED FACULTY MENTOR

## DR. SCOTT HANDY

**Department:** Chemistry

**Bio:** Dr. Scott Handy is a Professor of Chemistry at Middle Tennessee State University and an active member of the Molecular Biosciences PhD program and the interim Director of the Tennessee Center for Botanical Medicinal Research (TCBMR). He is also involved in the Mathematics and Science Education PhD program.

Dr. Handy received his undergraduate degree in Chemistry from the University of Iowa in 1991 and completed anti-HIV research with Dr. Vasu Nair while there. His graduate work was completed at Indiana University under the direction of Dr. Paul Grieco studying usual catalytic effects of highly concentrated solutions of lithium salts in organic solvents (thus beginning my interest in unusual solvents).

From there, Dr. Handy completed an NIH Post-doctoral fellowship at Stanford University in the labs of Dr. Paul Wender studying diversity-oriented libraries of potential PKC activators and gaining considerable experience in conducting biological assays - work which has well prepared him for his highly collaborative efforts at MTSU. His first academic appointment was at Binghamton University, before moving to MTSU in 2005. Through it all, he enjoyed music (particularly singing), bicycling, and gardening. Diversity of interests helps to keep him sane!

**Research Interests:** Organic Synthesis. Within this broad area, Dr. Handy has two areas under active investigation: deep eutectic solvents and the exploration of aurones as biologically active natural products and fluorophores.



### A sampling of Dr. Handy's mentored URECA Projects:

- Detection of Mercury Ions Using an Aurone-based Small Molecular Fluorescent Probe (Spring 2022)
- Synthetic Organic Electrochemistry in Deep Eutectic Solvents (Summer 2021)
- Investigation of Pi-extended Aurones (Spring 2021)
- Further Exploration of Aurone System in Mercury Sensing (Fall 2020)
- Fluorescent Labels Based on the Aurone Scaffold: A Group Project (Team Project, Summer 2020)
- Dyeing with Deep Eutectic Solvents (Summer 2020)
- Exploration of Aurone System in Mercury Sensing (Summer 2020)
- Synthesis of Amino Aurones: An Exploration into Nitrogenous Functional Groups and Organometallic Catalysts (Fall 2019)
- Exploration of Aza-aurone, Thioaurone and Triazole Systems for Florescence in Bio-imaging (Fall 2019)
- Aside Aurones and Click Chemistry (Spring 2019)
- \*N-Substituted Azaaurones: Synthesis, Photochemistry, and Biological Applications (Spring 2019)
- Dyeing to Know: A Natural Approach to Dyeing (Fall 2018)



# NCUR

UW-EAU CLAIRE 2023  
APRIL 13-15

## NCUR 2023 is Now Accepting Student and Faculty Submissions

The National Conference on Undergraduate Research (NCUR) 2023 will take place on April 13-15, 2023, at the University of Wisconsin – Eau Claire. Students across all academic disciplines are welcomed and encouraged to submit an abstract before November 30, 2022.

### What is new this year?

- Students can select their willingness to participate in an additional pre-event competition, WiSys Quick Pitch. This limited-availability event takes place on the afternoon of Wednesday, April 12, 2023, where students will present a 3-minute oral summary of their research project and explain why their research matters. In addition to receiving cash prizes, the winners will help open the keynote speakers on Friday, April 14.
- The Mayo Clinic Health System and Medical College of Wisconsin SDoH Challenge will be hosted on the morning of April 12, 2023, for students to address social determinants of health in order to improve health and health outcomes within the Mayo Clinic. In addition to having access to Mayo Clinic mentors and training, participants will have the opportunity for networking and discussion at the end of the challenge luncheon, where the winning team will be announced and awarded.
- FAN sessions are back! Faculty-Administrator Network (FAN) sessions are professional development presentations focused on models and strategies for establishing, enriching, and advancing high-quality undergraduate research, scholarship, and creative inquiry.
- Futures Fair is face-to-face. In addition to hosting a Graduate and Professional Fair, we will also host a Two-Year Transfer Fair to help students discover their next steps. Before visiting the Futures Fair, students can stop by the Fair Prep Zone to spruce up their resume, get a professional headshot, and sign up for a LinkedIn account.
- Check out Collaborative Opportunities in the Arts: Students can submit an abstract to participate in artistic activities taking place during NCUR including the NCUR Murals Project, a Jazz Improvisation Expo, performance of original music composition, and dramatic readings of original scripts.
- Fun entertainment opportunities include a bike tour around town, a morning Fun Run, Mayo Clinic Beyond the Red Line Excursion, Hmong Heritage Celebration, Kubb Demonstration, Library After Dark Party, and a Friday night music and culture fest in downtown Eau Claire.

**START YOUR ABSTRACT SUBMISSION**



Why?

What?

So What?

