



# 2024 UNDERGRADUATE RESEARCH DAY

Elizabeth D. Rockwell Pavilion, M.D. Anderson Library, & The Honors College

Thursday, April 11, 2024

[www.uh.edu/urday](http://www.uh.edu/urday)

# UNDERGRADUATE RESEARCH IS...



## *...for everyone!*

- URD presenters work with mentors from over 15 different UH colleges, schools, and centers!
- 45% of participants in OURMA programs are Pell Grant-eligible.
- A quarter of OURMA student researchers identify as first-generation students.



## *...a gateway to fellowships!*

- Presenters at URD have been named recipients of prestigious major awards such as the Fulbright US Student Program, Gates Cambridge Scholarship, Barry Goldwater Scholarship, and many others.



## *...funded!*

- Scholarships range from \$500 to \$6,000.
- In the last academic year, students received over \$11,000 in OURMA travel fellowships to present their research at national conferences.
- OURMA awarded over \$557K in student scholarships last year!



## *...supportive of the university!*

- Undergraduate research supports the university's Carnegie-designation as a Tier One research university.
- Students contribute to cutting-edge, world-class research happening right here at UH!

# SPECIAL THANKS TO...

A special thanks to our campus and community partners for their support of the Office of Undergraduate Research and Major Awards and our undergraduate researchers:

- Office of the Provost
- Division of Research
- College of Liberal Arts and Social Sciences
- Cullen College of Engineering
- Cougar Initiative to Engage
- The Honors College
- Gerald D. Hines College of Architecture and Design
- The Andrew W. Mellon Foundation
- The Writing Center
- UH Libraries
- The University of Texas MD Anderson Cancer Center
- Data Analytics in Student Hands (DASH) and Honors in Community Health (HICH)
- Institute for Global Engagement
- UH Energy
- University Career Services

# 2024 UNDERGRADUATE RESEARCH DAY

**Thursday, April 11, 2024**

Elizabeth D. Rockwell Pavilion

M.D. Anderson Library

The Honors College

**3:30 p.m. – 4 p.m. | Welcome and Remarks to Presenters**

*Location: Elizabeth D. Rockwell Pavilion*

**Diana Z. Chase, Ph.D.**

Senior Vice Chancellor for Academic Affairs, University of Houston System  
Senior Vice President for Academic Affairs and Provost, University of Houston

**Stuart A. Long, Ph.D.**

Associate Dean of Undergraduate Research and the Honors College  
Moore Professor, Department of Electrical and Computer Engineering  
University of Houston

**Rikki Bettinger, Ph.D.**

Director, Office of Undergraduate Research and Major Awards  
University of Houston

**4 p.m. – 6 p.m. | Viewing of Student Posters**

*Location: Elizabeth D. Rockwell Pavilion, M.D. Anderson Library, and the Honors College*

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The Office of Undergraduate Research and Major Awards thanks the **Office of the Provost**, the **Division of Research**, the **Honors College**, the **Cullen College of Engineering**, and the **College of Liberal Arts and Social Sciences** for their generous and continued support.

# WELCOME

## We are so pleased to welcome you to our 19th annual Undergraduate Research Day!

Today's event is an opportunity for undergraduates from all colleges and disciplines across the University of Houston to display and present their research to the campus community. The 2024 presenters include students from programs such as the Summer Undergraduate Research Fellowship (SURF), Provost's Undergraduate Research Scholarship (PURS), Mellon Research Scholars, Energy Scholars, Research for Aspiring Coogs in the Humanities (REACH), and many others who conducted research under the guidance of University of Houston faculty in the past year. The research posters offer an invitation to discuss big ideas and complex problems. Undergraduate Research Day (URD) also offers the opportunity for undergraduate researchers to connect with other students, faculty, staff, and professionals in industry and gain feedback on their research. We hope you will ask questions and provide input about their research.

Our presenters have collaborated with mentors across the University. This year's URD will feature presentations on a wide variety of topics. From public policy to mathematics, mechanical engineering to pharmacology, and English to psychology, we are fortunate at the University of Houston to have such dedicated faculty willing to share their time and expertise. Presenters at this year's URD have projects that range from researching the optimal locations for solar PV panels on the lunar surface, mapping 1970s arson events in Montrose and the impact on Houston's gay bars, using eye-tracking technology to study language processing of African American English to aid in the treatment of language disorders, better understanding the molecular dynamics of fibrinogen and its interactions in blood clotting, and expanding accessibility to Hispanic American theatre. Undergraduate researchers are contributing in meaningful ways to ongoing research at the University of Houston, supporting its goal to become a top 50 public research university.

Funding these research endeavors would not have been possible without the continued support of the Office of the Provost, the Division of Research, and many other campus partners who

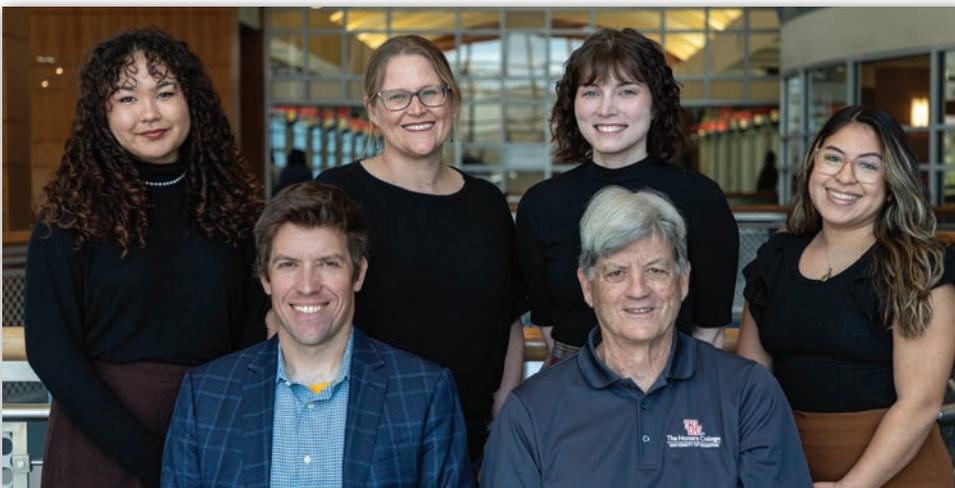
ensure that significant mentored research experiences are made available to UH undergraduates. In the last year, OURMA supported over 285 faculty-mentored student research projects and awarded over \$555K in student scholarships. We were excited to learn this year that funding for the Mellon Research Scholars program will continue through 2026 with a third \$500K grant from the Andrew W. Mellon Foundation to support research and graduate school preparation in the humanities. Additionally, with increased funding and in collaboration with UH Energy, we can support a larger cohort of Energy Scholars for the 2024 calendar year. Stay tuned for their projects in April 2025!

The dedicated staff in OURMA were bolstered by the addition of Kalena Holeman, an English major, who joined the OURMA office as a student worker this year. A prior PURS and FrameWorks participant and 2023 Mellon Research Scholar, Kalena has provided students with exceptional peer mentorship and thoughtful insights. She has a published article in the fourth issue of *FrameWorks: A Journal of Undergraduate Research in the Interdisciplinary Humanities*, for which she received the FrameWorks Prize for Excellence in Undergraduate Research, and will continue her study of the Classics this summer at Harvard University. You can find Kalena presenting her Mellon Scholars research on the journey motif and Dantean receptions in Black women's literature at this year's URD.

UH students are also well-positioned as fellowships candidates. In the last year, our students have been named recipients of the Phi Beta Kappa Key into Public Service Scholarship, DAAD RISE, Sumners Scholarship, Critical Language Scholarship, Barry Goldwater Scholarship, and NSF-GRFP. In addition to eight more Fulbright awardees, UH was recognized for the third year in a row as a Fulbright HSI Leader. Prestigious fellowships are not the only way UH students are gaining national recognition. Last year, a record 100 UH students were inducted into Phi Beta Kappa - the most prestigious and oldest honor society in the country. They join the likes of 17 U.S. Presidents and 42 Supreme Court Justices

who were also recognized for their achievements in the classroom as undergraduates. In the lab and the library, in Houston and across the globe, our Coogs dare to dream big, and their successes demonstrate why UH is a Carnegie-designated Tier One research university.

We are excited to celebrate the research of UH undergraduates, and they are eager to share their projects with you. Thank you for joining us for this year's celebration of undergraduate research at the University of Houston.



The OURMA Team: Kalena Holeman, Ben Rayder, Rikki Bettinger, Livia Garza, Stuart Long, and Deborah Reyes

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UNIVERSITY OF **HOUSTON**

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Thursday, April 11, 2024  
4-6 p.m. Poster Presentations  
Elizabeth D. Rockwell Pavilion  
M.D. Anderson Library  
The Honors College

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### The Office of Undergraduate Research and Major Awards

University of Houston  
The Honors College  
M.D. Anderson Library  
4333 University Drive, Room 212W  
Houston, TX 77204-2001  
[UndergraduateResearch.uh.edu](http://UndergraduateResearch.uh.edu)  
undergrad-research@uh.edu  
@UHOURLMA

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*Booklet created by*  
**Julia Brown,**  
Manager, Office of Communication,  
The Honors College

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# OFFICE OF UNDERGRADUATE RESEARCH AND MAJOR AWARDS



## OUR MA PROGRAMS

### THE HOUSTON EARLY RESEARCH EXPERIENCE (HERE)

is a two-week research program in May intended to orient rising sophomore and junior undergraduates to the fundamentals of conducting research. HERE awards a \$1,000 scholarship. Candidates with at least a 3.5 GPA are encouraged to apply. [uh.edu/here](http://uh.edu/here)

### THE SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP (SURF)

is a full-time, 10-week summer research program for students and provides a \$4,000 scholarship to conduct research under the mentorship of a UH faculty member. Students from all disciplines with at least a 3.0 GPA are encouraged to apply. [uh.edu/surf](http://uh.edu/surf)

### THE PROVOST'S UNDERGRADUATE RESEARCH SCHOLARSHIP (PURS)

is a part-time, semester-long research program and awards a \$1,000 scholarship for students to work one-on-one with a faculty mentor. This scholarship is open to students from all colleges and disciplines. Candidates must have at least a 3.0 grade point average to apply. [uh.edu/purs](http://uh.edu/purs)

**THE MELLON RESEARCH SCHOLARS PROGRAM** is a year-long program that supports a cohort of students who are highly motivated to conduct research and attend graduate school in the humanities. Each participant receives a total of \$5,000 to participate in developmental academic and mentorship activities throughout the year and to conduct a full-time summer research project. [uh.edu/mellonscholars](http://uh.edu/mellonscholars)

### THE RESEARCH FOR ASPIRING COOGS IN THE HUMANITIES (REACH) PROGRAM

is a collaborative effort supported by the Cougar Initiative to Engage and OURMA. Awarding a \$1,500 scholarship, REACH provides a year-long introductory research experience for students in humanities disciplines by connecting students to existing projects at the University of Houston. [uh.edu/reach](http://uh.edu/reach)

### THE ENERGY SCHOLARS PROGRAM

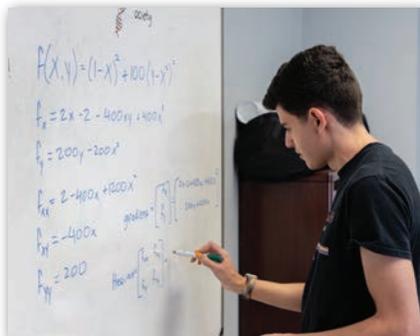
provides undergraduate students the opportunity to work on a year-long research project related to energy under the direction of a UH faculty mentor. Participants receive a \$6,000 scholarship, and students from all disciplines are encouraged to apply. [uh.edu/energy-scholars](http://uh.edu/energy-scholars)

### THE SENIOR HONORS THESIS

is a capstone program for a student's undergraduate career in research. Open to all UH students, participants enroll in 3399 and 4399, a total of six hours of coursework, which is typically applied toward the degree requirements of their major, during their senior year. For more information, visit the thesis website at [uh.edu/seniorhonorsthesis](http://uh.edu/seniorhonorsthesis).

Need more info? Email:

[undergrad-research@uh.edu](mailto:undergrad-research@uh.edu)



# THE HONORS COLLEGE

## THE HONORS COLLEGE PHILOSOPHY

The Honors College at the University of Houston serves the intellectual needs of gifted undergraduates in more than 100 fields of study. We provide the careful guidance, flexibility, and personal instruction that nurture excellence. We offer the University's finest students **the best of both worlds** — the community and advantages of a small college together with the resources and rich diversity of a large research university. Our faculty and staff believe that a university education should offer more than the acquisition of skills for the workplace. The Honors College challenges students to develop the attributes of mind and character that enhance all facets of life.

