



The fall semester is when we celebrate the O.U.R. grant winners for the current university year and organize two comprehensive student research conferences: The Texas STEM and HASBSEB, which welcome both undergraduate and graduate research levels, from Lamar Univ and other schools. This year we welcomed presenters from Auburn University, Rice University, UT Austin, and The University of Texas Southwestern Medical Center in Dallas. Two Lamar's undergraduates presented their summer experience at the Institute of Exercise and Environmental Medicine in Dallas and at the University of Texas Medical School in Houston.



Group photo – O.U.R. Grant Winners Ceremony – Oct. 15



Group photo – The 8th HASBSEB conference – Nov. 20



Group photo – The 9th Texas STEM conference – Oct. 30

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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

BEST SURF PROJECT AND MOST INTERACTIVE SURF PRESENTER

Chloe Smith
Major in Speech and Hearing Sciences



*"A Cross-sectional Study of the Portrayal of Childhood
Speech Sound Disorder Interventions in YouTube Videos."*

Mentor: Dr. Monica Harn
Department of Speech and Hearing Sciences

Chloe's testimonial: "Being awarded the SURF grant has been a great and unique experience. Doing research provided me with a greater understanding of the research process along with a deeper understanding of my field. I am very grateful I got this wonderful opportunity!"



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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

FIRST PLACE IN THE CATEGORY RESEARCH "IN-PROGRESS"

Addison Rice
Major in Political Science



*"Hate and Violence Against Transgender Persons:
An Unreported and Silent Statistic."*

Mentor: Dr. Terri Davis
Department of Political Science

Addison's testimonial: "It was an honor to present my research on hate crime reporting systems in the United States at the 8th annual HASBSEB Conference at Lamar. I am extremely grateful for having had the opportunity to spread awareness regarding this very important issue as well as gain important skills that I will use in college and beyond. Thank you to Dr. Cristian Bahrim and everyone at the Office of Undergraduate Research for organizing this event and allowing me this opportunity, as well as to Dr. Terri Davis for mentoring me in my research."





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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

SECOND PLACE IN THE CATEGORY RESEARCH "IN-PROGRESS"

Rachel Hellums
Major in Communication Studies



"Remixing History and Broadway: The Music of 'Six'"

Mentor: Prof. O'Brien Stanley
Department of Communication and Media

Rachel's testimonial: "I am honored to be among the winners of the HASBSEB conference. This conference allowed me to present my research in a prestigious setting that encouraged me to put my voice and my research out there in a way that I hadn't before. The conference's focus on excellence and professionalism motivated me to be not only a better student but a more well-rounded student and presenter. This will no doubt open doors for me in the future and give me the skills to create an even better academic career."



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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

THIRD PLACE IN THE CATEGORY RESEARCH "IN-PROGRESS" - TIE

Taylor Cox
Major in Political Science



"Guilty until Proven Innocent: A Race-Based Analysis of Exonerated Criminal Defendants in the United States and the Impact of Jury Bias and Eyewitness Testimony."

Mentor: Dr. Terri Davis
Department of Political Science, Lamar University

Taylor's testimonial: "I am honored to have been a part of the HASEBSEB conference hosted by the Office of Undergraduate Research. The OUR has created a path for me to follow in order to further my research in sentencing disparities in America. I am extremely thankful for Dr. Davis mentoring me throughout my research and for the unwavering support from my peers. I am grateful for the knowledge I have gained throughout this process and I am looking forward to the future awaiting me. "



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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

THIRD PLACE IN THE CATEGORY RESEARCH "IN-PROGRESS" - TIE

Kaylee Goodspeed
Major in Psychology (Pre-Law)



"Economic Success, Cultural Assimilation, and Indigenous Peoples: A Comparative Analysis of Life Quality Measures in Indigenous Communities in the United States and Canada."

Mentors: Dr. Terri Davis and Dr. James Nelson
Department of Political Science

Kaylee's Testimonial: "I am grateful to Dr. Bahrim and the staff of O.U.R. for allowing myself and my peers the opportunity to share our work. This program has inspired me to continue advocating for underrepresented voices, and I look forward to attending more O.U.R. conferences in the future!"



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Exceptional performance from Dr. Terri Davis' group of Political Science.

Her students Taylor (to most left), and from the right to left Kaylee, Addison, and Rachel (with mentor Prof. O'Brien Stanley) took three awards for Research "In-progress".

KUDOS to the winners!



Dr. Terri Davis' group of Political Science presenters at 8th HASBSEB Conference.



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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

FIRST PLACE IN THE CATEGORY ADVANCED RESEARCH

Mattie Hamilton
Major in Communication-PR



*"A Feminist Rhetorical Analysis of Hillary Clinton's Keynote
at the 2015 Women in the World Summit."*

Mentor: Prof. Andre Favors
Department of Communication and Media

Mattie's testimonial: "My experience at the 8th annual HASBSEB conference was truly was an experience I will never forget. I had so many ideas on the topics that I could research, but none that I felt as strongly about as the research I presented this year at the conference. My goal going into the conference was not to win, but to simply inspire others the way my research has truly inspired me. This year, I feel that I have done just that. There is so much to learn from research, especially when it encompasses a subject that is of importance to you. There is a lot of time and work that goes into research, but you come out of it with a new perspective not only of yourself but of the world as well. The endless amount of support and appreciation I received from peers, mentors, and faculty at the conference made my research journey and experience unforgettable. I am very excited to begin my next portion of research as I prepare for the next conference. I would like to thank everyone who helped put together such an amazing conference this year, and my mentor for their time and guidance throughout this experience."



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AWARDEES AT THE EIGHTH ANNUAL HASBSEB CONFERENCE

RUNNER-UP IN THE CATEGORY ADVANCED RESEARCH

Paul Daleo
Major in Psychology



"The Effects of COVID-19 on Suicide in Southeast Texas."

