



OFFICE OF UNDERGRADUATE RESEARCH LAMAR UNIVERSITY

In fall 2020, O.U.R. hosted three virtual conferences.

Dear Students, Faculty, and Staff,

In the last seven years, every fall semester O.U.R. offered two conferences: *Texas STEM* and *HASBSEB*. This fall we offered three such events, adding to the list *The EXPO 2020*, which is a showcase of undergraduate research and creative activities at Lamar. The awardees from the three events hosted this fall are recognized in a special gathering on November 30, 2020. The 2020 Annual Awards Ceremony celebrates the research results and special achievements obtained in the SURF 2020 program and also, the outstanding presentations to all three conferences hosted this fall. It is a time when we recognize our best student researchers and their mentors at Lamar.

Year 2020 was very different because of the big challenges generated by the COVID-19 pandemic crisis, which changed so much our lives. Despite the difficulties in organizing virtual events, in the three conferences O.U.R. organized this fall, we welcomed more than 70 presentations in front of more than 350 attendees. At all talks given in the breakout sessions, we had between 40 to 70 attendees. This is a large attendance as compared to any O.U.R. past conference with face-to-face participation and parallel sessions, where we had no more than 25 attendees in any breakout session.

We thank to all students and faculty mentors for putting generously time and effort in research and creative activities despite the current situation with the COVID-19 outbreak. Also, a heartily thank you to President Kenneth Evans and Provost Brenda Nichols for their continuous and generous support to the O.U.R. mission. My special thanks go also to all academic Deans and Chairs for their support and constant encouragement to undergraduate research efforts.

The month of October is when undergraduates willing to develop research projects apply for O.U.R. grants. This year's 8th Annual Grant Proposals Contest ended with 14 winning proposals (10 from STEM fields and 4 from HASBSEB areas) and 15 awardees. Twenty-seven faculty were involved in assessing and ranking the proposals. Most of the twenty-two submitted proposals were of exceptional quality. This year the scores for O.U.R. accepted proposals were better than 75%. *O.U.R. warmly congratulates all the winners and wishes them success in developing competitive research projects!*

Dr. Cristian Bahrim, Acting Director of O.U.R.

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Acting Director of O.U.R.

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University Advancement



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Awardees of the 7th EXPO Conference – September 25, 2020

**FIRST PLACE FOR THE BEST HASBSEB PRESENTATION AT
The Undergraduate EXPO 2020**

Anna Sigur



*"Understanding Design Features of Aphasia-friendly Written Material:
What Matters Most to People with Aphasia?"*

Mentor: Dr. Jamie H. Azios
Department of Speech and Hearing Sciences

**FIRST PLACE FOR THE BEST STEM PRESENTATION AT
The Undergraduate EXPO 2020**

Caitlyn Clark and Emily Ingram



*"Investigations of Autocatalytic Phenomena using a
Continuously Stirred Tank Reactor and Python Simulations."*

Mentor: Dr. Ozge Gunaydin-Sen¹ and Dr. Cengiz Sen²

¹Department of Chemical and Biochemistry

²Department of Physics

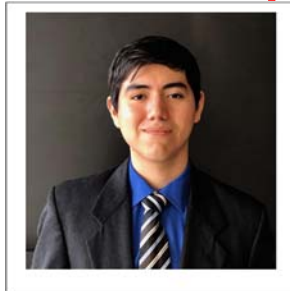


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Awardees of the 7th EXPO Conference – September 25, 2020

**FIRST PLACE FOR THE BEST VIDEO PRESENTATION AT
The Undergraduate EXPO 2020**

Daniel Quispe



*"My Summer Research Experience at the Material Research Science and
Engineering Center of the Northwestern University."*

Mentor: Dr. Jian Cao
Department of Mechanical Engineering

Awardees of the 8th Texas STEM Conference – October 24, 2020

Winner at the 8th Annual Texas STEM conference

Olivia Rigbsy



FOR BEST PRESENTATION IN THE STEM SURF 2020 CATEGORY

*"Onset of the Sevier Fold and Thrust Belt and
Associated Foreland-Basin Sedimentation in Central Utah."*

Mentor: Dr. Edgardo Pujols
Department of Earth and Space Sciences



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Awardees of the 8th Texas STEM Conference – October 24, 2020

Runner-up at the 8th Annual Texas STEM conference

Talon Weaver



FOR BEST PRESENTATION IN THE STEM SURF 2020 CATEGORY

*"Studying the Dynamics of Interplanetary Magnetic Clouds
Using a Toroidal Coordinate System."*

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

Runner-up at the 8th Annual Texas STEM conference

Menna Elsaka



FOR BEST PRESENTATION IN THE STEM SURF 2020 CATEGORY

"Akkermansia Muciniphila Correlation with Obesity and Metabolic Disorders."