Now What?

# Abstract Writing Workshop

Abstract Writing Workshops for  
WorldCUR-BCUR 2023  
will be held on Microsoft Teams.

Tuesday 1st November 2022 @ 8am UTC  
or  
Wednesday 2nd November 2022 @4pm UTC

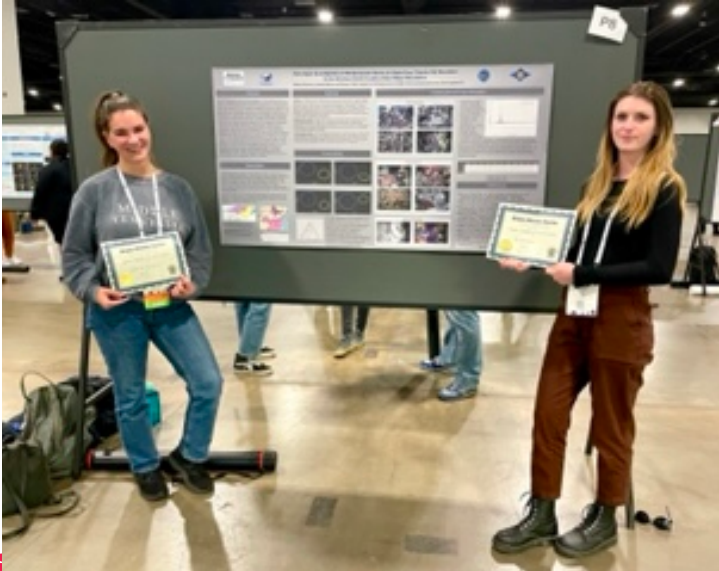
sign-up here







## Sigma Gamma Epsilon Undergraduate Research Symposium



**Presented by:** Katie Baumann and Hannah Bates  
**Faculty Mentor:** Dr. Warner Cribb  
**Award:** Best poster presentation

**Project Title:** Petrologic investigation of metamorphic rocks at Glade Gap, Chunky Gal Mountain in the western North Carolina Blue Ridge Mountains.

Their research focused on using the mineralogical content and chemical composition of metamorphic rocks in the western North Carolina Blue Ridge mountains. The objective of their research is to determine the rock types that were pushed up by geologic forces to form Chunky Gal mountain between Hayesville and Franklin, North Carolina.

## Tennessee Herpetological Society Conference



**Presented by:** Ori Bergman  
**Faculty Mentor:** Dr. Donald Walker  
**Award:** Best poster presentation

**Project Title:** Interactions Between Skin Bacteria and the Snake Fungal Disease Pathogen (*Ophidiomyces ophidiicola*) Across a Nutrient Gradient Mimicking Host Skin Chemistry

The goal was to determine whether bacteria from snake skin grow differently when the fungus, *Ophidiomyces ophidiicola*, has altered the skin chemistry (modeled by keratin broth the fungus had metabolized). This way we could understand whether competition for nutrients is the cause of changes to the snake skin microbiome in the presence of the fungus (snake fungal disease).

# INTERNSHIPS & RESEARCH OPPORTUNITIES

Check out the following opportunities for fall research !

## Centers of Research Excellence in Science and Technology and HBCU Research Infrastructure for Science and Engineering - NSF

- Supports centers, partnership supplements, postdoctoral fellowships, HBCU Research Infrastructure for Science and Engineering awards, and SBIR/STTR diversity collaboration supplements to enhance the research capabilities of minority-serving institutions.

## NHERI REU Summer Program - National Hazards Engineering Research Infrastructure

- Hands-on summer research for undergraduates. The NHERI REU Summer Program provides research opportunities at the ten NHERI multi-hazard engineering and interdisciplinary research sites during a 10-week summer research program. The NHERI REU program is dedicated to helping undergraduate college students experience multi-hazard engineering as well as reconnaissance, cyberinfrastructure, data management, and simulation research. Hands-on, research-based projects introduce participants to a network of engineers, and students who work toward mitigating natural hazards and understanding the impact of natural hazards on society.

## Language Sciences Research Lab - Ohio State University

- The Language Sciences Research Lab is running a 8-week PAID summer research program for undergraduate students interested in LANGUAGE. This program is a hands-on program that requires 35 in-person hours each week. During this program you will: • Conduct research with mentorship from OSU faculty members. Learn how to communicate about research and language science with professionals and the public.

## Summer Undergraduate Research Fellowships - American Chemical Society

- These competitive fellowships (\$6,000) are awarded on the merits of students' research proposals, academic records, faculty recommendations and their passion for laboratory science. SURF fellowships will provide support for undergraduates in organic chemistry to carry out research at their respective colleges/universities in the summer between their junior and senior year.