Mentor: Dr. Margot Gage
Department of Sociology, Social Work, and Criminal Justice

Paul's testimonial: "When thinking about research, I am particularly concerned with ideas that have real-world implications. This led me to think about how COVID-19 affected the mental health of people in this area. It is important not to forget those who did not fare so well during the pandemic. I think this is why my presentation was notable: it speaks of the real-life events of people who live here. I want to thank my mentor Dr. Gage for all her help and the conference for allowing me to present. "

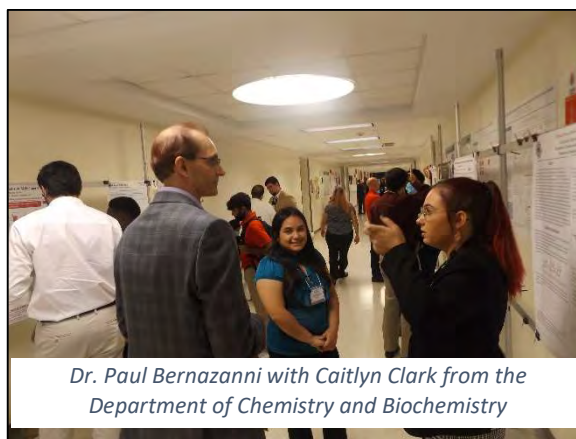


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THE NINTH ANNUAL TEXAS STEM CONFERENCE



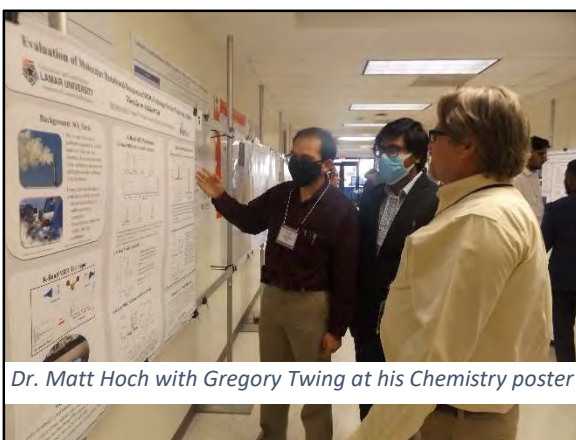
Welcome to the Poster Session in Archer bldg. - Hallway



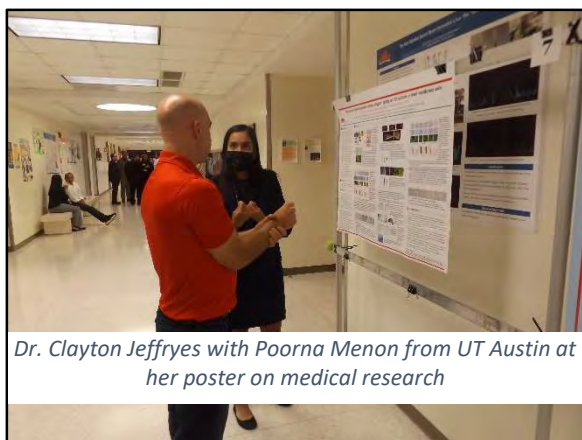
Dr. Paul Bernazanni with Caitlyn Clark from the Department of Chemistry and Biochemistry



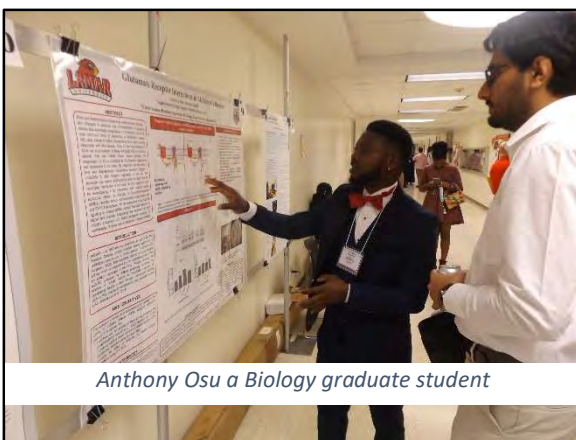
Fatih Omeroglu from the Department of Industrial Engr.



Dr. Matt Hoch with Gregory Twing at his Chemistry poster



Dr. Clayton Jeffryes with Poorna Menon from UT Austin at her poster on medical research



Anthony Osu a Biology graduate student



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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

FIRST PLACE IN THE CATEGORY BEST SURF PROJECT

Alexander Bahrim
Major in Electrical Engineering

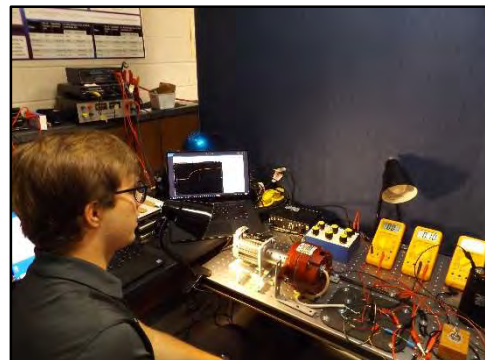


"Development and Assessment of Hardware Model for Studying the Mechanism of Regenerative Braking System (RBS)"

Mentors: Dr. Gleb Tcheslavski¹ and Dr. Cristian Bahrim²

¹Philip Drayer Department of Electrical Engineering and ²Department of Physics

Alexander's Testimonial: "Thank you to the organizers of the 9th Texas STEM conference for giving me this opportunity to present my 2021 SURF research. Also, thank you to my mentors, Dr. Tcheslavski and Dr. Bahrim, and to Lamar University administration, for the support and guidance to complete my project. I will treasure this experience for years to come."