## HONORS CURRICULUM

Our curriculum is designed to coordinate with all majors and degree plans offered at the University of Houston. You will fulfill many of your University core requirements through Honors courses that take the place of regular required classes. One key sequence of courses, The Human Situation, is team-taught by Honors faculty and is designed to ensure that you are introduced to the great books of the Western tradition. The Honors College also offers seven interdisciplinary minors. For many Honors students, the Senior Honors Thesis represents the exciting culmination of a bachelor's degree. A thesis provides an excellent opportunity for you to work under the direction of faculty in your chosen field of study, applying your skills and knowledge toward the completion of a scholarly or creative project.



## THE HONORS COLLEGE COMMUNITY

### Special Classes and Course Selection

We draw on the talents of the brightest faculty members within the University to provide a wide range of special courses with limited enrollment. Honors courses encourage student participation, interaction, and discussion.

### Membership in a Community

You will enjoy special privileges, including Honors College scholarships, priority course registration, computer facilities, reserved lounge and study areas, study abroad opportunities, and special housing in Honors College residence halls. Many intangible benefits also come with participation in the Honors community — the friendships that develop in the classroom carry over into other areas of student life. We foster an atmosphere of collegiality and a spirit of camaraderie through informal gatherings, social activities, and on- and off-campus cultural events.

### Talented Classmates

When admitted to the Honors College, you will enter the company of the most academically talented undergraduates at the University. Members bring a variety of interests, aptitudes, and ambitions to their studies. Through daily association with other Honors students, you will be challenged to strive for excellence in academics and in character.

Apply Now at [www.TheHonorsCollege.com/apply](http://www.TheHonorsCollege.com/apply)

Contact Information:  
The Honors College  
Office for Student Recruitment  
(713) 743-1766  
[honorsadmissions@uh.edu](mailto:honorsadmissions@uh.edu)



FULBRIGHT

GHT



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FU

A man with short grey hair, wearing a red graduation gown over a light-colored shirt, and a woman with long dark hair, wearing a tan blazer over a beige turtleneck sweater, are smiling and holding a white sign. The background is a solid blue wall.

**ULBRIGHT**  
España

# FELLOWSHIPS AND MAJOR AWARDS

# 2023 UNDERGRADUATE SCHOLARS & MAJOR AWARDS

The Office of Undergraduate Research and Major Awards congratulates the 2022-2023 Undergraduate Scholars and Major Award recipients, finalists, and alternates:

## C.T. BAUER COLLEGE OF BUSINESS

Hamad Khan, *Charles B. Rangel International Affairs Graduate Fellowship* (Finalist); Thomas R. Pickering *Foreign Affairs Graduate Fellowship* (Finalist)

## COLLEGE OF EDUCATION

Leslie Aguillon, *Fulbright English Teaching Assistantship, Mexico* (Recipient)

## COLLEGE OF ENGINEERING

Shashank Adhikari, *DAAD RISE PRO Scholarship* (Recipient)  
Oluwadurotim Agbesanwa, *BCM SMART Program* (Recipient)  
Nikki Hammond, *Phi Kappa Phi Fellowships* (Recipient)  
Aashna Momin, *DAAD RISE Scholarship* (Recipient)  
Wajahat Mohiuddin, *Critical Language Scholarship, Arabic* (Recipient)  
Yuan Zi, *DAAD RISE PRO Scholarship* (Recipient)

## COLLEGE OF LIBERAL ARTS & SOCIAL SCIENCES

Briana Azad, *Phi Beta Kappa Key Into Public Service Scholarship* (Recipient); *MD Anderson PCCSM Program* (Recipient)  
Laura Bere, *Fulbright English Teaching Assistantship Grant, Belgium* (Alternate)  
Helin Erdal, *Critical Language Scholarship, Azerbaijani* (Alternate)  
Axit Garcia, *Critical Language Scholarship Spark, Mandarin* (Recipient)  
Alyssa Green, *Sumners Scholarship* (Recipient)  
David Paul Hilton, *Fulbright English Teaching Assistantship Grant, Uzbekistan* (Recipient)  
Wasiq Javed, *One Lawyer Can Change the World Scholarship* (Recipient)  
Naveera Majid, *Fulbright Manchester Metropolitan University Award in Creative Writing, United Kingdom* (Alternate)  
Sondos Moursy, *Marshall-Motley Scholarship* (Recipient); *Rhodes Scholarship* (Finalist)  
Elizabeth Perkovich, *National Science Foundation Graduate Research Fellowship* (Honorable Mention)

Sophia Sierra Quintero, *Fulbright English Teaching Assistantship Grant, Mexico* (Recipient)  
Nella Sakić, *Fulbright English Teaching Assistantship Grant, Bosnia and Herzegovina* (Recipient)  
Bianca Soriano, *BCM SMART Program* (Recipient)  
Logan Tantibanchachai, *Sumners Scholarship* (Recipient)  
Nmeso Ukachi-Nwata, *Sumners Scholarship* (Recipient)  
Peijun Zhao, *Fulbright English Teaching Assistantship Grant, Taiwan* (Recipient)  
Mielad Ziaee, *MD Anderson PCCSM Program* (Recipient); *Kennedy Krieger Institute MCHC/RISE-Up Program* (Recipient); *Fulbright UK Summer Institutes* (Alternate)

## HOBBY SCHOOL OF PUBLIC AFFAIRS

Saron Regassa, *Sumners Scholarship* (Recipient)

## COLLEGE OF NATURAL SCIENCES & MATHEMATICS

Rhoda Abuga, *BCM SMART Program* (Recipient)  
Momena Ahmed, *BCM SMART Program* (Recipient)  
Bryan Armbruster, *BCM SMART Program* (Recipient)  
Paul Daniel, *MD Anderson PCCSM Program* (Recipient)  
Gabrielle Kostecki, *Goldwater Scholarship* (Recipient)  
Rosemarie Le, *EPFL Excellence Research Internship Program* (Recipient)  
Thai Nguyen, *Critical Language Scholarship, Russian* (Alternate)  
Kala Pham, *MD Anderson PCCSM Program* (Recipient)  
Lei Si, *DAAD RISE PRO Scholarship* (Recipient)  
Damon Spencer, *National Science Foundation Graduate Research Fellowship* (Recipient)  
Alyson Vu, *Fulbright English Teaching Assistantship Grant, Germany* (Recipient)  
Tracy Vu, *Fulbright English Teaching Assistantship Grant, Taiwan* (Recipient)  
Noor Zughaibi, *MD Anderson PCCSM Program* (Recipient)



# OUTSTANDING FELLOWSHIP MENTOR AWARD

The Undergraduate Scholars and Major Awards Celebration was held on April 24, 2023 and hosted by the Office of Undergraduate Research and Major Awards (OURMA). The University of Houston Outstanding Fellowship Mentor Award was featured in the Celebration and awarded to **Donna Stokes, Ph.D.**, Professor in the Department of Physics.



## DONNA STOKES

Dr. Donna Stokes was recognized for her dedication to supporting STEM students in their pursuit of undergraduate research and national and major awards and fellowships. Her dedication to mentoring comes from her own experiences as an underrepresented student majoring in physics as she recalls the importance of having supporting mentors and allies throughout her academic career. She states, “I realized there are so many students who need support and guidance to achieve their goals and that I could be a person that could have an impact on them by serving as a role model/mentor.”

**Recognizing Student Potential:** As a physics professor, mentoring undergraduate and graduate students as well as postdoctoral associates in and outside the classroom is an expected part of her role. But what she has realized is that serving as a mentor is embedded in the person she is and continues to become. Serving as the undergraduate academic advisor for the Department of Physics and as the Associate Dean for Undergraduate Affairs and Student Success for the College of Natural Sciences and Mathematics, has

allowed her to mentor STEM majors, especially Physics majors, for awards such as the Barry Goldwater Fellowship, PURS and SURF awards and National Science Foundation Graduate Student Fellowships.

**Collaboration is Key:** Through strong collaborations with the Office of Undergraduate Research and Major Awards, NSM faculty, and students, Dr. Stokes’ mentoring support had led to great success for STEM students in terms of major award and recognition. She worked alongside faculty in the Physics Department to identify students who were passionate about physics and particularly research in physics early in their academic career. She assisted students on their journey to find research projects and faculty advisors who would be supportive and provide an opportunity for the student to grow and gain exposure to cutting edge meaningful research. Through mentoring and advising, she provided a foundation of support for their academic and research journey that allowed them to excel.

**Student Success:** Since 2006, University of Houston has had 12 Goldwater scholars. Of these, 10 out of the 12 were NSM majors and, of the 10 NSM majors, seven were physics majors. Her guidance and support to these outstanding students on writing a great application, exhibiting strong interviewing skills, and completing tier one research projects allowed them to realize their own potential to become great scholars and scientists. Through her mentoring experiences, Dr. Stokes continues to learn and share through mentoring and sharing information on best practices in application preparation which may lead to a greater impact on the student success in garnering fellowships, research opportunities, and successful applications to graduate, medical or professional programs.



**Congratulations to Dr. Stokes on her award!**

# NATIONALLY COMPETITIVE SCHOLARSHIPS

Consider applying for one of these opportunities.

## BARRY GOLDWATER SCHOLARSHIP

For sophomores and juniors who demonstrate academic excellence and intend to pursue research careers in mathematics, the natural sciences, or engineering. This competitive scholarship covers eligible expenses for undergraduate tuition, fees, books, and room and board, up to a maximum of \$7,500 annually.

**Campus Deadline: Nov. 1, 2024**

## HARRY S. TRUMAN SCHOLARSHIP

For college juniors with exceptional leadership potential who are committed to careers as change agents in government, the nonprofit or advocacy sectors, education, or elsewhere in public service. Each Truman Scholar receives up to \$30,000 for graduate study.

**Campus Deadline: Nov. 1, 2024**

## MORRIS K. UDALL & STEWART L. UDALL SCHOLARSHIP

For sophomore and junior level students committed to careers related to the environment, tribal public policy or tribal health care. Awards of up to \$7,000 and access to the Udall Alumni Network.

**Campus Deadline: Feb. 3, 2025**

## CRITICAL LANGUAGE SCHOLARSHIP

Language immersion program for undergraduates from all academic disciplines. Sponsored by the U.S. Department of State, this summer program allows students to study one of 13 critical languages abroad, including Arabic, Chinese, Korean, and Russian.

**National Deadline: Mid-Nov. 2024**

## NSF GRADUATE RESEARCH FELLOWSHIP

For graduating seniors who intend to pursue a research-based master's or doctoral degree in the natural sciences, engineering, mathematics, or STEM education. The award includes a \$37,000 living stipend and \$16,000 cost-of-education allowance.

**National Deadline: Mid-Oct. 2024**

## FULBRIGHT U.S. STUDENT PROGRAM

For graduating seniors, current graduate students, and alumni. Students may apply to teach English, enroll in a graduate degree program, or conduct research for one year in more than 140 countries. Recipients are awarded a living stipend, travel accommodations, and basic health insurance.

**Campus Deadline: Aug. 30, 2024**



Application for these awards requires a strong academic, leadership, and service record. In some instances, you must be nominated to apply. For more information, visit the Office of Undergraduate Research and Major Awards or contact Dr. Ben Rayder ([btayder@uh.edu](mailto:btayder@uh.edu)).

The University of Houston is a top-producing Fulbright institution.

# FULBRIGHT GRANTS FOR TEACHING ASSISTANTSHIPS OR STUDY/RESEARCH ABROAD



**Morgan Thomas**  
Fulbright English Teaching Assistant  
Ghana

The Fulbright U.S. Student Program provides grants for individually designed Study/Research projects or for English Teaching Assistant Programs. During their grants, Fulbrighters meet, work, live with, and learn from the people of the host country to foster mutual understanding. Fulbright is one of the largest academic exchanges in the world, providing approximately 2,200 grants annually in more than 140 participating countries.



**David Paul Hilton**  
Fulbright English Teaching Assistant  
Uzbekistan



**Anushka Oak**  
Fulbright Study/Research Grant  
Spain

2024 CAMPUS DEADLINE:  
**August 30, 2024**

FOR MORE INFORMATION, CONTACT:  
**Dr. Benjamin Rayder**

Executive Director, Office of Undergraduate Research and Major Awards  
btrayder@uh.edu      www.us.fulbrightonline.org







# UNDERGRADUATE RESEARCH

# HOUSTON EARLY RESEARCH EXPERIENCE

The **Houston Early Research Experience (HERE)** is a two-week seminar series that introduces freshmen and sophomores to the fundamentals of conducting research. Under the guidance of UH faculty mentors, students explore various research methodologies and learn how to craft a research proposal. Students receive a \$1,000 scholarship and two points toward the Honors in Co-Curricular Engagement transcript designation for participating in HERE.