Mentor: Dr. Ashwini Kucknoor
Department of Biology



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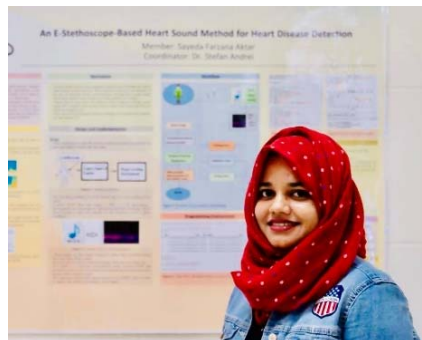
FIRST PLACE FOR THE BEST GRADUATE PRESENTATION AT
The 8th Annual Texas STEM conference
Divine Sebastian



"Study of the Mechanical Properties, Wettability, and Corrosion Resistance of a Superhydrophobic Nanocomposite Coating."

Mentor: Dr. Chun-Wei Yao
Department of Mechanical Engineering

RUNNER-UP FOR THE BEST GRADUATE PRESENTATION AT
The 8th Annual Texas STEM conference
Sayed Farzana-Aktar



"Classification of Heart Diseases using a Stethoscope-Based Heart Sound Method."

Mentor: Dr. Stefan Andrei
Department of Computer Sciences



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**FIRST PLACE FOR THE BEST PRESENTATION IN THE NON-SURF CATEGORY AT
The 8th Annual Texas STEM conference**

Emily Ingram



"Effects of Entry-level Chemistry Courses in STEM Majors."

Mentor: Dr. Ozge Gunaydin-Sen
Department of Chemical and Biochemistry

**RUNNER-UP FOR THE BEST PRESENTATION IN THE NON-SURF CATEGORY AT
The 8th Annual Texas STEM conference**

Hannah Thompson



"A Structured Intervention for Cognitive Decline."

Mentor: Dr. Maryam Vasefi
Department of Biology



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Awardees of the 7th HASBSEB Conference – November 21, 2020

Winner at the 7th Annual HASBSEB conference

William Perry



FOR BEST PRESENTATION IN THE HASBSEB SURF 2020 CATEGORY

*"Work-related Musculoskeletal Disorders and
Psychological Factors in Licensed Nurses: A Secondary Analysis."*

Mentor: Dr. Cynthia Pipkins
Dishman School of Nursing

Runner-up at the 7th Annual HASBSEB conference

Ashtyn Jones



FOR BEST PRESENTATION IN THE HASBSEB SURF 2020 CATEGORY

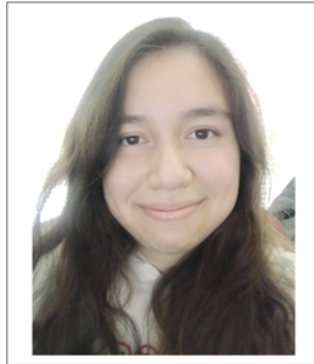
"Influence of a Self-Paced Online Training Program on Caregivers."