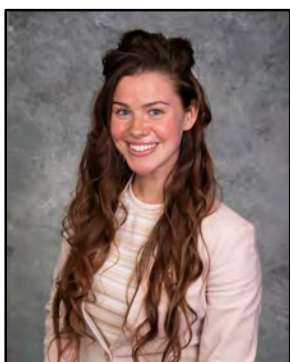


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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

SECOND PLACE IN THE CATEGORY BEST PRESENTATION FOR SURF

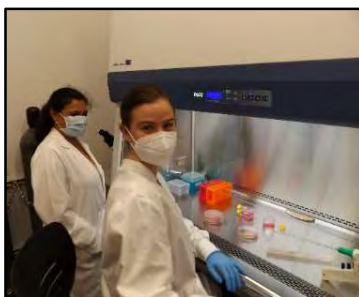
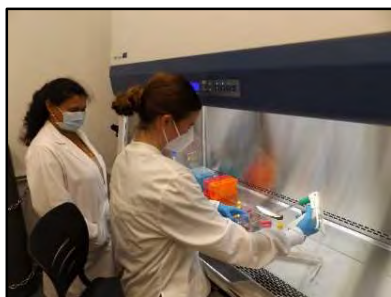
Carissa Slaughter
Major in Biology



"Trichomonas vaginalis induced Toll-like Receptor Gene Expression in Cervical Epithelial Cells"

Mentor: Dr. Ashwini Kucknoor
Department of Biology

Carissa's Testimonial: "The Summer Undergraduate Research Fellowship during Summer 2021 was a learning curve using my hands in application. Research is interesting because your hands get to touch what the class lectures inform a person of by applying the techniques we learn in lecture, into real, everyday practical applications - there is much more opportunity for retaining the information we learn. I am so thankful to the Office of Undergraduate Research and Dr. Kucknoor for enabling this growing experience. I look forward to continuing in the laboratory."





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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

THIRD PLACE IN THE CATEGORY BEST SURF PROJECT

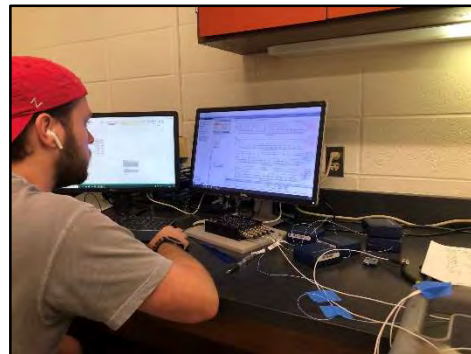
Gabriel West
Major in Mechanical Engineering



"Vibration Response Prediction of Printed Circuit Boards Used in the Transportation Industry"

Mentors: Dr. Sushil Doranga and Dr. Jenny Zhou
Department of Mechanical Engineering

Gabriel's Testimonial: "Due to the opportunity granted to me by the Office of Undergraduate Research through the SURF Grant I was able to further my knowledge in mechanical vibrations and find my field of interest I wish to pursue after graduation. I am immensely grateful for this opportunity, and I wouldn't have found this new route for my professional career without OUR."



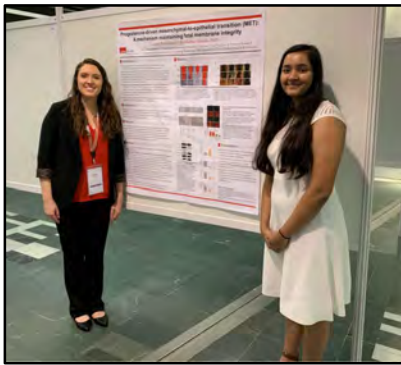


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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

FIRST PLACE FOR BEST UNDERGRADUATE PRESENTATION IN NON-OUR SPONSORED RESEARCH CATEGORY

Poorna Menon
Major in Biology at UT Austin



Dr. Lauren Richardson
and Poorna in Paris 2019



*"The Effects of Extra Cellular Matrix Collagen Rigidity on 3-Dimensional
Cultures of Fetal Membrane Cells."*

Mentor: Dr. Lauren Richardson

**Department of Obstetrics & Gynecology, Division of Maternal-Fetal Medicine & Perinatal
Research, The University of Texas Medical Branch (UTMB) at Galveston**

Poorna's Testimonial: "During high school, I would spend the majority of my summertime in the Perinatal Research Lab at the University of Texas Medical Branch in Galveston. Early on, I would spend my time doing simple tasks like refilling pipette tip boxes or labelling tubes, but watching my mentors do various lab techniques each day. Over the years, I gained more and more knowledge around the lab including learning experimental techniques like Western Blot, Gel Electrophoresis, and cell culture. Ultimately, in 2018, I was given the privilege of taking on a project of my own, in cooperation with my amazing mentor, Dr. Lauren Richardson. Throughout this summer, I was able to experience the challenging steps of the scientific process and saw just how rewarding the process was. By the end of the summer, we were able to complete this project and publish our work in the journal, *Placenta*. This first-hand laboratory experience that I received was truly a rewarding process that taught me the importance of quality research early on in my academic career. In the future, I hope to continue doing research in any field in order to expand my scope and to continue learning. "

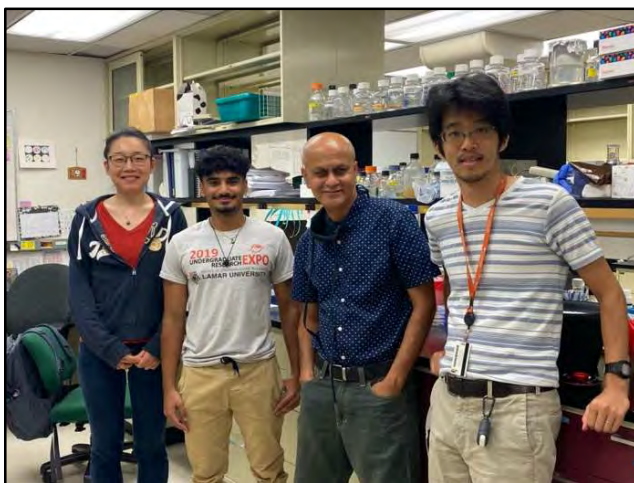


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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

**SECOND PLACE FOR BEST UNDERGRADUATE PRESENTATION
IN NON-OUR SPONSORED RESEARCH CATEGORY**

Vishal Mundodi
Major in Biology



(from left to right) Dr. Grace Li, Postdoc Research Fellow;
Dr. Amar Al Mamun, Assis Prof; Dr. Kohei Kishida, Postdoc
Research Fellow in the Department of Microbiology and
Molecular Genetics at McGovern Medical School in Houston.