## HERE 2023

May 15-26, 2023

Forty-eight students representing seven UH colleges participated in the 2023 HERE program. Students investigated and proposed solutions to challenges regarding food culture, security, and sustainability in Houston.

### HERE Faculty Mentors:

Christiana Chang	Abdul Khan
Marc Hanke	Marsha Kowal
Kelly Hopkins	Marina Trninic
Olivia Johnson	Lesli Vollrath



## HERE 2024

May 13-24, 2024

The 2024 theme for HERE will be “Space City Houston”. Applications for the HERE program are accepted through early March each year. For more information on future HERE programming, contact Livia Garza at [llgarzag@uh.edu](mailto:llgarzag@uh.edu) or visit [uh.edu/here](http://uh.edu/here).

# HOUSTON SCHOLARS



The Houston Scholars is a competitive program for high-achieving freshmen and sophomores to receive mentorship and scholarship funding to pursue research, internships, and other distinctive experiential learning opportunities. Participants can receive three points toward the Honors in Co-Curricular Engagement transcript designation.

During the course of the academic year 2023-2024, Houston Scholars heard from a range of speakers about topics to help them make the most of their time at UH and develop their own unique skill sets. Subjects included building one's personal brand, clarifying goals through the Jesuit spiritual exercise, financial literacy, making your pitch, and, applied learning through research and fellowships. Houston Scholars programming kicked off with a cohort mixer in September and will conclude in April. By the end of the year, cohort members will not only have a better understanding of opportunities at UH and how to be a responsible student but will also be able to develop a more intentional plan for their futures.

Questions? For additional information about Houston Scholars, please contact Dr. Ben Rayder at [btrayder@uh.edu](mailto:btrayder@uh.edu) in the Office of Undergraduate Research and Major Awards.

## Houston Scholars Participants:

Perrin Calzada

Reece Collins

Paul Daniel

Jayden Gunsolley

Gabriela Hamdieh

Kaden Helmka

Rosemarie Le

David Nguyen

Duong Nguyen

Haley Romine

Soraya Sato

Justin Schnitzer

Nathan Stiehl

Melody Tran

Divya Valipe

Nathan Varghese

Rebecca Wagley

Eshal Warsi



# RESEARCH FOR ASPIRING COOGS IN THE HUMANITIES

The **Research for Aspiring Coogs in the Humanities (REACH) Program** at the University of Houston is a collaborative effort supported by the Cougar Initiative to Engage and the Office of Undergraduate Research and Major Awards. REACH provides a \$1,500 scholarship and a year-long introductory research experience for students in humanities disciplines by connecting a dozen students to existing research projects at the University of Houston. From projects in collaboration with UH Libraries Special Collections, to the digital humanities, to individual faculty research projects in humanities disciplines, the REACH program provides an entry-point to hands-on scholarly inquiry. Learn more at [uh.edu/reach](http://uh.edu/reach).

## 2023-2024 PARTNERS AND PARTICIPANTS



### **Art, Advocacy, and Justice in the Archives**

Mentor  
Vince Lee

Student Participant  
Ryan Banda



### **Dancing and Embodying the Chinese Diasporic Experience**

Mentor  
Melody Yunzi Li

Student Participants  
Kaytee Compton



### **Harrisburg and Milby: Intertwining Histories**

Mentor  
Debbie Harwell

Student Participant  
Olivia Goodley



### **Mapping Multicultural Houston**

Mentor  
Melody Yunzi Li

Student Participant  
Monica Jimenez



### **Recovering the US Hispanic Literary Heritage Program**

Mentors  
Lorena Gauthereau  
Gabriela Baeza Ventura  
Carolina Villarroel

Student Participants  
Valeria Gonzalez  
Rebecca Mejia  
Kelsey Middleton



### **Triumph and Tragedy in the Bayou City's Civil Rights Era**

Mentor  
Irene Guenther

Student Participant  
Fayha Iqbal



### **Sharing Stories from 1977**

Mentors  
Sandra Davidson  
Nancy Young  
Leandra Zarnow

Student Participants  
Matt Clark  
Toluwalope Fabiyi  
Mary Seume  
Emme Tomasello



### **SYRIOS**

Mentor  
Peggy Lindner  
Elizabeth Rodwell

Student Participants  
Iris Alkathieri  
Emily Nguyen



### **The Year 1771**

Mentor  
David Mazella

Student Participant  
Niamh Clarke  
Julianna Hamilton

# HONORS FACULTY RESEARCH ASSISTANTSHIP

In the Fall of 2022, the Office of Undergraduate Research and Major Awards introduced a new research initiative, The Honors Faculty Research Assistantship designed to support Honors College faculty who are pursuing research. Since Honors College faculty are primarily teaching faculty, the research assistantship program provides important support for those who additionally seek to continue researching in their discipline.

Students who participate in the Honors Faculty Research Assistantship program gain experience in research while supporting Honors College faculty members in their respective research work and are paid a monthly stipend. Research assistants may assist in collecting and entering data, coding surveys, organizing notes and files, or other tasks as assigned by their faculty mentor. The research assistants are supported through the Lerner Family Fund.

To be considered for an Honors Faculty Research Assistant position, students must be recommended by a faculty member from the Honors College. For more information, please contact the Office of Undergraduate Research and Major Awards at [undergrad-research@uh.edu](mailto:undergrad-research@uh.edu).

## HONORS FACULTY RESEARCH ASSISTANTS

### 2022 – 2023 Assistants

#### **Vyshnavi Davuluri**

*Mentored by Marc Hanke  
Biology, Honors*

#### **Jerry Hill**

*Mentored by David Rainbow  
Russian History, Honors*

#### **Zainab Jafri**

*Mentored by John Lunstroth  
Medicine and Society, Honors*

#### **Laila Rahman**

*Mentored by Donaji Stelzig  
Community Health Worker Initiative,  
Honors*

### 2023 – 2024 Assistants

#### **Hector Doratt**

*Mentored by Richard Garner  
English, Honors*

#### **Michael Iacampo**

*Mentored by Ann Cheek  
Biology, Honors*

#### **Danish Jamal**

*Mentored by Alexandra Landon  
Engineering, Honors*

#### **Alivia Mayfield**

*Mentored by Dustin Gish  
Political Science, Honors*

#### **Wendy Novoa**

*Mentored by Carol Cooper  
Political Science, Honors*

#### **Zoe Peterson**

*Mentored by Michelle Belco  
Political Science, Honors*

#### **Malini Prasad**

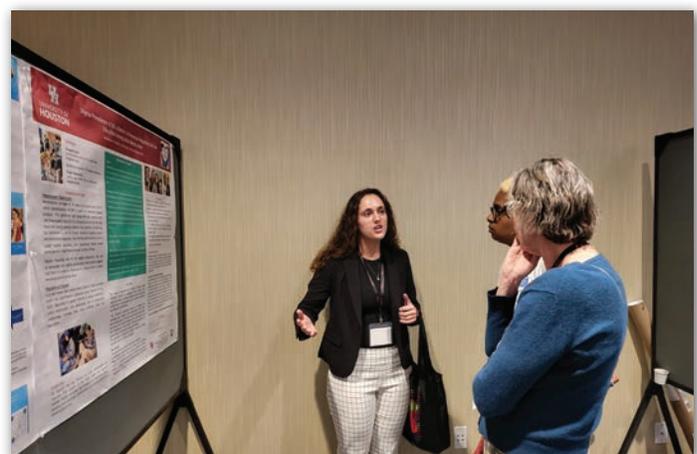
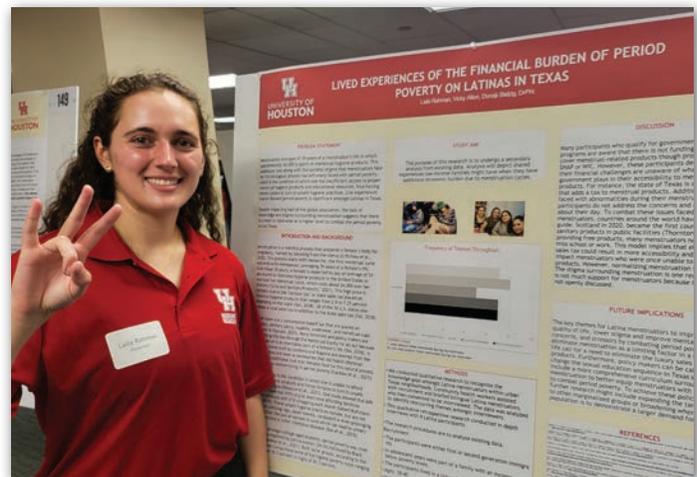
*Mentored by Irene Guenther  
History, Honors*

#### **Bryce Sheffield**

*Mentored by Richard Garner  
English, Honors*

#### **Annfaye Sternberg**

*Mentored by Abigail Modaff  
History, Honors*



# PROVOST'S UNDERGRADUATE RESEARCH SCHOLARSHIP

The **Provost's Undergraduate Research Scholarship (PURS)** program provides talented University of Houston students with the opportunity to participate in a semester-long research project under the guidance of a UH faculty mentor. Students from all disciplines are encouraged to apply. PURS recipients receive a \$1,000 scholarship to conduct a one-semester research project with their faculty mentors. Participants can also receive three points toward the Honors in Co-Curricular Engagement transcript designation. For more information, please contact the Office of Undergraduate Research and Major Awards at [undergrad-research@uh.edu](mailto:undergrad-research@uh.edu).