Mentor: Dr. Lekeitha Morris
Department of Speech and Hearing Sciences



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**FIRST PLACE FOR THE BEST PRESENTATION IN THE NON-SURF CATEGORY AT
The 7th Annual HASBSEB conference
Aurora Maldonado**



*"Perceived Barriers to Persistence in Higher Education: The Intersectionality of
Acculturation and College Self-efficacy of Latinx/Hispanic Students."*

Mentor: Dr. Ginger Gummelt
Department of Social Work

**SECOND PLACE FOR THE BEST PRESENTATION IN THE NON-SURF CATEGORY AT
The 7th Annual HASBSEB conference
Christina Segura**



*"Uncertainty and Risk in The Anthropocene:
Lived Experiences of Repeated Disasters in Southeast Texas."*

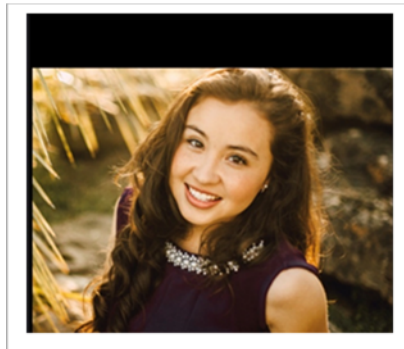
Mentor: Mr. Andre Favors
Department of Communication and Media



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**THIRD PLACE FOR THE BEST PRESENTATION IN THE NON-SURF CATEGORY AT
The 7th Annual HASBSEB conference**

Elizabeth Nimmons



"The Pedagogy of Body Alignment."

Mentor: Ms. Debra Greshner
Department of Music Education

Special Award at the 7th Annual HASBSEB conference

Julia Rabe



FOR OUTSTANDING DOCTORAL RESEARCH

*"Perception of Attrition Factors of Teachers of the Deaf
in Mainstream Public School."*

Mentor: Dr. Johnny O'Connor
Department of Deaf Education



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**TWO AWARDS OFFERED BY
THE CENTER OF HISTORY AND CULTURE IN SOUTHEAST TEXAS**

At The 7th Annual HASBSEB conference

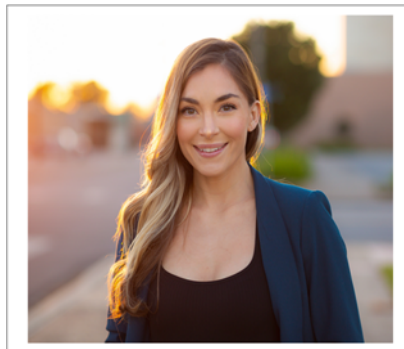
Viviana Denova



*"Role of Small and Medium Enterprises in the Economy
of the Alicante Province and Southeast Texas"*

Mentors: Dr. Gevorg Sargsyan and Dr. Kabir Sen
College of Business, Department of Finances and Economics

Christina Segura



*"Uncertainty and Risk in The Anthropocene:
Lived Experiences of Repeated Disasters in Southeast Texas."*

Mentor: Mr. Andre Favors
Department of Communication and Media



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CONSIDER APPLYING TO THE
FOLLOWING EVENTS FOR SPRING 2021

**THE UNDERGRADUATE RESEARCH DAY
AT THE CAPITOL, IN AUSTIN**

**THE NATIONAL CONFERENCE FOR
UNDERGRADUATE RESEARCH**

POSTERS ON THE HILL, IN WASHINGTON D.C.

2021 OUR Faculty Mentoring Award:

O.U.R. opens the call for the 2021 Faculty Mentor Award to honor a Lamar faculty whose undergraduate research and creativity mentorship is a strong testimonial of dedication and success. The winning faculty mentor will be recognized at the 8th Undergraduate Research Expo scheduled in April. We look forward to reading your applications and learning about your experience and success achieved while being involved in various ways in undergraduate research or creative activities. **Submission deadline: March 1, 2021**

Join our student organization: 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 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. The Office of Undergraduate Research provides strong support and offers logistics to this student organization." Please contact URALamar@gmail.com or visit the Office of Undergraduate Research

The 8th Annual Undergraduate Research & Creative Activities Expo

It is an event designed to celebrate and showcase students' involvement in scholarly research and creative activity produced campus wide. The EXPO 2021 event supports the LU educational mission, provides an opportunity for undergraduate students to exchange ideas in a professional setting

Abstracts due by April 1st
Registration deadline: April 10th

2021 SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP (SURF)

The SURF program encourages all LU undergraduates to explore their field of study in creative activities and research projects mentored by LU faculty members. Each student fellow accepted in the program will be awarded \$2,000 stipend, \$1,000 in research support, FREE housing during the summer at Cardinal Village and an opportunity to present at our own Texas STEM or HASBSEB conferences in the following fall.

Application Deadline: March 1, 2021