"Targeted Plasmid Delivery Using Surface Displayed Adhesions"

Mentor: Dr. Peter J. Christie
Department of Microbiology and Molecular Genetics
University of Texas Medical School at Houston

Vishal's Testimonial: *"MicroSurp and UT Health have allowed me to venture into a field I find interesting and further my knowledge while making strides to improve the world. As we continue, I hope to make more findings and improvements to our work; furthermore, I would like to take what I've learned as well as what is to come to impact healthcare and medicine."*



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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

**THIRD PLACE FOR BEST UNDERGRADUATE PRESENTATION
IN NON-OUR SPONSORED RESEARCH CATEGORY**

Talon Weaver
Major in Civil Engineering



"Toroidal magnetic clouds in solar wind."

Mentors: Dr. Evgeny Romashets and Dr. Cristian Bahrim
Department of Department of Physics

Talon's Testimonial: *"I am Thankful for all the support the office of undergraduate research here at Lamar has provided me. I did not come to college to pursue research; however, with the encouragement of staff and mentors I was able to participate in an extraordinary adventure larger than myself. I would encourage any student to find something they are passionate about and seek it out. Don't miss an opportunity to broaden your horizon!"*





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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

FIRST PLACE FOR BEST GRADUATE LEVEL POSTER PRESENTATION

Caitlyn Clark
Master Candidate in Chemistry



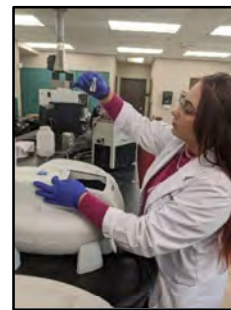
"Physical Tuning of Photo-Chemical Response in Biverdazyl Biradicals"

Mentors: Ozge Gunaydin-Sen and David Brook
Department of Chemistry and Biochemistry, Lamar University
Department of Chemistry, San Jose State University

Caitlyn's Testimonial: As a first-generation college student, research has given me, a professional family through my department, opportunities to excel in an academic environment, and overall success leading me to not only finish my BS, but also my MS in Chemistry, and ultimately apply for my PhD. I am thankful for all of the opportunities that the Office of Undergraduate Research has given my fellow students and I. Finishing my graduate research student career with OUR as the 1st place graduate student division poster presentation winner at the 9th Annual 2021 STEM conference was a perfect way to complete my four years of research here at Lamar University.



...Working in the Lab...





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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

RUNNER-UP FOR BEST GRADUATE LEVEL POSTER PRESENTATION – TIE

Anthony Osu
Master Candidate in Biology



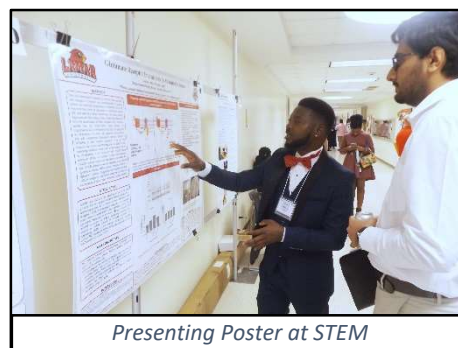
"Glutamate Receptor Interactions in Alzheimer's Disease"

Mentor: Maryam Vasefi
Department of Biology

Anthony's Testimonial: *I am truly honored to have been a part of and selected as one of the Awardee at the 2021 STEM Conference at the Graduate (Masters) level. My sincere gratitude goes to the Office of Undergraduate Research for this great opportunity and encouragement towards creating a better future for Americans and the world via scientific research. Many thanks to my mentor Dr. Maryam Vasefi for her guidance and constructive Criticism towards understanding the role of Glutamate receptors in Alzheimer's Disease.*



...Working in the Lab...



Presenting Poster at STEM

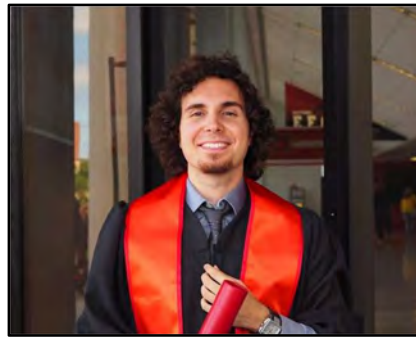


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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

RUNNER-UP FOR BEST GRADUATE LEVEL POSTER PRESENTATION – TIE

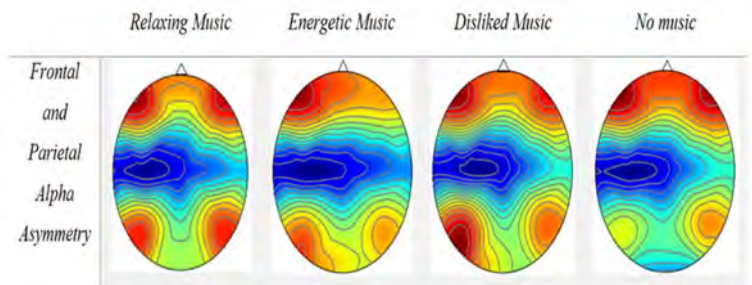
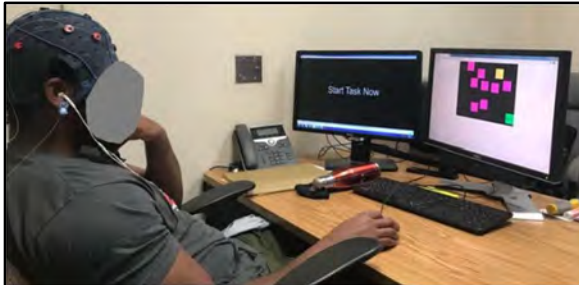
Fatih Omeroglu
Doctoral Candidate in Industrial Engineering