## FALL 2023 PURS RECIPIENTS

### **Sama Abdelaziz**

*Mentored by Muayyad Al-Ubaidi*  
Biomedical Engineering

### **Mawada Al Faisal**

*Mentored by Keri Myrick*  
Global Engagement and Research,  
Honors

### **Fabiha Alam**

*Mentored by Monique Mills*  
Communications Sciences and  
Disorders

### **Funmi Babajide**

*Mentored by Tasneem Bawa-Khalfe*  
Biology and Biochemistry

### **Grayson Darwin**

*Mentored by Zelma Oyarvide Tuthill*  
Sociology

### **Joaquin Davila**

*Mentored by José Angel Hernández*  
History

### **Maria Grazia Di Fabio**

*Mentored by Cynthia Yoon*  
Health and Human Performance

### **Igor Egin**

*Mentored by Radek Paluszynski*  
Economics

### **Luis Gonzalez Nunez**

*Mentored by Nikolaos Malamataris*  
Chemical and Biomolecular Engineering

### **Rubayet Hridi**

*Mentored by Tony Liao*  
Information and Logistics Technology

### **Xin Qi Huang**

*Mentored by Willa Friedman*  
Economics

### **Ibrahim Islam**

*Mentored by Melika Shirmohammadi*  
Human Development and Consumer  
Sciences

### **Aasiyah Kassam**

*Mentored by Hanako Yoshida*  
Psychology

### **Mariyah Kazim**

*Mentored by Andrew Kapral*  
Data and Society, Honors

### **Michelle Le**

*Mentored by Craig Johnston*  
Health and Human Performance

### **Sergio LeFebvre**

*Mentored by Jeffrey Church*  
Political Science

### **Mahita Marri**

*Mentored by Hanako Yoshida*  
Psychology

### **Loren McKinley**

*Mentored by Adam Thrasher*  
Health and Human Performance

### **Cristina Medrano**

*Mentored by Jeremy Miciak*  
Psychology



# PROVOST'S UNDERGRADUATE RESEARCH SCHOLARSHIP

## FALL 2023 PURS RECIPIENTS (CONTINUED)



**Christopher Mobley**

*Mentored by Mingjian Wen*  
Chemical and Biomolecular Engineering

**Tran Nguyen**

*Mentored by Qin Feng*  
Biology and Biochemistry

**Miracle Ofomaja**

*Mentored by Mehmet Orman*  
Chemical and Biomolecular Engineering

**Lillian Pennington**

*Mentored by Erin Kelleher*  
Biology and Biochemistry

**Hannah Pham**

*Mentored by Maria Walker*  
Optometry

**Hang Phan**

*Mentored by Martin Nunez*  
Biology and Biochemistry

**Cindy Rivas Alfaro**

*Mentored by Gabriela Baeza*  
*Ventura*  
Hispanic Studies

**Haley Romine**

*Mentored by Chandra Mohan*  
Biomedical Engineering

**Larissa Schwindack**

*Mentored by Behrooz Ferdowsi*  
Civil and Environmental Engineering

**Sarah Semmel**

*Mentored by J. Leigh Leasure*  
Psychology

**Bismah Shaikh**

*Mentored by Yoonjung Park*  
Human Health and Performance

**Usosa Too-Chiobi**

*Mentored by Patrick Cirino*  
Chemical and Biomolecular  
Engineering

**Melody Tran**

*Mentored by Marc Hanke*  
Biology, Honors

**Nicole Trujillo**

*Mentored by Tanika*  
*Raychaudhuri*  
Political Science

**Sydney Tunches**

*Mentored by Monique Mills*  
Communication Sciences and  
Disorders

**Ramya Valipe**

*Mentored by Ioannia Konstantinidis*  
Computer Science

**Eshal Warsi**

*Mentored by Tanika Raychaudhuri*  
Political Science

**Bradley Cline**

*Mentored by Tian Chen*  
Mechanical Engineering

**Kaitlyn Wells**

*Mentored by Cynthia Yoon*  
Health and Human Performance

# PROVOST'S UNDERGRADUATE RESEARCH SCHOLARSHIP

## SPRING 2024 PURS RECIPIENTS

### **Nine Abad**

*Mentored by Rob Glass*  
Speech and Debate, Honors

### **Nabira Adnan**

*Mentored by Denise Reyes*  
Psychology

### **Iesu Agapito**

*Mentored by Vedhus Hoskere*  
Civil Engineering

### **Layla Albaba**

*Mentored by Tracey Ledoux*  
Health and Human Performance

### **Hebah Amjad**

*Mentored by Michelle Belco*  
Political Science, Honors

### **Gerardo Angulo**

*Mentored by Jennifer Clark*  
Political Science

### **Falak Asad**

*Mentored by Tony Frankino*  
Biology and Biochemistry

### **Joseph Boudreaux**

*Mentored by Julia Babcock*  
Psychology

### **Farah Break**

*Mentored by Chandra Mohan*  
Biomedical Engineering

### **Bobby Brown**

*Mentored by Mingjian Wen*  
Chemical and Biomolecular Engineering

### **Kierra Burkhardt**

*Mentored by William Truitt*  
Architecture

### **Eric Cabrera**

*Mentored by Vedhus Hoskere*  
Civil and Environmental Engineering

### **Sofia Cantu**

*Mentored by Chandra Mohan*  
Biomedical Engineering

### **Hy Cao**

*Mentored by Mehmet Sen*  
Biology and Biochemistry

### **Payton Chen**

*Mentored by Rebecca Zufall*  
Biology and Biochemistry

### **Sokountavary Chhay**

*Mentored by Hanako Yoshida*  
Psychology

### **Cheery Chukwukelu**

*Mentored by Jerrod Henderson*  
Chemical and Biomolecular  
Engineering

### **Allana Darrow**

*Mentored by Thomas Teets*  
Chemistry

### **Linh Dau**

*Mentored by Cumaraswamy  
Vipulanandan*  
Civil and Environmental Engineering

### **Christian Doxakis**

*Mentored by Adam Thrasher*  
Health and Human Performance

### **Ileana Dragoi**

*Mentored by Michael Zvolensky*  
Psychology

### **America Duarte**

*Mentored by Karolos Grigoriadis*  
Mechanical Engineering

### **Mikas Dunn**

*Mentored by Lars Grabow*  
Chemical and Biomolecular  
Engineering

### **Gabriel Espindola Kahn**

*Mentored by Jeffrey Rimer*  
Chemical and Biomolecular  
Engineering

### **Luiz Fernandez**

*Mentored by Tai-Yen Chen*  
Chemistry

### **Nathan Fuentes**

*Mentored by Emily LaVoy*  
Health and Human Performance

### **Sarah Gawlik**

*Mentored by Casey Dué Hackney*  
Modern and Classical Languages

### **Emily Graves**

*Mentored by Adam Stuckert*  
Biology and Biochemistry

### **Thomas Hannan**

*Mentored by Gangbing Song*  
Mechanical Engineering

### **Tisha Haukongo**

*Mentored by Abdul Khan*  
Biotechnology

### **Kaden Helmka**

*Mentored by Shailendra Joshi*  
Mechanical Engineering

### **Sydney Hetherington**

*Mentored by Dustin Maneethai*  
Global Hospitality Leadership

### **Dyma Hikmat**

*Mentored by William Ott*  
Mathematics

### **Noor Hmaidan**

*Mentored by Monique Mills*  
Communication Sciences and  
Disorders

### **Rachel Jones**

*Mentored by Kei-Mu Yi*  
Economics

### **Rahul Jose**

*Mentored by Craig Johnston*  
Health and Human Performance

### **Anisah Khan**

*Mentored by Auritro Majumder*  
English

### **Carter Klebuc**

*Mentored by Aaron Becker*  
Electrical and Computer Engineering

### **Lydia Krieger**

*Mentored by Sujata Sirsat*  
Global Hospitality Leadership

### **Brenda Le**

*Mentored by Richard Meisel*  
Biology and Biochemistry

### **Anabella Leon**

*Mentored by Liming Li*  
Physics



# PROVOST'S UNDERGRADUATE RESEARCH SCHOLARSHIP

## SPRING 2024 PURS RECIPIENTS (CONTINUED)

### Quang Lieu

Mentored by Amin Alipour  
Computer Science

### Larissa Liu

Mentored by Adam Thrasher  
Health and Human Performance

### Valeria Macedo

Mentored by Ferenc Bunta  
Communication Sciences and Disorders

### Nicholas Macias

Mentored by Seoung Hoon Park  
Health and Human Performance

### Jyothylakshmi Manoj

Mentored by Dan Price  
Data and Society, Honors

### Paria Mosaffa

Mentored by Wa Xian  
Biology and Biochemistry

### Sadia Munawar

Mentored by Hanako Yoshida  
Psychology

### Tri Nguyen

Mentored by Robert Comito  
Chemistry

### Emily Nguyen

Mentored by Heather Caslin  
Health and Human Performance

### Hasan Nooruddin

Mentored by Erin Kelleher  
Biology and Biochemistry

### Paul Novoa

Mentored by Matthew Franchek  
Mechanical Engineering

### Litzy Ocampos

Mentored by Kayce Solari Williams  
Psychological, Health, and Learning  
Sciences

### Amara Okoye

Mentored by Richard Meisel  
Biology and Biochemistry

### Charles Ortiz

Mentored by Tian Chen  
Mechanical Engineering

### Evelyn Peralta

Mentored by Elizabeth Coen  
Theatre and Dance

### Paola Perdomo

Mentored by Marzia Cescon  
Mechanical Engineering

### Alexa Perez

Mentored by Daniel Engster  
Public Affairs

### Giovani Rivera

Mentored by Konrad Krakowiak  
Civil and Environmental Engineering

### Adolfo Salazar

Mentored by Yuheng Lin  
Biotechnology

### John Salcedo

Mentored by Gabriela Jaramillo  
Mathematics

### Shimonee Shah

Mentored by Steven Pennings  
Biology and Biochemistry

### Rosaleen Sweiti

Mentored by Cynthia Yoon  
Health and Human Performance

### Kelly Tang

Mentored by Melissa Markofski  
Health and Human Performance

### Xavier Thierry

Mentored by Minjung Shin  
Global Hospitality Leadership

### Anna Trabulsi

Mentored by Cynthia Yoon  
Health and Human Performance

### Tu Tran

Mentored by Elena Grigorenko  
Psychology

### Han Van

Mentored by Bin Guo  
Pharmacological and  
Pharmaceutical Sciences

### Nataly Vasquez

Mentored by Julio Cesar Lopez  
Otero  
Hispanic Studies

### Arisha Vishnani

Mentored by Arlene Macdonald  
Medicine and Society, Honors

### Elaine Vo

Mentored by Vivien Coulson-  
Thomas  
Optometry

### Vivian Vuong

Mentored by Vivien Coulson-  
Thomas  
Optometry

### Edie Wackwitz

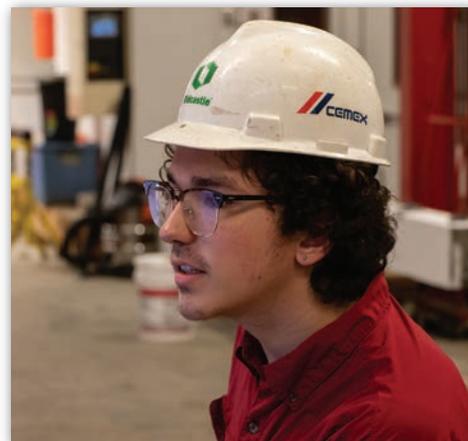
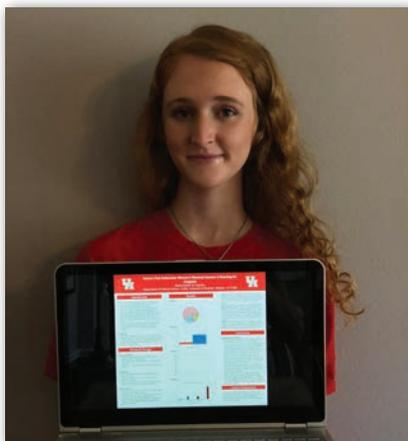
Mentored by Tony Liao  
Information Science Technology

### Robin Westveer

Mentored by William Ott  
Mathematics

### Noah Yi

Mentored by Sunny Yang  
English



# GEORGE “TREY” PHARIS FELLOWSHIP

Each summer, the Data & Society program offers the **George “Trey” Pharis Fellowship** as a full-time, paid research opportunity open to undergraduate students across all majors. Fellows work collaboratively, with support from faculty mentors, to conduct 10-week projects focused on the application of data science to health care and the social determinants of health, including education, criminal justice, and the environment.



Building on a model developed by the UH Community Health Worker Initiative, these projects are unified around a commitment to responsive engagement with community and show the many ways that new approaches to data science can avoid the pitfalls of top-down models for decision-making.

The Pharis Fellowship is supported by the Humana Integrated Health Systems Sciences Institute and Hewlett Packard Enterprise Data Science Institute through its Engaged Data Science program. The program is named for George S. Pharis III (Trey), a University of Houston alumnus (Philosophy '11), who served as an Honors College staff member until his passing in 2017. As a poet, musician, and writer with interests ranging from social justice to number theory, Trey exemplified the intellectual curiosity and open worldview we hope to inspire in our students.

## 2023 FELLOWS



### Salma Abbady

*Computer Science*  
A Spatial Analysis of Brownfields in Harris County



### Nawar Ahmed

*Psychology*  
Examining Skill Underutilization Among Immigrants and Foreign Workers in the Healthcare Sector



### Zeba Bhanji

*Human Nutrition and Foods*  
Complex Health Needs: Understanding Multimorbidity in People with Intellectual Disabilities



### Abigail Burns

*Health*  
Examining the Impact of Hazardous Waste Sites on Stroke Hospitalizations in Harris County



### Claire Gregory

*Economics*  
Examining Exclusionary Discipline Trends in Texas Schools



### Mariyah Kazim

*Health*  
Examining Variations in Medication Non-Adherence Among Older Individuals with Chronic Conditions



### Carlos Mendieta

*Health*  
Tracing the Roots of Environmental Racism in Houston's Fifth Ward



### Carolyn Ngo

*Biology*  
Creating a Flood-Induced Pollutant Spread Risk Index for Houston, Texas



### Johana Villanueva

*Management Information Systems*  
In the Eye of the Storm: Understanding Clinician Burnout through RN Work Experiences, Staffing, and Hospital Admissions



### Daniel Viray

*Computer Science, Mathematics*  
Analyzing the Impact of Car Dependency on Obesity Prevalence and Other Health Measures in the Houston Area

### NOT PICTURED

### Oreoluwa Adejuwon

*Public Health*  
Analyzing a Decade of Police Violence Patterns: A Comparative Study of Four U.S. Police Agencies

### Salik Faisal

*Mathematics*  
Resilience and Recovery: An Econometric Analysis of Hurricane Harvey's Influence on Harris County Property Values

# PCCSM SUMMER RESEARCH PROGRAM

The **Partnership for Careers in Cancer Science and Medicine** summer program with national cancer researchers is hosted annually by The University of Texas MD Anderson Cancer Center. Nominated for exemplifying compassion and an aptitude for research in the medical field, selected students collaborate and work alongside worldwide cancer experts for 10 weeks in the summer.

The Partnership for Careers in Cancer Science and Medicine teaches and encourages passionate medical leaders through hands-on research training, weekly seminars, and workshops. At the end of the program, the trainees present the results of their research as scientific posters, along with trainees from other summer programs, at the MD Anderson Summer Experience Final Event as well as participate in an Elevator Speech contest, a fun, practical way to practice succinctly introducing their field of study and research to others.

MD Anderson is one of the world's premier cancer centers focused on cancer patient care, research, education, and prevention. Students interested in learning about undergraduate research programs and opportunities for competitive fellowships should contact the Office of Undergraduate Research and Major Awards at [undergrad-research@uh.edu](mailto:undergrad-research@uh.edu).



