

# RESEARCH GUIDE

HOW TO START YOUR STUDENT RESEARCH JOURNEY

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## Stories and Advice from Student Researchers

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This guide was launched, curated, and designed by Dara Zwemer with support  
from the Undergraduate Research Center

# REGARDING CLASS STANDING...

# WHEN TO START

Based on a Survey of 18 Undergraduate Researchers with the Student Organization for the Advancement of Research (SOAR)



## OUR SAMPLE

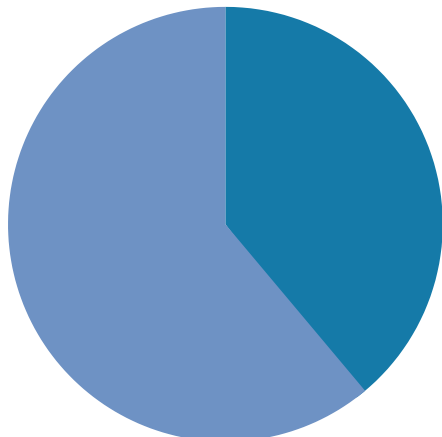


### The Earlier, The Better

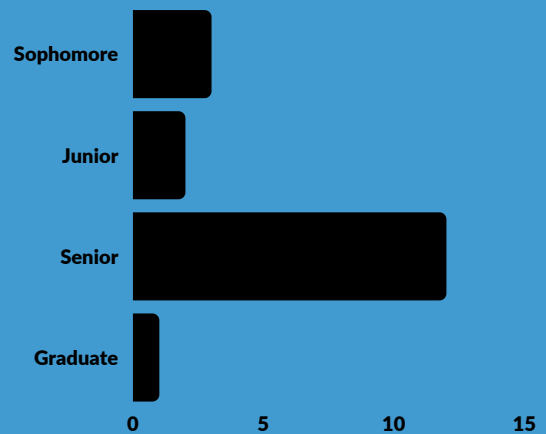
Every surveyed researcher recommended starting undergraduate research during your freshman or sophomore year.

39% recommended starting your freshman year.

61% recommended starting your sophomore year.



Most of our students started when they were sophomores.

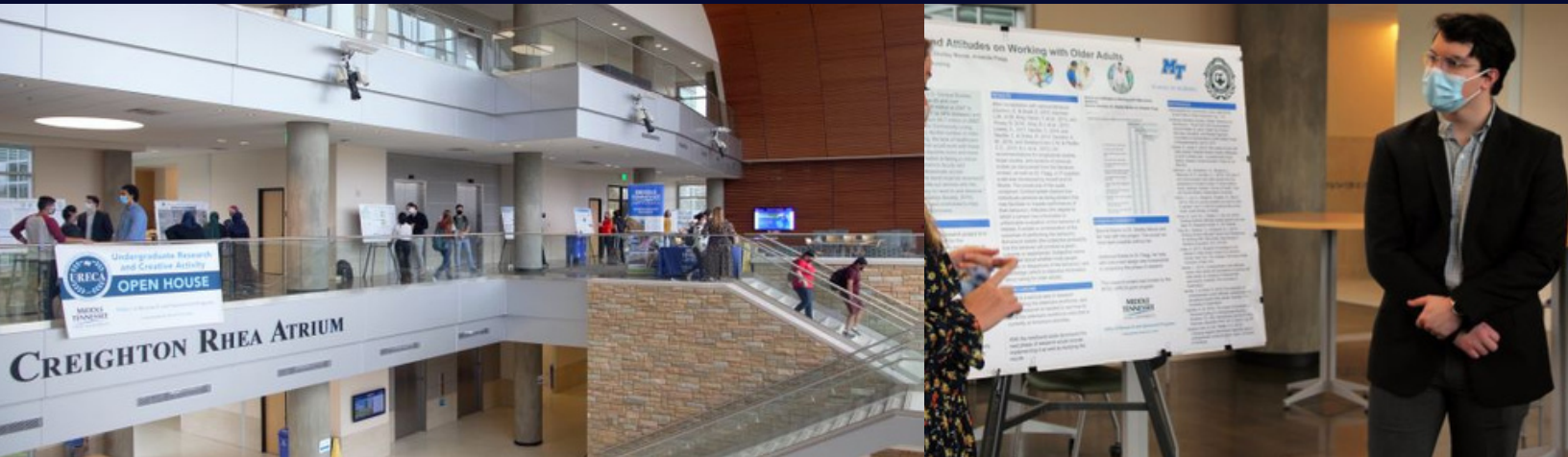
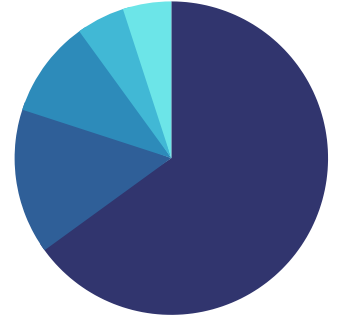


The majority of respondents were seniors.