"Effect of Background Music on Task Performance"

Mentor: Dr. Yueqing Li
Department of Industrial and Systems Engineering

Fatih's Testimonial: "Human computer interaction (HCI) and brain computer interfaces (BCI) have emerged as some of the most anticipated and intriguing research topics in recent years. With the help of advanced technology, we are able to more clearly understand and analyze how our cognitive process works and gets affected by certain stimuli. This study helped me combine two passions of mine; music and neuroscience under the valuable guidance and mentorship of Dr. Yueqing Li. Research identified and shed some light on the effect of background music on cognitive task performance and working memory. We believe that this research will be a valuable guideline to further research and various future applications. I am very thankful and honored for the opportunity to share this experience with many great researchers and scientists."





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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

WINNER FOR BEST DOCTORAL PRESENTATION AT ADVANCED LEVEL

Ruobing Zhao
Doctoral Candidate in Industrial Engineering



*"Effects of Directional Road Signs Combinations and
Language Unfamiliarity on Driving Behavior"*

Mentor: Dr. Yueqing Li
Department of Industrial and Systems Engineering

Ruobing's Testimonial: "I am very honored to present our research at this year's Texas STEM conference, and we are very thankful to my mentor Dr. Yueqing Li for his support. It was a great opportunity to share our ideas and communicate with others. The study included both the combinations of directional road signs and language unfamiliarity, this research may be helpful for driving safety, especially driving in foreign countries."





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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

BEST MASTER LEVEL ORAL PRESENTATION

Tyler Martin
Ph.D. Candidate in Mechanical Engineering
Rice University



"Powering Soft Wearable Devices Using Body Heat"

Mentor: Dr. Daniel J. Preston
Department of Mechanical Engineering



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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

RUNNER-UP FOR BEST DOCTORAL PRESENTATION AT ADVANCED LEVEL

Nader Madkour

Doctoral Candidate in Industrial and System Engineering



*“Drone and Artificial Intelligence-based Evaluation
of Debris for Waterways and Ports.”*

Mentor: Dr. Berna Eren-Tokgoz
Department of Industrial and Systems Engineering

Nader’s Testimonial: “Thank you for awarding us the ‘Runner-up award for the Best Doctoral Presentation at Advanced Research Level’ at the 9th Texas STEM conference. It was an honor to present my research this year thanks to Dr. Berna Eren-Tokgoz, Dr. Jing Zhang, Dr. Seokyon Hwang, and Dr. Zhe Luo for their support and contributions to that research and making this a great experience. This study is one step closer to the port of Port Arthur and uses drones and artificial intelligence in assessing debris in the waterway. I am so grateful to Dr. Bahrim for giving me the opportunity to present my research at this year’s STEM conference.”



Dr. Berna Eren-Tokgoz and Nader Madkour



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AWARDEES AT THE NINTH ANNUAL TEXAS STEM CONFERENCE

BEST DOCTORAL PRESENTATION AT "IN-PROGRESS" RESEARCH LEVEL

Prasad Pawar
Doctoral Candidate in Chemical Engineering



"Microwave-assisted demulsification of tight crude oil-water emulsions"

Mentor: Dr. Clayton S. Jeffreys
Department of Chemical Engineering

Prasad's Testimonial: "It was a nice experience presenting my research at the 9th Texas STEM conference. It allowed me to answer some inquisitive questions and receive valuable suggestions. This year's talks at the conference were interesting and insightful. I am thankful to the conference organizers, session chairs, and judges for awarding me with the Best Doctoral Presentation award at the In-Progress research level."



...Working in the Lab...



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OFFICE OF UNDERGRADUATE RESEARCH SPONSORS SUMMER RESEARCH EXPERIENCES OUTSIDE LAMAR

Zaid Mohammed went to the Institute of Exercise and Environmental Sciences in Dallas.

Zaid Mohammed, a biology major, has received from O.U.R. financial support for joining a summer program at the Institute of Exercise and Environmental Sciences in Dallas, Texas. This allowed him to spend the whole summer working on three significant projects. His commitment to O.U.R. was to give a presentation at the SURF Symposium on August 10 and an invited talk at the 9th Texas STEM conference, on October 30. O.U.R. sponsored Mr. Mohammed's summer experience by offering him \$1,000 in travel and housing support. This is the first time when O.U.R. offers matching funds for research experience to an undergraduate student outside our traditional Summer Undergraduate Research Fellowship (SURF) program. Zaid offered two exceptional talks at the SURF Symposium on August 10 and the 9th Texas STEM conference on October 30.

O.U.R. wants to continue sponsoring undergraduate research summer experiences outside Lamar, followed by presentations at our Fall O.U.R. conferences (Texas STEM and HASBSEB). I strongly believe that such initiative will stimulate more engagement in our student body to use the summertime for having a complementary research experience to the regular academic training. This will better advocate Lamar's priorities in offering enriching our students' academic training toward a successful professional career after graduating from Lamar.

Zaid's story:

I interned at the Institute of Exercise and Environmental Science (IEEM) in Dallas, Texas. This is a research and clinical facility affiliated with Texas Health and UT Southwestern. I was in the Thermal and Vascular Physiology laboratory which focused on the neural control of the cardiovascular system and how thermal stress modifies.