## 2023 PCCSM RESEARCHERS



Briana Azad



Paul Daniel



Kala Pham



Noor Zughaibi

# FRAMEWORKS

**FrameWorks** is a year-long co-curricular program that provides curious, driven undergraduate students a supportive community of peers and faculty mentors as they conceive, research, write, present, and ultimately publish critical essays that draw on the interdisciplinary humanities. Each year, FrameWorks challenges students to broadly interpret an annual theme. Essays that meet editorial standards will be included in *FrameWorks: A Journal of Undergraduate Research in the Interdisciplinary Humanities*.

The best article published in each edition is awarded the FrameWorks Prize for Excellence in the Interdisciplinary Humanities. For Issue 4, Fall 2023 – The Constellation Edition, the prize was awarded to Kalena Holeman for her article, “Katabasis in the Black Diaspora: Dante’s Pilgrim in Ellison’s *Invisible Man* and Walcott’s *Omeros*. The Prize was adjudicated by the Dean of the Honors College, Dr. Heidi Appel and Dr. Sally Connolly, Associate Dean of Student and Faculty Success in the College of Liberal Arts and Social Sciences.



Kalena Holeman

## 2023-2024 FRAMEWORKS FELLOWS

In 2023-2024 the FrameWorks program challenged students to interpret the theme “Generation.” FrameWorks Fellows, who hail from a variety of majors, have adopted inventive and exciting humanities-based approaches to a diversity of research topics:



### Usman Azim

Major: Biology  
Topic: Art Therapy and Healing



### Maryam Mohy

Major: World Cultures and Literature – Middle Eastern Studies  
Topic: al-Dawla fil-Islam, Conservatism, and Mid-20th Century Egypt



### Annafaye Sternberg

Major: Political Science  
Topic: The United States’ 1939 Rejection of the MS St. Louis.



### Kadilo Buzugbe

Major: English Literature  
Topic: Post-Colonial Cringe in Buchi Emecheta’s *Second Class Citizen*



### Alice Nguyen

Major: Sociology  
Topic: *Saving Face* (2004) and the Queer Second-Generation Immigrant Experience



### Logan Tantibanchachai

Major: Philosophy  
Topic: Free Will and Creativity in Huxley’s *Brave New World*



### Iyad Chowdhury

Major: Economics  
Topic: Satyajit Ray’s *Devi*, Cinematic Nationalism, and the Politics of Silence



### Veronica Nwanna

Major: Journalism  
Topic: The Case for Reparations in Kashmere Gardens



### Jenny Truong

Major: English Literature  
Topic: Donna Tart’s *The Secret History* and Generational Wealth



### Ibrahim Islam

Major: World Cultures and Literature – Middle Eastern Studies  
Topic: Reclaiming Nusayba, the Female Warrior of the Prophet Muhammad ﷺ



### Amna Siddiqui

Major: English Literature  
Topic: Revolutionary Violence in *Crime and Punishment* and *The White Tiger*

# FRAMEWORKS

## FrameWorks 2024 Call for Applications

Deadline: June 15, 2024

"I'm so happy I went through this process before I went to grad school, because I don't have a lot of those doubts, like *Am I going to be good? Am I going to be ready?* I know I'm ready."

**Kat Newman (FrameWorks '20)**

### Do you want to be a FrameWorks Fellow? Applications for 2024-2025 are now open.

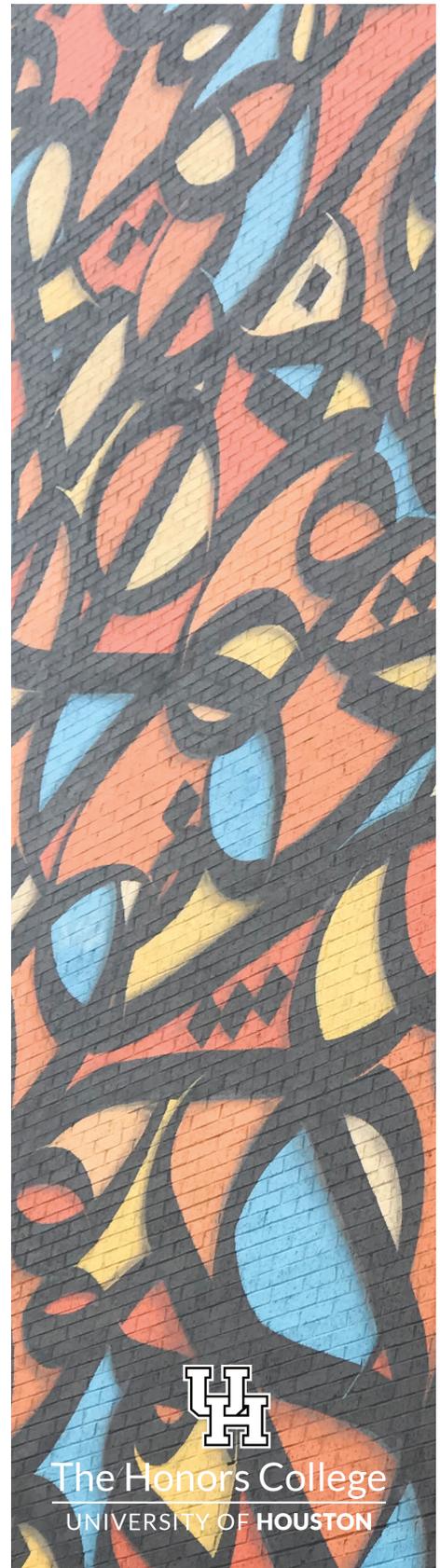
- Take part in a year-long mentorship and peer-support program – think and write about ideas that matter to you.
- FrameWorks guides you through the process of conceiving, researching, drafting, rewriting, refining, and presenting your article for possible publication in *FrameWorks: A Journal of Undergraduate Research in the Interdisciplinary Humanities*.
- Rising sophomores and juniors of all majors with a GPA of 3.5 or higher are invited to apply.

### 2024-2025 Theme: Our Houston

For more information, visit [uh.edu/frameworks](https://uh.edu/frameworks).



The FrameWorks Program is a collaboration of The Honors College, The College of Liberal Arts and Social Sciences, and The Office of Undergraduate Research and Major Awards



# MELLON RESEARCH SCHOLARS PROGRAM

The **Mellon Research Scholars Program** at the University of Houston supports a cohort of students who are highly motivated to conduct research and attend graduate school in the humanities. Funded by a grant from the Mellon Foundation, the program aims to train future scholars with the goal of building a diverse academy.

Mellon Research Scholars participate in an intensive two-week graduate school preparation program in May and a full-time, faculty-mentored summer research experience. The scholars also participate in faculty-led seminars and receive holistic mentorship throughout the year-long program. All students have the opportunity to develop research projects that appeal to their scholarly interests in their field of study. Each participant receives a total of \$5,000 for conducting their summer research project and participating in developmental academic and mentorship activities. Participants can also receive up to six points toward the Honors in Co-Curricular Engagement transcript designation. For more information, contact Dr. Rikki Bettinger at [rrbettinger@uh.edu](mailto:rrbettinger@uh.edu) or visit the webpage: [uh.edu/mellonscholars](http://uh.edu/mellonscholars).

A special thanks to the faculty and staff from over 15 departments and offices at the University of Houston who shared their guidance and expertise with the Mellon Scholars this year!

## 2023 MELLON RESEARCH SCHOLARS



**Nine Abad**  
Mentored by Guillermo De Los Reyes  
Hispanic Studies, Women's, Gender and Sexuality Studies



**Melanie Adhikary**  
Mentored by Amanda Ellis  
English



**Petra Anazonwu**  
Mentored by Caryn Tamber-Rosenau  
Modern and Classical Languages



**Lilly Chipman**  
Mentored by Sarah Ehlers  
English



**Megan Dagnall**  
Mentored by Debbie Harwell  
History



**Isaac DeBerry**  
Mentored by Daniel Davies  
English



**Katherine Galland**  
Mentored by Debbie Harwell  
History



**Michelle Garcia**  
Mentored by María González  
English

# MELLON RESEARCH SCHOLARS PROGRAM



**José Gutierrez**  
Mentored by James Schafer  
History



**Kalena Holeman**  
Mentored by Haylee Harrell  
English



**Kayla Huhn**  
Mentored by Lauren Zentz  
English



**Angela Jardina**  
Mentored by Iain Morrison  
Philosophy, Honors College



**Alicia Lartigue**  
Mentored by Alex Badas  
Political Science



**Christine Le**  
Mentored by Ivan Small  
Comparative Cultural Studies



**Genesis McGriggs**  
Mentored by Leslie Vollrath  
English, Honors College



**Maryam Mohy**  
Mentored by Hayan Charara  
English, Honors College



**Kelly Montano**  
Mentored by Marwa Ghazali  
Comparative Cultural Studies



**Elena Zelaya**  
Mentored by Audrey Miller  
Women's, Gender and Sexuality  
Studies

## NOT PICTURED

**Veronica Carleton**  
Mentored by Rex Koontz  
Art History

**Logan Tantibanchachai**  
Mentored by Luis Oliveira  
Philosophy



# ENERGY SCHOLARS PROGRAM

In 2023, the Office of Undergraduate Research and Major Awards launched the **Energy Scholars Program**. This initiative provides undergraduate students the opportunity to work on a year-long, energy-related research project under the direction of a UH faculty mentor. Participants receive a \$6,000 scholarship to work on their project in the spring, summer, and fall. In the spring, students begin their faculty-mentored project part-time with an expectation of 6-7 hours per week. During the summer, students transition to a full-time research experience and participate in the SURF lecture series offered by OURMA. In the fall semester, research hours return to part-time with an expectation of 6-7 hours per week. Faculty mentors receive a \$1,000 stipend for their participation. The program is open to students of all disciplines interested in working on a research project related to energy.

For additional information about the Energy Scholars program, please contact Dr. Ben Rayder at [btrayder@uh.edu](mailto:btrayder@uh.edu) in the Office of Undergraduate Research and Major Awards.

The Office of Undergraduate Research and Major Awards is grateful to the following sponsors whose support makes the Energy Scholars program possible:

- The Baker Hughes Foundation
- BP
- Phillips 66
- Shell
- Vistra Energy



# ENERGY SCHOLARS PROGRAM

## 2023 ENERGY SCHOLARS



**Sadia Ashraf**  
Mentored by Yan Yao  
Electrical and Computer  
Engineering



**Bobby Brown**  
Mentored by Mingjian Wen  
Chemical and Biomolecular  
Engineering



**Rami El-Haibe**  
Mentored by Karolos Grigoriadis  
Mechanical Engineering



**Tico Hannan**  
Mentored by Gangbing Song  
Mechanical Engineering



**Tessnim Mohammed**  
Mentored by Ross Wienert  
Architecture



**Giao Nguyen**  
Mentored by Thomas Teets  
Chemistry



**Glynn Serda**  
Mentored by Michael Harold  
Chemical and Biomolecular  
Engineering



**Parsa Tari**  
Mentored by Haleh Ardebili  
Mechanical Engineering



**Damian Vasquez**  
Mentored by Harish  
Krishnamoorthy  
Electrical and Computer  
Engineering

**NOT PICTURED**

**Akehmbom Vesoh**  
Mentored by Piruz Saboury  
Economics

“Sustainable architecture was always something I was interested in. This gave me the opportunity to dive deep into that while also looking at the world of design and structure.”

**Tessnim Mohammed**

“I like having a support system in my field encouraging me and offering good advice.”

**Glynn Serda**

“Academically, students will learn about a globally important topic that’s also central to Houston’s identity. They will also forge professional pathways that can benefit them beyond their time at the University of Houston.”

**Dr. Ben Rayder, Executive Director, Office of Undergraduate Research and Major Awards**

# 2023 SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP

The 2023 **Summer Undergraduate Research Fellowship (SURF)** launched in June with 60 SURF recipients. Students participating in SURF come from a wide variety of disciplines, receive a \$4,000 scholarship, and commit to a full-time, 10-week research experience. Each week the students came together on Zoom for a virtual lecture series to learn about topics such as research ethics and responsibility, how to seek out and apply to competitive fellowships, and how to develop posters and present their work. Participants can also receive three points toward the Honors in Co-Curricular Engagement transcript designation. The Office of Undergraduate Research and Major Awards thanks our 2023 presenters for their participation in this year's lecture series.