# FINDING A PROJECT

## When asked how they started research at MTSU...

- 72% approached a mentor
- 17% had a professor tell the class about an opportunity
- 11% started their own project.
- 6% had professors reach out to them personally
- 6% saw a lab description or a professor's website



## Potential Projects are Everywhere!

"I saw an email that talked about URECA. I met with Dr. Burriss and she was and still is the best director for it! She helped me to do what I wanted to do and I'm excited for what I can do this year for video editing!" - **Javier Hernandez**

"My friend came to me with an idea. So we found a mentor and got started." - **Christopher Hall**

"As an Honors student I knew I wanted to find a mentor and lab that would suit my interests in medical related research. In my Sophomore year, I approached one of my professors about my interest in a lab we were doing in class that was related to their research focus. Showing an interest in the focus of his lab group, I was asked to join the lab and took on a project which has allowed me to independently work on a project while also contributing to our lab's body of work and in the process, learning from a group environment!" - **Maria Fernanda Clark**

# STUDENT STORIES



SOAR Members recount their first projects and mentors!



"I was sitting in the science building on the second floor and saw a description of a new lab at MTSU called the Social Perceptions of Science Lab. The professor was looking for undergraduate researchers who were interested in how the public perceives controversial scientific topics, such as evolution, climate change, vaccines, and COVID-19. I was particularly interested in the perceptions of climate change as I have always been interested in environmental science. I emailed the professor asking for more information regarding her lab and when she responded she asked me to complete an application and an interview to see if I would fit in her lab. To this day, I am so happy that I made the leap and emailed Dr. Liz Barnes that day. Being an undergraduate researcher has been one of the most fulfilling jobs that I have had!" - Madeline Aadnes

"I was recommended to URECA by an Honors advisor, because she thought it would be a great opportunity for me. I was hesitant because I didn't think it would be worth pursuing a research (and creative) project because I was in the Liberal Arts college, not a STEM major. I was wrong! I already knew who I wanted as a mentor, and I decided to give it a try, because what's the worst that could have happened? I might have not liked the experience. My research was an independent project, but my mentor guided me towards good sources and research habits that I will use for the rest of my professional life!" - Charlotte Daigle

## RESEARCH OPPORTUNITIES ARE EVERYWHERE

"My experience in research is slightly unexpected. I was a freshman in the Middle Tennessee Forensic Science Society, and I really wanted to attend the American Academy of Forensic Science's international conference. It was being held in Baltimore, and I got on a flight by myself. I spotted two MTSU professors on the flight, and decided I would introduce myself to them once we landed. Both professors, Dr. Jeong and Dr. Zhang, were interested in talking to me. Later, I ran into Dr. Zhang at the conference. His student was presenting her research and Dr. Zhang explained how undergraduate research in his lab work. He said that I was welcome to tour the lab and become a part of the team since I already showed how interested I was in forensics. That next semester, I joined his group working in fiber analysis with DART-MS and began craft URECA proposals soon after."

- Miquellie Bonner

# More Stories

"Over the winter break of my freshman year, I received an email from my oboe professor about the URECA program. We had already planned a faculty mentor/student relationship to work with me on reed making, something I've wanted to learn for years... he suggested that I apply for the research grant to earn some money while studying the process at a deeper level!"

- Leah Piccirillo

"I was in the Honors college and had accelerated my journey there by choosing my thesis early and contacting an advisor my sophomore year... finishing the honors college [requirements] and my thesis by the end of my junior year. Now, I am working on my second research project and also work as a student researcher in the business college." - Anonymous



"I got a newsletter about the URECA program in my sophomore year and decided I wanted to give it a shot, so I contacted Dr. Burriss and she directed me on how to find the right advisor. After emailing my future advisor with dumb questions and probably annoying her to no end, she agreed to be my mentor, and is still my research mentor to this day, 2.5 years later!" - Zachary Sanchez

"During my first semester I took Introduction to the Biology Major BIOL1000 with Dr. Otter. In that class he talked about the URECA program and how eager mentors are to do the projects. He also explained how research can make a CV much more competitive when you finish your undergraduate degree. Right after that class I was eager to approach a professor that performed research in an area I was interested." - Robert Conner

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"I had Dr. DuBois as my Honors Biology 1110 professor, and he had told us about the projects that he was working on and I immediately was interested! I waited until my sophomore year after getting more lab experience and went to him to see if he had any openings for research students. He said that he did due to some of his students graduating, and I was given a project regarding embryogenesis in grapes. However, there was a student graduating that was working with hemp, and I asked if I could take over her project to get more clonal generations and data to finish it. Thus, I switched projects and I will defend my project in the spring of 2022!"