The first of the three projects I assisted with focused on the effects of battlefield analgesics on tolerance to hemorrhage. The goal of the study is to examine how a commonly used pain medication



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such as morphine affects heart and blood vessel function in healthy adults, and how it will alter responses to simulated blood loss in humans. This research is funded by the U.S army and is of great importance because it benefits the U.S military by aiding in the treatment of soldiers injured on the battlefield. It can also lead to better treatment and management of individuals involved with traumatic injuries in the pre-hospital setting (e.g. Traffic collisions). *The second project* I assisted with is testing cooling modalities to attenuate thermoregulatory and cardiovascular stress in burn survivors. Burn survivors have a reduced capability to regulate their body temperature. Because of this, burn survivors have a higher risk for heat related injuries. We examined which cooling modality would be most effective in regulating their body temperature. *The third project* I worked on was to examine the cardiovascular consequences of heat waves on the elderly. The elderly is at a greater risk when heat waves occur, and our goal is to record how their body reacts in a simulated, controlled setting, where a cardiologist was present. I have learnt a lot from this internship. Specifically, I have developed my research skills for studies with human participants and gained a deeper understanding of the different techniques and instruments used from echocardiograms to microneurography. **I am deeply grateful to the Office of Undergraduate Research for providing me with this opportunity and rich research experience over summer.**





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PLENARY GUEST SPEAKER

At the 9th Exhibition of Undergraduate Research and Creative Activities, EXPO 2022

Dr. Lauren Richardson - Assistant Professor at UTMB

**Division of Basic and Translational Research Obstetrics and Gynecology
Department of Obstetrics and Gynecology,
The University of Texas Medical Branch (UTMB) - Galveston.**

Lauren Richardson is a Lamar alumnus with a BS degree in Biology and a McNair Scholar. Dr. Richardson obtained her Ph.D. in Cell Biology, with an emphasis in Reproductive Biology, from the University of Texas Medical Branch in Galveston (UTMB in Galveston).



While receiving training from the Environmental Toxicology T32 at UTMB, her research focused on the mechanistic processes of fetal membrane cellular and collagen remodeling (i.e., Epithelial-to-Mesenchymal Transition [EMT] and MET) throughout gestation and its dysregulation at term. She conducted her Post-Doctoral fellowship at UTMB (Kempner Scholar) and at Texas A&Ms Electrical and Computer Engineering Department (T32 Post-Doctoral Fellowship) focusing on fabricating, developing, and validating pregnancy-related organ-on-chip devices (i.e., placenta, fetal membranes, and cervix) to study the effect of maternal and fetal risk factors (i.e., Oxidative stress, toxicants, infection, drugs) on the induction of preterm labor pathways. She is now an Assistant faculty at UTMB in the Division of Basic and Translational Research where she focuses on bridging the gap between bench-to-bedside research by merging advanced engineering and biology concepts. Her research focuses on two areas. One, adapting microfluidic devices to collect underutilized biological fluids for biomarker screening, and two, to develop novel organ-on-chip devices that physiologically recreate in utero organs and organ systems.

April 15, 2022 – 9 a.m. – Ballroom of Setzer Center



OFFICE OF UNDERGRADUATE RESEARCH LAMAR UNIVERSITY

PROFESSIONAL ACHIEVEMENTS: EXAMPLES OF SUCCESSFUL LAMAR ALUMNI AND OFFICE OF UNDERGRADUATE RESEARCH FORMER GRANT WINNERS

Dr. Lauren Richardson, Assistant Professor at UTMB - Galveston

by Dr. Ian Lian, Assoc. Professor in the Department of Biology at Lamar University

I first met Lauren Richardson and had the pleasure of working with her when she approached me to inquire about the McNair Research Fellowship at Lamar University in 2014. That was the first year that I began to set up the research lab at Biology department and started to explore new research projects in the areas of cancer and stem cell biology.

Lauren quickly caught my attention as one of the top students in my Biomedical Technology Application class. In the research lab, she was a quick learner and exhibits meticulous manner toward research and bench work. She has quickly mastered many non-trivial techniques in molecular, cellular as well as various biochemical disciplines such as primary cell culture and quantitative PCR procedures. A great deal of her bench experience was acquired at UTMB where she participated the full-time undergraduate research program during the summer of 2013. In addition of demonstrating good hands-on capabilities, Lauren is highly motivated in science and frequently asks questions relevant to the projects. She has often brought up novel research ideas and developed plans to carry out complicated experimental schemes. Although her class load has been heavy, she is able to balance her research hours well and participate in many student leadership activities.





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While conducting undergraduate research at Lamar University, Lauren has generated significant data pertaining to a novel approach to cultivate cancer spheroids relevant to physiological conditions. Because such three-dimensional cancer spheroids are known to reflect a more malignant state of cancer due to Epithelial to Mesenchymal Transition (EMT) process, it has presented as a breakthrough in cancer research with implications in improved in vitro cell culture model and superior drug screening platform. The research Lauren conducted was highly recognized and was