## 2023 SURF BROWN BAG LECTURE SERIES

### WEEK 1

#### Research Ethics and Responsibility

Hanako Yoshida  
*Psychology*

Jeremy May  
*Chemistry*

### WEEK 2

#### Getting the Most Out of Your Mentorship & Alumni Panel

Monique Mills  
*Communication Sciences and Disorders*

Lauren Lyles  
Alfonso Reyes  
*OURMA Alumni*

### WEEK 3

#### Data Management

Emma Fontenot  
*UH Libraries*

### WEEK 4

#### Applying for Fellowships and Major Awards

Ben Rayder  
*Office of Undergraduate Research and Major Awards*

### WEEK 5

#### Building an Effective Resume and CV as a Researcher

Priyanka Raut  
*UH University Career Services*

### WEEK 6

#### Independence Day Holiday

### WEEK 7

#### Becoming an Inclusive Researcher

Carlier Pierre  
*Center for Diversity and Inclusion*

### WEEK 8

#### Wellness Session

Katie Dash  
*UH Wellness*

### WEEK 9

#### Developing a Poster Presentation

Rikki Bettinger  
*Office of Undergraduate Research and Major Awards*

Debbie Reyes

*Office of Undergraduate Research and Major Awards*

### WEEK 10

#### SURF Luncheon and Celebration

# 2023 SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP



**Rund Abu-Ashour**  
Mentored by William Ott  
Mathematics



**Connor Affeld**  
Mentored by Sergey Shekoplyas  
Biomedical Engineering



**Safwan Ahmad**  
Mentored by Hien Nguyen  
Electrical and Computer  
Engineering



**Andrew Almasi**  
Mentored by Vedhus Hoskere  
Civil and Environmental  
Engineering



**Jaafar AlShahristani**  
Mentored by Ryan Kennedy  
Political Science



**Afaf Asad**  
Mentored by Tony Liao  
Information Science Technology



**Jose Ayala**  
Mentored by Olafs Daugulis  
Chemistry



**Funmi Babajide**  
Mentored by Tasneem Bawa-  
Khalfe  
Biology and Biochemistry



**Zaina Boriek**  
Mentored by Jaye Derrick  
Psychology



**Alissa Boxleitner**  
Mentored by Haylee Harrell  
English



**Jayda Branch**  
Mentored by Julia Babcock  
Psychology



**An Bui**  
Mentored by Erin Kelleher  
Biology and Biochemistry



**Julio Cacho Bravo**  
Mentored by Jeremy May  
Chemistry



**Daisy Calderon**  
Mentored by Cynthia Yoon  
Health and Human Performance



**Hy Cao**  
Mentored by Mehmet Sen  
Biology and Biochemistry



**Albert Chen**  
Mentored by Xun Jiang  
Earth and Atmospheric Sciences



**Cynthia Cisneros**  
Mentored by Hanako Yoshida  
Psychology



**Ben del Toro**  
Mentored by Dustin Gish  
Political Science, Honors



**Ngoc Dong**  
Mentored by YingChun Zhang  
Biomedical Engineering



**Christian Doxakis**  
Mentored by Adam Thrasher  
Health and Human Performance



**Grace Dreifuerst**  
Mentored by Yu Liu  
Biology and Biochemistry



**Mikas Dunn**  
Mentored by Lars Grabow  
Chemical and Biomolecular  
Engineering



**Jessica Garcia**  
Mentored by Nicolás Kanellos  
Hispanic Studies



**Lukas George**  
Mentored by Eva Harth  
Chemistry



**Brayán Gutierrez**  
Mentored by Andreas Mang  
Mathematics



**Gabriela Hamdieh**  
Mentored by Sarah Munawar  
Public Policy



**Kaden Helmka**  
Mentored by Shailendra Joshi  
Mechanical Engineering



**Danielle Henry**  
Mentored by Mehmet Sen  
Biology and Biochemistry



**Sally Hoang**  
Mentored by Loi Do  
Chemistry



**Deziree Hudson**  
Mentored by Arne Lekven  
Biology and Biochemistry



**Danny Le**  
Mentored by Mehmet Sen  
Biology and Biochemistry



**Larissa Liu**  
Mentored by Adam Thrasher  
Health and Human Performance



**Nicholas Macias**  
Mentored by Seoung Hoon Park  
Health and Human Performance



**Candace Martinez**  
Mentored by Elena Grigorenko  
Psychology



**Alivia Mayfield**  
Mentored by José Angel  
Hernández  
History



**Abigail Mendoza**  
Mentored by Kerri Crawford  
Biology and Biochemistry



**Isha Merchant**  
Mentored by Bhavya Tiwari  
Modern and Classical Languages



**Doris Miranda**  
Mentored by Amber Thiessen  
Communication Sciences and  
Disorders



**Carolyn Nguyen**  
Mentored by William Ott  
Mathematics



**Theresa Nguyen**  
Mentored by Alexander Statsyuk  
Pharmacological and  
Pharmaceutical Sciences



**Tran Nguyen**  
Mentored by Qin Feng  
Biology and Biochemistry



**Veronica Nwanna**  
Mentored by Christine LeVeaux-  
Haley  
Political Science, Honors



**Ryan Pereira**  
Mentored by Chandra Mohan  
Biomedical Engineering



**Ashlyn Pro**  
Mentored by Marc Hanke  
Biology, Honors



**Sarah Rizvi**  
Mentored by Luis Medina  
Psychology



**Haley Romine**  
Mentored by Chandra Mohan  
Biomedical Engineering



**Hammad Shaikh**  
Mentored by Loi Do  
Chemistry



**Syna Sharma**  
Mentored by Jakoah Brgoch  
Chemistry and Chemical and  
Biomolecular Engineering



**Sydney Tunches**  
Mentored by Monique Mills  
Communication Sciences and  
Disorders



**Ramya Valipe**  
Mentored by Michelle Belco  
Political Science, Honors



**Han Van**  
Mentored by Bin Guo  
Pharmacological and  
Pharmaceutical Sciences



**David Vaughan**  
Mentored by Steven Craig  
Economics



**Angélica Vences**  
Mentored by Jesse Rainbow  
Religious Studies, Honors



**Elaine Vo**  
Mentored by Virginia Rangel  
Educational Leadership and Policy  
Studies

**NOT PICTURED**

**Helen McKay**  
Mentored by Rakesh Verma  
Computer Science

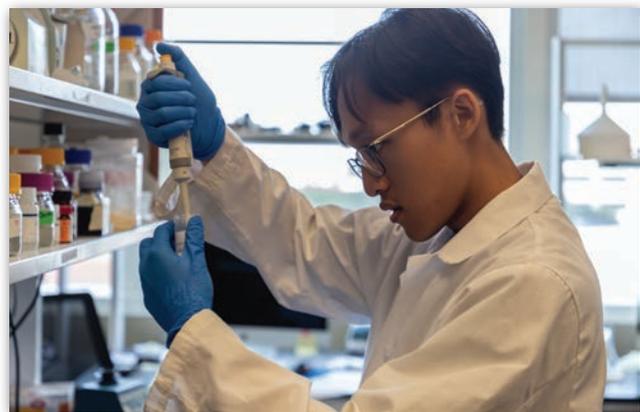
**Jaer Nizam**  
Mentored by Hien Nguyen  
Electrical and Computer Engineering

**Ogechi Obiobasi**  
Mentored by Craig Johnston  
Health and Human Performance

**Shan Pappa**  
Mentored by Vedhus Hoskere  
Civil Engineering

**Saron Regassa**  
Mentored by Sarah Munawar  
Public Policy

**Kelan Wu**  
Mentored by Hien Nguyen  
Electrical and Computer Engineering





**1984**  
FANTASTIC FIVE  
Civil Liberties  
Age Discrimination

**1985**  
LOUIE  
DON'T SHOOT

**1985**  
VOTING  
OVERTURN  
GAY RIGHTS  
REPEALANCE

**1986**  
MARCH  
PANTHER  
MURDER

**1986**  
OMEGA  
HOUSE  
LARRY HENDERSON

**1987**  
LOAF  
LESBIANS  
OVER AGE  
FIFTY

**HOUSTON**  
WE HAVE  
HISTORY  
THE BANNER PROJECT

**1975**  
GARY VA  
DOTEGHE

**HALLOWEEN**

**CRASH COURSE**

**FRIED FOR**  
COMING ON  
TO HARRIS CO  
COMMISSION  
COURT

# UNDERGRADUATE RESEARCH MENTOR AWARDS

The Office of the Provost in conjunction with the Office of Undergraduate Research and Major Awards offers Undergraduate Research Mentor Awards to honor the dedicated practice of undergraduate mentorship at the University of Houston. These awards recognize excellence in supporting undergraduate research and convey the campus' high regard for outstanding contributions made to the academic and research community. Award winners advise and work one-on-one with students on personalized, creative, enriching projects; they are committed to providing undergraduate research experiences above and beyond the classroom.

The Office of Undergraduate Research and Major Awards congratulates the 2023 Undergraduate Research Mentor Award recipients: **Christopher J. Arellano** and **Meghana Trivedi**.



## **CHRISTOPHER J. ARELLANO**

**Assistant Professor, Health and Human Performance**

**Current: Associate Professor in Orthopaedic Surgery, College of Medicine, University of Arizona**

Christopher J. Arellano is a National Science Foundation CAREER Award recipient for his work on understanding how muscles and tendons function during movement. During his time at UH, Dr. Arellano mentored ten undergraduate students who have been included in five peer-reviewed publications. Several of his mentees have received SURF and PURS awards, as well as national awards from NASA, the American Physiological Society, and the Lawrence Berkeley National Laboratory. Dr. Arellano's mentorship is guided by the principles of thinking like a scientist and learning by doing with the goal that his mentees will see science as a way to enrich not only our own lives but also the lives of people in our community. "I believe it is extremely valuable for my undergraduate students to join me along my journey as a scientist," writes Dr. Arellano.



## **MEGHANA TRIVEDI**

**Professor, Pharmacology/Pharmacy Practice and Translational Research**

Meghana Trivedi is a clinician scientist whose research has been funded by the National Institute of Health (NIH), Department of Defense (DOD), and Cancer Research and Prevention Institute of Texas (CPRIT). Through grants from NIH (Cancer Research Education Program (C-REP) of a P20 grant) and internal UH programs such as Cougar Initiative to Engage (Cougars in Cancer Research (CiCR)), Dr. Trivedi has led cancer research education programs on the campus to encourage undergraduate and graduate students to pursue cancer research. Alongside over 200 students she's mentored in these programs, Dr. Trivedi has mentored nine undergraduate students in her lab where she conducts breast cancer translational research. Nearly all of her lab mentees are currently pursuing or plan to pursue graduate or professional degrees, and most have been named co-authors on papers and presentations. Dr. Trivedi's mentoring philosophy relies on three key components: individualization, high standards, and empathy. "The focus on quality rather than quantity has allowed me to make a meaningful impact on the lives of undergraduate students," writes Dr. Trivedi.

# UNIVERSITY OF HOUSTON LIBRARIES

## Undergraduate Research at UH Libraries

UH Libraries supports student scholarship, preserving and making accessible rare, archival collections of distinction that align with the research priorities of the University.

One such collection, the **Moreno Family Houston Experience Collection**, gave Michelle Garcia new insights into her focus on the history of Chicana feminism and intersections within the 1970s Chicano and women's movements. Garcia is part of the 2023 Mellon Scholars cohort at UH. Mellon Scholars conduct research in the humanities, finding and evaluating primary sources, such as historical or contemporary documents, in their respective fields of inquiry, culminating in a paper or project presentation.

Contact [libteach@uh.edu](mailto:libteach@uh.edu) to:

- Frame your research approach
- Develop a search strategy
- Discover library resources

"While exploring the Moreno Family Houston Experience Collection, I was able to discover information about the *Conferencia de Mujeres Por la Raza* that is not available to view online. The documents highlighted the unanticipated reach [the conference] had for Chicana feminists across the nation. The library offers many papers and journals that can help you figure out possible research interests and methods. Find work that is important to you as it will become a driving force when conducting your research."