- Cassandra Perrone

"I admired the passion that my professor, Dr. Donald Walker, showed in his lectures for Biology I. I am a first generation college student, and I found the concept of his career to be fascinating. I expressed my appreciation for his passion and energy he puts into his lectures and asked to meet with him. I then made a list of questions regarding expectations of the lifestyle associated with pursuing a career in "science," which ended up leading to conversation regarding academia and research. I had no idea it would lead to an offer to get involved to do research in his lab." - Kylie C. Moe



"I started research at MTSU by approaching my general chemistry 1 professor first semester of freshman year. I told her I am interested in the research she's doing, but unfortunately she told me there were no spots in her research for undergraduates. Knowing that I wanted to be involved in research early in my undergraduate years, I started looking for other opportunities; one of them was the REUs that are offered in the summer. I decided that I will apply to as many as I can and do research at a different university for the summer. However, as the spring semester came, my general chemistry 2 teacher (who was the same professor I took for gen chem 1) told me that there is a spot in her research for an undergraduate if I am still interested. Since then, I joined the research program at MTSU and applied to 2 URECA grants..." - Anonymous

"As an early student at MTSU, I had very little concrete plans [as] to what future lay ahead for me. I knew that as part of the Honors College requirement I would need to complete a thesis... I approached a mentor to help me get on with her research for my thesis. However, the research was at another University, so I was involved in a very hands-off way. However, I was actually told by a friend about another research opportunity on campus at the Center for Dyslexia. I held a meeting with the research director there and following the interview knew that there was definitely work to be done there that I would enjoy." - Kaitlyn Berry

"I'm a pre-pharmacy student with a minor in dance. I have research experience in both of my interest areas. I got started in research at MTSU in my study abroad program this past summer. I was a virtual research intern for the Faculty of Pharmaceutical Sciences at Khon Kaen University in Khon Kaen, Thailand. I investigated traditional Thai medicine, the epidemiology of vitamin deficiencies, and I wrote an academic journal review article on the benefits of coffee for patients with type 2 diabetes. This semester, I'm in the process of starting a research project on the therapeutic effects of dance." - Kap Paull



"My mentor, Dr. Oldham presented my class with an opportunity to work with her conducting summer research. I was nervous at first because I had never done something like that, however I reached out to her and told her that I was interested and we got the ball rolling. After that we got started on my URECA proposal, waiting till it got accepted, and started working. It was so much fun and I am so glad I did it. I enjoyed looking for articles and applying prior findings to my own study the most. I loved to see how similar or different they were. Overall, it was an amazing experience and I am so thankful I was given the opportunity to do it." - Merry Young

"I had a professor for two classes. During my second class with him, I approached him to ask how I could get involved with research in campus. To my surprise, he told me to join his lab! The rest is history. I joined my second lab when my professor approached me after class one day asking if I wanted to help in a lab he knew needed researchers. Never underestimate the power of contributing in class; you may just get a research project from it!" - Dara Zwemer





## Helpful Advice for Future Researchers

- "Never be afraid of pursuing a research opportunity, no matter how niche."  
- Anonymous
- "[Research] can, and should, be fun! It goes without saying to choose something you're interested in, but look for a faculty mentor who is eager to help you, above all."  
- Leah Piccirillo
- "Don't ever feel like you can't do it, or be discouraged. That's what I thought but everything came along. Also, I went into a project thinking I would be using a lot of prior knowledge, but I learned a lot more than I thought along the way." - Anonymous
- "Don't be afraid to ask for help! Go out, find connections, and meet new professors!"  
- Javier Hernandez
- "Approach professors you have taken multiple classes with for research suggestions. The worst they can do is say that they don't have any recommendations! Also, start getting involved as early as possible!" - Dara Zwemer
- "If at all possible, try finding a professor that you have had in class. You know their habits, and they know yours. Having a mentor who you know you're compatible with, and who knows your learning habits, and strengths and weaknesses is very beneficial when conducting a research project." - Charlotte Daigle
- "Find something you find fun and interesting and run with it." - Christopher Hall
- "My biggest piece of advice is to start early and as soon as possible, even if you think you're not ready. Research is so valuable no matter what field you end up in, and starting early will open an immense amount of doors for future opportunities."  
- Kaitlyn Berry