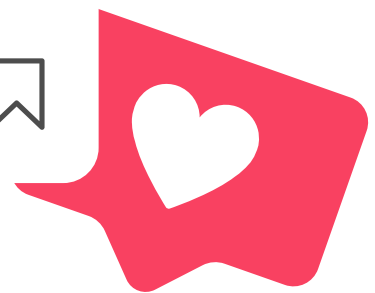
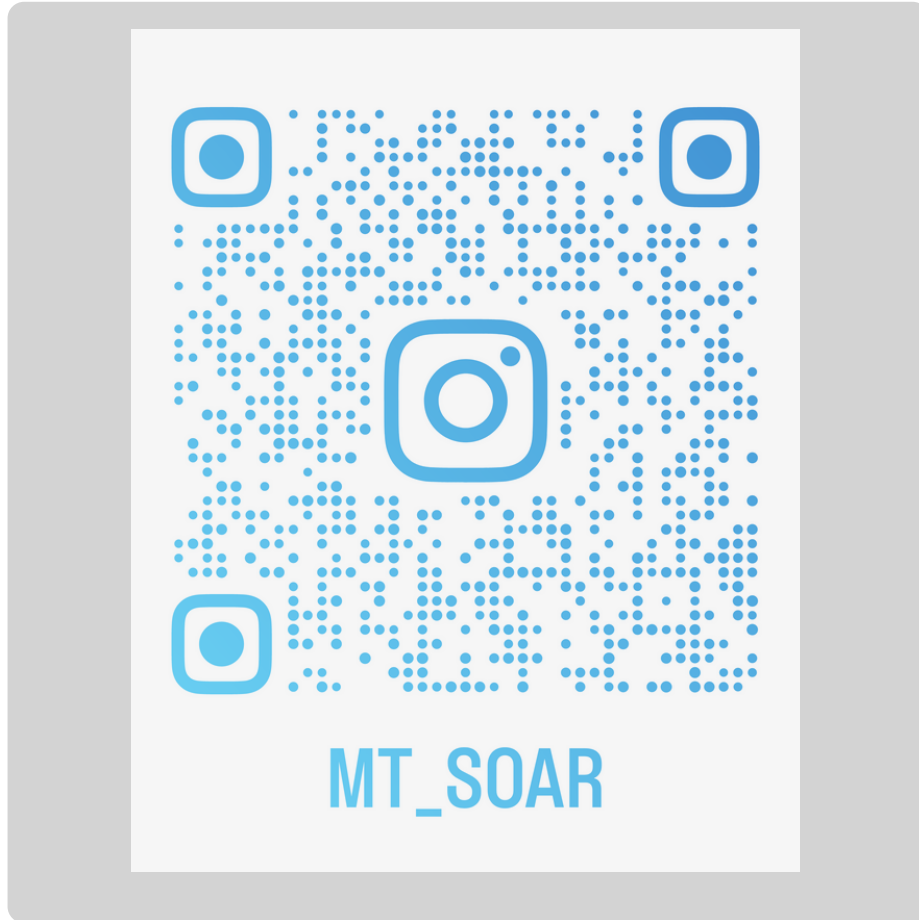
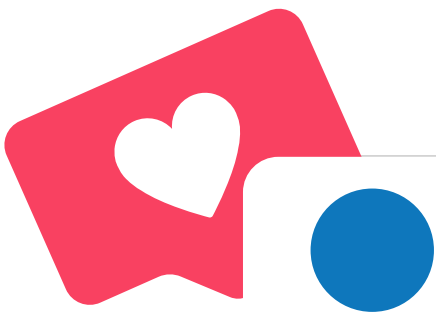
## Social-Personality Undergraduate Research Program - Society for Personality and Social Psychology

- In addition to this 1-on-1 research experience, trainees will virtually attend four professional development seminars to assist trainees in creating a strong skillset for promoting success in graduate school. These training modules will include (1) topical seminars from leading experts in social-personality psychology, (2) research methods and statistics training through the statistical package R, (3) application and general preparation for graduate school, and (4) basic academic skills training that includes survey design and literature search. The expectation of the SPUR program is that trainees will develop skills and experiences during SPUR that they will convert into applications to PhD programs in social-personality psychology programs.

## Paper and Presentation Opportunities

### Call for Submissions - The Tributary

The Tributary is looking for submissions in poetry, fiction, and creative nonfiction. You do not have to be a creative writing, English, or fine arts major to submit! We are open to all U. S. candidates, and we especially encourage and welcome submissions from diverse voices and under-represented populations, including, but not limited to, people of color, members of the LGBTQ+ community, those with disabilities, and nontraditional students. We welcome all genres, including literary fiction, speculative fiction (science fiction and fantasy), romance, etc.



# SOAR Instagram

Follow and let other know about our new page!

@mt\_soar

# 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 Confirmation 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 Confirmation of support from URECA faculty mentor.