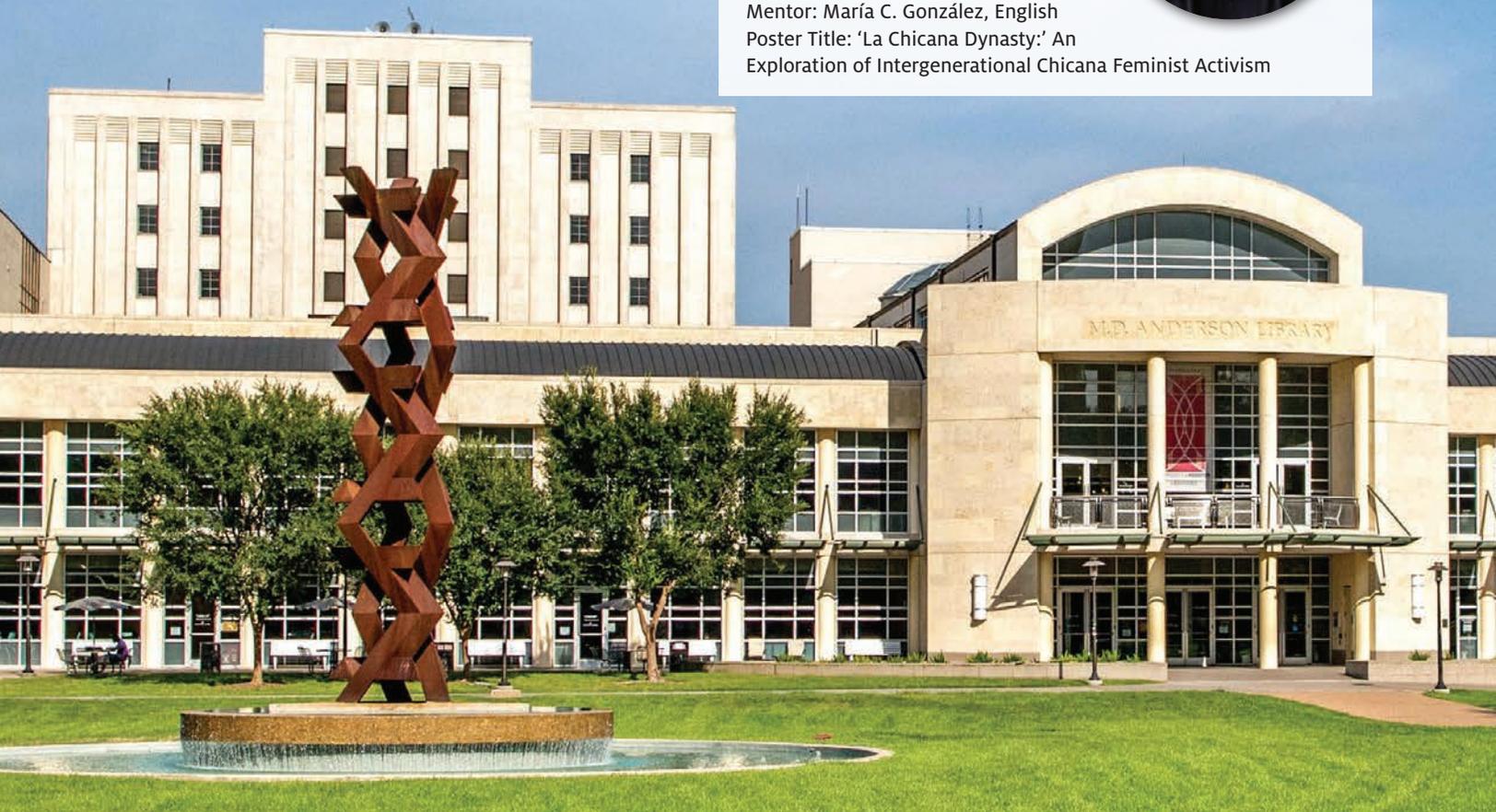


**MICHELLE GARCIA**

Mentor: María C. González, English

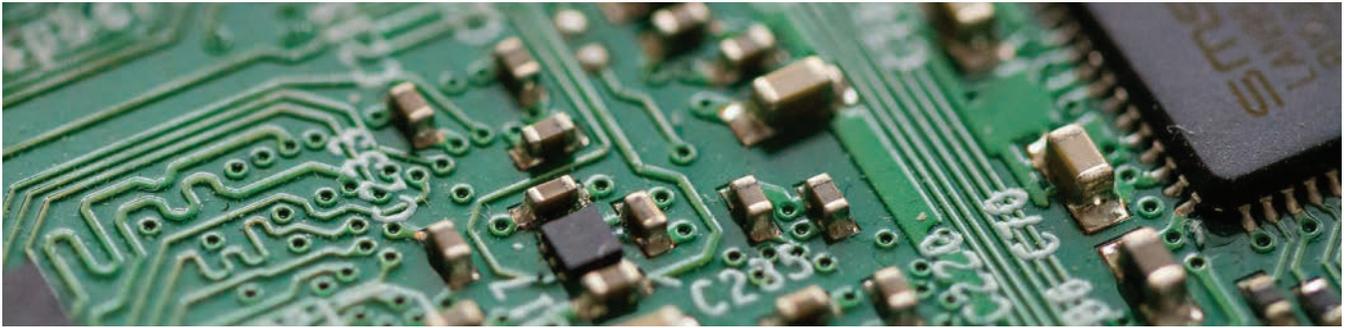
Poster Title: 'La Chicana Dynasty:' An

Exploration of Intergenerational Chicana Feminist Activism



Thank you to UH Libraries for supporting Undergraduate Research at the University of Houston.

# OURMA WEBINAR SERIES



## FALL 2023 SCHEDULE

**SEPTEMBER 15, 2023**

**Getting Started in Research**

Debbie Reyes

*Office of Undergraduate Research and Major Awards*

**SEPTEMBER 29, 2023**

**Applying to Life Sciences/STEM Ph.D. Programs**

Richard Miesel

*College of Natural Sciences and Mathematics*

**OCTOBER 6, 2023**

**Getting Started in Research**

Livia Garza

*Office of Undergraduate Research and Major Awards*

Debbie Reyes

*Office of Undergraduate Research and Major Awards*

**OCTOBER 27, 2023**

**Marketing Yourself as a Researcher**

Rikki Bettinger

*Office of Undergraduate Research and Major Awards*

Carolina Hernandez

*UH Libraries*

Andrea Malone

*UH Libraries*

Priyanka Raut

*University Career Services*

**NOVEMBER 13, 2023**

**Interviewing 101**

Anthony B. Cashman III

*College of the Holy Cross*

## SPRING 2024 SCHEDULE

**JANUARY 30, 2024**

**Getting Started in Research**

Livia Garza

*Office of Undergraduate Research and Major Awards*

Debbie Reyes

*Office of Undergraduate Research and Major Awards*

**FEBRUARY 16, 2024**

**Research Opportunities Abroad**

Debbie Reyes

*Office of Undergraduate Research and Major Awards*

Carlos Romero

*Office of Learning Abroad*

**FEBRUARY 23, 2024**

**Drafting a Research Proposal**

Laura Bland

*Honors College*

Nicolas Jacobsen

*Honors College*

**APRIL 19, 2024**

**Fellowships and Major Awards**

Ben Rayder

*Office of Undergraduate Research and Major Awards*

# SENIOR HONORS THESIS PROGRAM

The undergraduate **Senior Honors Thesis Program** at the University of Houston is a two-semester, six-credit-hour capstone research experience completed under the guidance of a faculty mentor. Students of all majors can participate, and membership in the Honors College is not required.

The Office of Undergraduate Research and Major Awards collaborates with the Honors College and the college of the student's major to oversee the thesis process and approval. Students who successfully complete the Senior Honors Thesis program graduate with an Honors designation noted on the official transcript. Students also receive three points toward the **Honors in Co-Curricular Engagement transcript designation**. Students should speak with their academic advisor to determine if and how the thesis course hours might count toward their degree plan.

## 2022-2023 OUTSTANDING SENIOR HONORS THESIS AWARD RECIPIENTS

Congratulations to the following students for their outstanding work in the Senior Honors Thesis Program:

### **Ashlita Acuña-Mena**

Liberal Studies  
Constraints, Resourcefulness, and Resilience in the Immigrant Latinx Community: Alternative Health Promotion Strategies for Type 2 Diabetes Self-Management  
*Directed by Zelma Oyarvide Tuthill*

### **Triciajane Asuncion**

Architecture  
About Time: Redressing the Runway  
*Directed by Sheryl Tucker de Vazquez*

### **Tatiana Haddad**

Anthropology  
"We Have to Survive": An Ethnographic Field Study of Tourism and the Bedouins in Wadi Rum, Jordan  
*Directed by Susan Rasmussen*

### **Andrew Medina**

Architecture  
Blurring the Borderlands  
*Directed by Dalia Munenzon Titelboim*

### **Alfonso Reyes**

English, Creative Writing  
A Partial Sarcology: Short Stories on Identity  
*Directed by Margot Backus*

### **Ritu Sampige**

Honors Biomedical Sciences  
Exploring the Relationship Between Parent Mental Health and Parental Perceptions of Infant Vulnerability  
*Directed by Leslie Frankel*

### **Veera Venkata Ramprajwal Vempatti**

Chemical and Biomolecular Engineering  
Rate Enhancement Effects of Methane Steam Reforming Over Dynamic Ruthenium Catalysts  
*Directed by Lars Grabow*



Dr. Stuart Long and Provost Diane Chase with Outstanding Thesis Award recipients Tatiana Haddad and Ritu Sampige



Senior Honors Thesis students at the Honors College Medallion Ceremony, May 2023



# Artificial Gecko Skin

Harnessing the Power of Van Der Waal's Force in Shear Systems  
David Engineering

UNIVERSITY OF

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### Introduction

The idea of creating the ability to grip and hold onto surfaces is a common theme in nature. One of the most well-known examples is the gecko's foot, which can adhere to almost any surface. This is due to the Van Der Waal's force, a weak intermolecular force that is responsible for the gecko's ability to hold onto surfaces. This project aims to create an artificial gecko skin that can be used in shear systems.

### Artificial Gecko Skin

Artificial gecko skin is a material that can adhere to surfaces. It is made of a polymer that has a rough, porous surface. This surface allows the material to grip and hold onto surfaces. The material is made of a polymer that has a rough, porous surface. This surface allows the material to grip and hold onto surfaces.



### Scams behind G

- The gecko's foot is made of a porous material that allows it to grip and hold onto surfaces.
- This material is made of a polymer that has a rough, porous surface.
- The gecko's foot is made of a porous material that allows it to grip and hold onto surfaces.





# 2024 UNDERGRADUATE RESEARCH DAY PRESENTERS

# 2024 UNDERGRADUATE RESEARCH DAY PRESENTERS

Undergraduate Research Day celebrates the achievements of all University of Houston undergraduates pursuing faculty-mentored research. Congratulations to the following students.

## INDIVIDUAL PRESENTATIONS

### Nine Abad

Mentored by Guillermo De Los Reyes  
Hispanic Studies; Women's, Gender and Sexuality Studies

She is a Creature of the Night: Babaylans and Manananggals as Colonial Monstrosities of Queerness and Femininity and Diasporic Interpretations

### Salma Abbady

Mentored by Andrew Kapral  
Engaged Data Science, Honors

A Spatial Analysis of Brownfields in Harris County

### Rund Abu-Ashour

Mentored by William Ott  
Mathematics

The Effects of Meal Patterns on Delay-Induced Uncertainty in The Glucose-Insulin System

### Oreoluwa Adejuwon

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Analyzing a Decade of Police Violence Patterns: A Comparative Study of Four U.S. Police Agencies

### Melanie Adhikary

Mentored by Amanda Ellis  
English

Exercising Agency in the Domestic Sphere: Imagining Womanhood and Sacrifice

### Nabira Adnan

Mentored by Denise Reyes  
Psychology

Personality's Influence: Predicting Responses to Professional Rejection

### Connor Affeld

Mentored by Sergey Shevkopyas  
Biomedical Engineering

Separating Red Blood Cells (RBC) Based on Morphology

### Iesu Agapito

Mentored by Vedhus Hoskere  
Civil and Environmental Engineering

3D LiDAR Simultaneous Localization and Mapping (SLAM) for Autonomous Navigation

### Safwan Ahmad

Mentored by Hien Nguyen and Akash Awasthi  
Electrical and Computer Engineering

AI-Driven Co-Diagnosis: Optimizing Medical Decision-Making Through Eye Gaze Tracking

### Nawar Ahmed

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Skill Underutilization Among Incoming US Immigrants and Foreign Workers in the Healthcare Sector

### Iris Alkatheri

Mentored by Elizabeth Rodwell and Peggy Lindner  
Information Science Technology

UX Testing with College Students

### Andrew Almasi

Mentored by Vedhus Hoskere  
Civil and Environmental Engineering

Enabling Semantic Annotations Within Photogrammetry

### Zied Almasri

Mentored by Yaping Wang  
Industrial Engineering

Optimizing Houston Car Stereo: A Systemic Approach to Enhancing Efficiency and Customer Satisfaction

### Jaafar AlShahristani

Mentored by Ryan Kennedy  
Political Science

Does Online Deliberation Improve Discussion

### Hebah Amjad

Mentored by Michelle Belco  
Political Science, Honors

The Impact of Dehydration During Houston Summers & Analysis of Public Policy on Dehydration Surge

### Petra Anazonwu

Mentored by Caryn Tamber-Rosenau  
Modern and Classical Languages

Black-Monsters, Christian Nationalism, & The Old Testament

### Theo Andre

Mentored by J. Leigh Leasure  
Psychology

Exercise and Binge Alcohol Exposure: Effects on the Rat Hippocampal Transcriptome