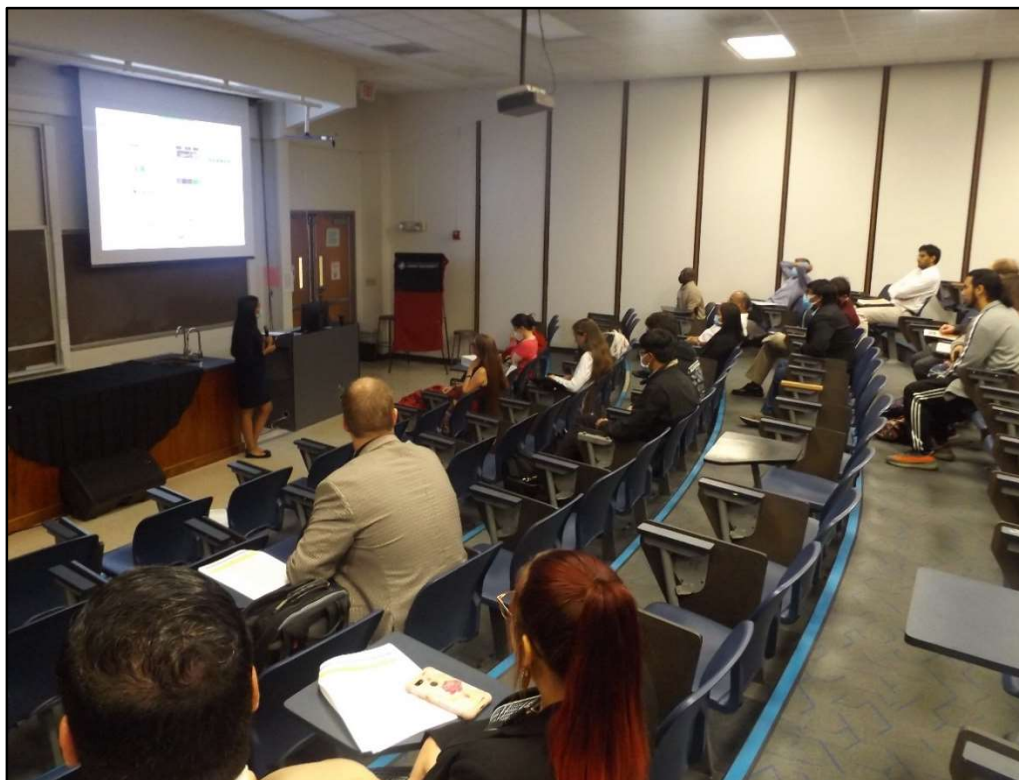
selected as the only Poster on the Hill winner to represent the State of Texas in 2015 to be presented at Congress at Washington D.C. (see the photo attached).

With her marvelous academic and research achievements, Lauren was accepted into UTMB's Cell Biology PhD program in 2015. She continued her research focus in the area of cellular microenvironment and EMT where she started in Lamar and extended her work to the area of amniotic stem cell and tissue regeneration. Lauren Not only was able to publish an astonishing 14 peer-reviewed paper within a short span of 4-year as a graduate student but was also awarded the competitive NIH / NIEHS T32 Postdoctoral Fellow in 2019. Throughout her post-graduate career in UTMB and Texas A&M, she stayed in touch with us closely and continued to collaborate with our laboratory on a number of research projects.

After completion of her postdoc training, Lauren became a faculty at UTMB in 2021 as an assistant professor at the Division of Ob/Gyn Basic & Clinical Translational Research. As an outstanding alumna of Lamar University, Dr. Richardson has supported our undergraduate research events by presenting her work at research conferences held at LU for multiple years. We are especially delighted that her undergraduate research student, Poorna Menon is able to present her work titled "*The Effects of Extra Cellular Matrix Collagen Rigidity on 3-Dimensional Cultures of Fetal Membrane Cells*" this year at the TEXAS STEM conference at Lamar on 10/30/2021.



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Ms. Poorna Menon, Dr. Richardson's student, is presenting at the 9th Texas STEM conference (10/30/21).



Dr. Richardson's at her working bench



Dr. Richardson with other members of Dr. Lian's lab



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O.U.R. GRANT WINNERS FOR 2021-22

Since 2013, the month of October is when a careful reviewing process using assessment rubrics specific for STEM and HASBSEB academic areas of research (and available online) is carried out by Lamar faculty, for selecting the OUR grant winners. This year, 17 undergraduate students have been selected from all five academic colleges to develop research projects during the fall 2021 and spring 2022 semesters. Twenty-seven faculty reviewers selected eleven STEM projects and seven HASBSEB projects. Each proposal was assessed by four faculty reviewers with expertise in their closely related fields of research. The accepted projects had overall scores ranging between 67% and 90%. Each O.U.R. grant winner receives \$500 stipend and \$1,000 in research support from university funds for the development of a strong research project. Their findings and results will be presented at the EXPO 2022, which will be held on April 15, 2022 in the Setzer Student Center.

The O.U.R. Advisory Board members and the faculty reviewers heartily congratulate all the winners and their mentors for this achievement and wishes 'Good luck!' to all, in their effort to develop competitive research projects.

The EXPO event is held every spring semester and celebrates our Lamar students' hard work and creativity. It is a campus-wide showcase for undergraduate research and creative activities done at Lamar during regular semesters. This event supports Lamar University's educational mission in providing the best opportunities for all undergraduates to exchange ideas in a professional setting. In 2022, the guest speaker is a Lamar alumna, Dr. Lauren Richardson, now Assistant Professor in the Department of Obstetrics and Gynecology at The University of Texas Medical Branch (UTMB) in Galveston.



Abstract Submission Deadline to EXPO 2022 is April 1, 2022

Please visit the conference website for registration and information

<https://www.lamar.edu/undergraduate-research/events/expo/index.html>



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2021-22 O.U.R. Grant Winners

College of Business

1

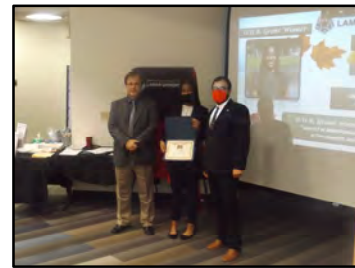


Taliah Belcher | major in Accounting & Finance |

Mentor: **Dr. Gevorg Sargsyan**

Research in Finances and Economics

Project: *"Impact of militarization on financial & economic growth of developing and highly militarized countries."*



College of Arts and Sciences

2



Angel Flowers | major in Biology |

Mentors: **Dr. Matt Hoch (Lamar Univ.) /**

Dr. William R. Miller (Baker Univ.)