## More Advice for Future Researchers

- "Mentors are more willing to help than you think. Stop by their office and talk about what they have done in their labs. If you are nervous to approach them first, which I understand, reach out to students who have worked with them. Get to know what topics they researched, why they did it, and what they got out of it. There is always the MTSU SOAR site to walk you through finding a mentor or getting ideas for projects. All in all, you will find your spot in undergraduate research no matter which way you approach it." - Miquellie Bonner
- "In my experience, professors are excited to help students perform undergraduate research. If you come to a professor with a researched project in mind, chances are... they will help." - Robert Conner
- "Do not underestimate the potential opportunities that can arise from simply communicating. It is amazing how unique it is to simply socialize and show self-motivated interest. People love to talk about their interests. If you see someone who is pursuing something that you feel inspired/passionate about, start asking questions. Ask how they got there, the lifestyle associated with that career, what advice they would give to someone in your current stage of life, etc... When I felt nervous to have these conversations I would try to remember I was simply talking to another human being. I would try to remove the titles and the concept of their hierarchical status in comparison to mine (professor vs student). It is worth pushing yourself to have these conversations, even if it is uncomfortable. A moment of discomfort is worth the potential change of a lifetime. Research has changed the potential outcome of my future, and I cannot imagine allowing myself to have missed such an incredible opportunity. Push yourself and do not do yourself the disservice of underestimating your own abilities. Sometimes the risk of failure is worth the potential of succeeding." - Kylie C. Moe

## More Advice for Future Researchers

- "Get yourself out there, ask questions (even the seemingly dumb ones)! Find people, email them. We have fantastic faculty here at MTSU, you just have to be willing to put in the work to find the right one." - Zachary Sanchez
- "Chances are there has been a time where a faculty member has discussed something that really intrigued you in class. You can use those topics to approach your professors... Showing initiative is key, and often research opportunities are abundant but you have to express your interest in getting involved to open those doors!" -Maria Fernanda Clark
- "My advice would be don't be afraid to reach out to professors that you like! Even if they say no or that their lab is full, they may be able to help direct you to another lab that interests you. The professors want you to succeed and putting yourself out there by talking to them about their research shows that you are ambitious and truly are interested in research!"  
- Madeline Aadnes

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

**THEN CHECK OUT OUR UNDERGRADUATE RESEARCH AND CREATIVE ACTIVITY GRANTS, OPEN IN THE SPRING, FALL, AND SUMMER!**



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](#).

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](mailto:jf5s@mtmail.mtsu.edu). Jared can also help with proposal development, budget and justification, creating a timeline, and proposal review.

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.

# UNDERGRADUATE RESEARCH CENTER (URC)

# HERE TO HELP



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## ***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.



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## ***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.

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



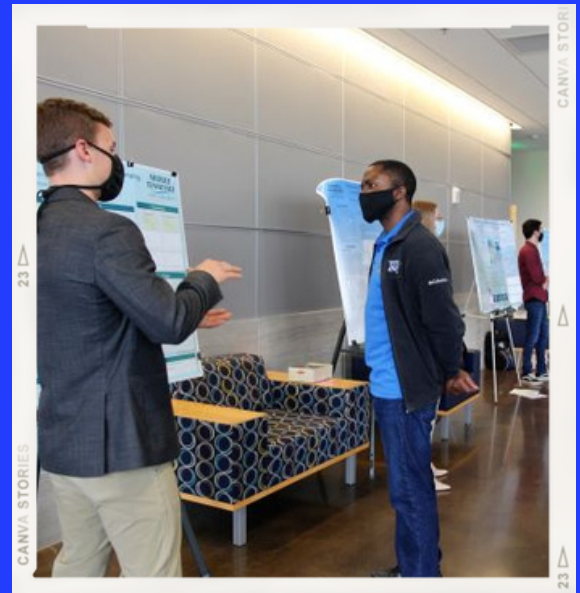
A new student organization comprised of undergraduate students who are committed to developing and sustaining an active and successful undergraduate research environment at MTSU.

## 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.



Join a community of student researchers!

*Build  
Presentation  
Skills!*