Research in Ecology

Project: *"Population distribution analysis of tardigrades found on Quercus virginiana."*





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3

Arizbeth Lopez Garcia | major in Biology |

Mentor: **Dr. Maryam Vasefi**

Research in Neurobiology

Project: "CBD and Alzheimer's disease; Neuroprotection and Desensitization."



4

Caroline LeBlanc | major in Biology |

Mentor: **Dr. Maryam Vasefi**

Research in Neurobiology

Project: "Glutamate receptor crosstalk in Alzheimer's disease."



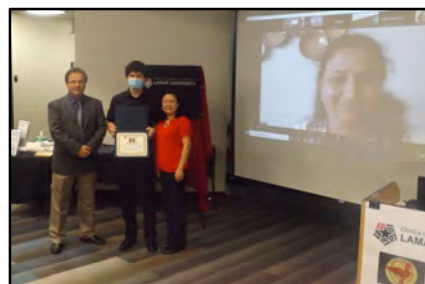
5

David Matherne | major in Biology |

Mentor: **Dr. Ashwini Kucknoor**

Research in Molecular Biology

Project: "Characterization of drug resistance genes in cattle pathogen, *Tritrichomonas foetus*."





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6

Callan Noak | major in Computer Science |

Mentor: **Dr. Sujing Wang**

Research in Data Science and Analysis

Project: *"Analyze COVID-19 Data using Advance Machine Learning Techniques."*



7

Silvana Ochoa | major in Computer Science |

Mentor: **Dr. Sujing Wang**

Research in Computer Science

Project: *"COVID-19 Pandemic's Impact on Education and Students."*





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College of Education and Human Behavioral

8



Tiya Davi | major in Humanities and Arts |

Mentor: **Dr. Mamta Singh**

Research in Pre-service Teachers

Project: *"Assessing Preservice Teachers' Understanding of Disease and its Spread Using Scientific Illustrations and Virtual Labs."*



9



Margo Eugenio | major in Interdisciplinary Studies |

Mentor: **Dr. Mamta Singh**

Research in Private Education

Project: *"Impact of Schools of Choice on Standardized Test Scores & the Achievement Gap."*





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10

Damaris Thrash | major in Exercise Science |

Mentor: **Dr. Shannon Jordan**

Research in Exercise Science (Health & Kinesiology)

Project: *"Effects of Motivational Music on Post-Exercise Recovery."*



College of Engineering

11

Jennifer Arredondo | major in Industrial and System Engineering |

Mentor: **Dr. Robert Kelley Bradley**

Research in Silicone Nanocomposites Ferroelectrets

Project: *"Exploration of Parameters for Developing a Silicone Nanocomposite Fe-electret."*





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12



Kalen Baker | Mechanical Engineering and Mathematics |

Mentor: **Dr. Ping He**

Research in Mechanical Engineering

Project: *"Molecular Dynamics Research of Sintering Americium-241 for Compact Nuclear Power Supplies."*



13



Lac Nguyen | Industrial Engineering |

Mentor: **Dr. Robert Kelley Bradley**

Research in Nanocomposites

Project: *"An Investigation of Environmentally Friendly Filler for Polymer Nanocomposites."*





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14



Tyler Stuck | major in Electrical Engineering and Mathematics |

Mentor: Dr. Yueqing Li

Research in Driving Safety

Project: *"The Visual Behavior and Performance of Young Drivers in Construction Zones and Nighttime Driving."*



College of Fine Arts and Communications

15



Corina Mena | major in American Sign Language Interpretation |

Mentor: Dr. Zanthia Smith

Research in Deaf Studies & Deaf Education

Project: *"Hispanic/Latinx Students Perceptions of Diversity in Interpreting."*





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16

Isabelle Scott | Communication and Public Relations |

Mentors: **Dr. Nicki Michalski / Dr. Mamta Singh**

Research in Social Behavioral and Student Education

Project: *"Unconscious Biases Can Impact the Academic Achievement of At-Risk Students in Alternative Schools."*



17

Ashley Staggs | Speech and Hearing Sciences |

Mentor: **Dr. Lilian Felipe**

Research in Neurosciences and Auditory Abilities

Project: *"Auditory Evaluation of Student Musicians: Is musical ability associated with enhanced auditory processing?"*



O.U.R. wishes you the best of luck and inspiration in developing your research project.



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See you, all O.U.R. grant winners at the Kick-off Day
January 19, 2022
in the Landes Auditorium of Galloway bldg.

The event will be in-person and mandatory for both students and their mentors and is scheduled from 12 to 3pm. Each team will present their research objectives in 5 minutes using 2-3 slides.

Join Lamar University Undergraduate Research Association (LURA)

“LURA was founded in fall 2019 to fulfill the need for a community *by* and *for* undergraduate students to discuss, collaborate, and learn how effectively one can conduct research. The consistent quality and volume of research conducted by undergraduate students at Lamar University has made it clear that there is a need for an organization to act as a vital resource for building young researchers. Thus, LURA provides an academic forum that connects all level students from freshmen to seniors with their professors and mentors, and facilitates communication between Lamar undergraduates and their peers around the nation.

LURA is a platform for offering panel discussions about

- Research opportunities inside and outside Lamar,
- Better ways to deliver undergraduate research results in poster and oral presentations,
- Ways to perform peer-mentoring,
- Organizing workshops and panel discussions on various topics, including how to successfully apply to graduate schools.

LURA is the premier student organization at Lamar University for any undergraduate student interested in doing research. Contact URALamar@gmail.com or visit the Office of Undergraduate Research—Chemistry 115D

LURA Officers: President Menna Elsaka (Biology), Vice-President Viviana Denova (Finances), Secretary Zaid Mohammed (Biology), Treasurer Talon Weaver (Civil and Environmental Engineer).