# 2024 UNDERGRADUATE RESEARCH DAY PRESENTERS

## **Afaf Asad**

Mentored by Tony Liao  
Information Science Technology  
Caring for Virtual Reality Pets and Stress/Anxiety

## **Sadia Ashraf**

Mentored by Yan Yao and Alae Eddine Lakraychi  
Electrical and Computer Engineering; TX Ctr  
Superconductivity  
Elaboration of Organic Cathode Materials for Lithium Batteries

## **Sophia Asif**

Mentored by Hanako Yoshida  
Psychology  
Influence of Caregiver Status on Joint Attention Between Children and Parents

## **Jose Ayala**

Mentored by Olafs Daugulis  
Chemistry  
New Organometallic Sandwich Complexes

## **Briana Azad**

Mentored by Lorraine Reitzel  
Health Disparities, MD Anderson Cancer Center  
Evaluating the Effects of a Tobacco-Free Workplace Program on Provider Beliefs about Guest/Client Tobacco Use and Self-Efficacy to Intervene at Texas Homeless-Serving Agencies during COVID-19

## **Funmi Babajide**

Mentored by Tasneem Bawa-Khalife  
Biology and Biochemistry  
Impact of SUMO-PTM on Breast Cancer Development

## **Ryan Banda**

Mentored by Vince Lee  
Special Collections, UH Libraries  
Marvin's Angels and Their Impact on Houstonian Culture

## **Sarah Belew**

Mentored by Olivia Atherton  
Psychology  
University Student Support, Engagement, and Well-being

## **Julia Bennett**

Mentored by Hanako Yoshida and Lichao Sun  
Psychology  
Influence of Infant Motor Ability on Parent-Child Joint Attention

## **Zeba Bhanji**

Mentored by Andrew Kapral  
Engaged Data Science, Honors  
Complex Health Needs: Understanding Multimorbidity in People with Intellectual Disability (ID)

## **Zaina Boriek**

Mentored by Jaye Derrick  
Psychology  
Investigating the Impact of Loneliness on Initial Motivations for Weight Loss and Health Behavior Intentions

## **Joseph Boudreaux**

Mentored by Julia Babcock  
Psychology  
Lifting Emotions: A Moderation Analysis of Depression, Relationship Satisfaction, and Partner Dyadic Coping

## **Alissa Boxleitner**

Mentored by Haylee Harrell  
English  
Fragments: Rethinking Violence and the Represented Body

## **Jayda Branch**

Mentored by Julia Babcock  
Psychology  
The Role of Anxious Adult Attachment Style Between the Relationship of Emotional Jealousy and Psychological Intimate Partner Violence (IPV)

## **Farah Break**

Mentored by Chandra Mohan  
Biomedical Engineering  
Effect of New Mushroom Treatment on Human MCF7 Breast Cancer Cells

## **Robert Brown**

Mentored by Mingjain Wen  
Chemical and Biomolecular Engineering  
Investigating the Thermodynamic Stability of Zeolite Polymorphs and the Rules That Determine the Aluminum Distributions and Settings

## **Brandon Burlison**

Mentored by Jeff Feng  
Industrial Design  
Project Lewis

## **Abigail Burns**

Mentored by Andrew Kapral and Daniel Price  
Data and Society, Honors  
Examining the Impact of Hazardous Waste Sites on Stroke Hospitalizations in Harris County

**Eric Cabrera**

Mentored by Vedhus Hoskere and Joshua Genova  
Civil and Environmental Engineering

Automated Structural Restoration using 3D Printing Technology

**Julio Cacho Bravo**

Mentored by Jeremy May  
Chemistry

Work Towards The Total Synthesis of Indolyl Glycol Natural Products Mucronatins A & B

**Daisy Calderon**

Mentored by Cynthia Yoon  
Health and Human Performance

Associations of COVID-19 Stress and Distress with Emotional Eating Among College Students: Findings from Research on Eating, Activity, and Community Health (REACH) Study

**Alexander Cervantes**

Mentored by Chengzhi Cai  
Chemistry

Effects of Protein and Amino Acids in Human Urine and Artificial Urine on E. coli Growth

**Samuel Charbula**

Mentored by Jeff Feng  
Industrial Design

Adaptable Device to Assist Children with Hand Spasticity

**Albert Chen**

Mentored by Xun Jiang  
Earth and Atmospheric Sciences

Relationship between COVID-19 and the Environment

**Sokountavary Chhay**

Mentored by Hanako Yoshida  
Psychology

Characterizing Infants' Gaze Position in Respect to Their Object Fixation During Parental Interactive Play Using Eye Tracking

**Lilly Chipman**

Mentored by Sarah Ehlers  
English

A Poetic History of the 1918 Flu Pandemic through U.S. Newspaper Verse

**Elizabeth Chirko**

Mentored by Julia Babcock  
Psychology

Pointing Fingers: Examining the Impact of Anxious Attachment on Negative Relationship Attributions and Psychological Aggression in Intimate Relationships

**Cynthia Cisneros**

Mentored by Hanako Yoshida and Lichao Sun  
Psychology

Sustained Attention and EEG Oscillation accompanied by Parent Object Labeling in Bilingual and Monolingual Infants

**Kaytee Compton**

Mentored by Melody Li  
Chinese Studies

Classical Chinese Dance and Russian Ballet: A Fine Arts Alliance

**Jordan Cruz**

Mentored by Ann Cheek  
Biology and Biochemistry

Domestic Cat vs Wildlife

**Megan Dagnall**

Mentored by Debbie Harwell  
History

The History of Diversity at the University of Houston: 1961 - Present

**Patrick Dang**

Mentored by Lola E. Adepoju  
Health Systems and Population Health Sciences

Long ways to go: Attitudes, knowledge, and perception of AI in healthcare, in a racially diverse, lower-income population in Houston, New York and Los Angeles

**Paul Daniel**

Mentored by Wa Xian and Frank McKeon  
Biology and Biochemistry

Cloning and Targeting Cancer Stem Cells in Malignant Pleural Effusion

**Paul Daniel**

Mentored by Katy Rezvani  
Stem Cell Transplantation and Cellular Therapy, MD Anderson Cancer Center

Understanding Virally Induced NK Cell Memory: HLAs as a Potential Mechanism

**Grayson Darwin**

Mentored by Zelma Oyarvide Tuthill  
Sociology

University of Houston LGBTQ+ Population and Their Experiences

**Linh Dau**

Mentored by Cumaraswamy Vipulanandan  
Civil and Environmental Engineering

Evaluating Seawater in the Cement Mixture using Vipulanandan Curing Model

**Isaac DeBerry**

Mentored by Daniel Davies  
English

The Complicated War Hero as a Trans Allegory: How The Sun Also Rises and Regeneration Establish Transmasculine Validity

**Ben del Toro**

Mentored by Dustin Gish  
Political Science, Honors

The State of Nature and Natural Rights: Analyzing the Characteristics of Human Beings

**Alexandra Deras Diaz**

Mentored by Vidya Gopalakrishnan  
Pediatrics, MD Anderson Cancer Center

Transcriptional repressor REST controls autophagy in Sonic Hedgehog medulloblastoma

**Maria Grazia Di Fabio**

Mentored by Daphne Hernandez  
Health and Human Performance

Nutrition Assessment Training for Future Dietitians: Programmatic Results from HOUSTON Academy 2.0's Cohort 1 and 2

**Maria Grazia Di Fabio**

Mentored by Cynthia Yoon  
Health and Human Performance

Sex Differences in Associations of Childhood Emotional Neglect with Food Intake Among College Students

**Linh Dinh**

Mentored by Jeremy Miciak  
Psychology

Perceived Language Proficiency, Reading Performances, and Language Use Behaviors of Middle School Newcomers in Texas

**Ngoc Dong**

Mentored by Yingchun Zhang  
Biomedical Engineering

High-density Surface Electromyography to Advance Botox Injection For Facial Synkinesis

**Grace Dreifuerst**

Mentored by Yu Liu  
Biology and Biochemistry

H19X miRNA-322/503 Transgenic Mouse Lipid Analysis

**Mikas Dunn**

Mentored by Lars Grabow  
Chemical and Biomolecular Engineering

A Kinetic Monte Carlo Study of CO Oxidation on Cu and Pd Surfaces

**Rami El-Haibe**

Mentored by Karolos Grigoriadis  
Mechanical Engineering

Electro Magnetometry: Inspecting Pipelines Safely

**Salik Faisal**

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Resilience and Recovery: An Econometric Analysis of Hurricane Harvey's Influence on Harris County Property Values

**Katherine Galland**

Mentored by Debbie Harwell  
History

From the Ashes: Examining the Arson that Impacted Houston Gay Bars in the 1970s

**Karen Garcia**

Mentored by Rosenda Murillo  
Psychological, Health, and Learning Sciences

Marital Status is Not Associated with Leisure-time Physical Activity in Latino Men

**Michelle Garcia**

Mentored by Maria Gonzalez  
English

'La Chicana Dynasty': An Exploration of Intergenerational Chicana Feminist Activism

**Jessica García**

Mentored by Nicolás Kanellos  
Hispanic Studies

Expanding Accessibility to Hispanic American Theatre

**Jonathan Gaucin**

Mentored by Vedhus Hoskere  
Civil and Environmental Engineering

Pulsed Infrared Thermography for Detecting Corrosion

**Lukas George**

Mentored by Eva Harth  
Chemistry

Synthesizing Polymers for Application in Energy Storage with MILRad Polymerization and Nickel Catalysts

**Valeria González**

Mentored by Gabriela Baeza Ventura and Lorena Gauthereau  
Arte Público Press

Documenting Latina/o Life and Death: The Case of the Morales Funeral Home

**Caleb Goodson**

Mentored by Richard Willson and Katerina Kourentzi  
Chemical and Biomolecular Engineering

Optimizing Glowstick Chemistry for Rapid Detection of Bio-Threats

**Hedda Grelz**

Mentored by Tian Chen  
Mechanical Engineering

Intelligent Matter That Senses, Calculates, and Reacts

**Paola Guevara**

Mentored by Mehmet Sen  
Biology and Biochemistry

Expression and Purification of Glycoprotein Iba for Structural Biology Applications

**Brayan Gutierrez**

Mentored by Andreas Mang  
Mathematics

Stochastic Newton-MCMC for Bayesian Inference

**Jose Gutierrez**

Mentored by James Schafer  
History

Latin American Perspectives on Cuban Medical Diplomacy

**Isabella Guzman**

Mentored by Anny Castilla-Earls and Ioulia Kovelman  
Communication Sciences and Disorders; Psychology,  
University of Michigan

Brain-behavior Support for the Role of Morphology in Child Word Reading

**Gabriela Hamdieh**

Mentored by Sarah Munawar  
Public Policy

Building Latinx Community Support Frameworks

**Tico Hannan**

Mentored by Gangbing Song and Yan Yao  
Mechanical Engineering

State of Charge Estimation of Cylindrical Lithium-Ion Cells Based on Multiple Random Convolutional Kernel Transform and Low-Frequency Stress Wave

**Kaden Helmka**

Mentored by Shailendra Joshi  
Mechanical Engineering

Enhancing Insight and Efficiency in the Analysis of Soft Granular Packing via Uncertainty Quantification

**Danielle Henry**

Mentored by Mehmet Sen  
Biology and Biochemistry

Bacterial Toxin to Therapy? Purification of Aggregatibacter Leukotoxin (LtxA)

**Noor Hmaidan**

Mentored by Monique Mills  
Communication Sciences and Disorders

Verbal Facility in the Spoken Narratives of School-Age African American Children

**Sally Hoang**

Mentored by Loi Do  
Chemistry

Evaluating the Steric Effects of Half-Sandwich Iridium Picolinamidate Complexes in Transfer Hydrogenation

**Kalena Holeman**

Mentored by Haylee Harrell  
English

Notes on the Journey Motif and its Dantean Resonances in Twentieth Century Black Women's Literature

**Deziree Hudson**

Mentored by Arne Lekven  
Biology and Biochemistry

Mapping the Fates of Wnt-responsive Neural Progenitors in the Zebrafish Brain

**Kayla Huhn**

Mentored by Lauren Zentz  
English

Exploring the "Gifted Kid Burnout" Phenomenon

**Fayha Iqbal**

Mentored by Irene Guenther  
History, Honors

Triumph and Tragedy in the Bayou City's Civil Rights Era: The Life and Legacy of Lynn Eusan

**Niyoosha Izadbakhsh**

Mentored by Martin Nunez and Romina Dimarco  
Biology and Biochemistry

How "Global" are Global Research Articles?

**Majoy Jackson**

Mentored by Clayton Neighbors  
Psychology

Campus Belongingness Associated With More Alcohol Use: The Role Of Social Media Exposure To Alcohol-Related Posts

**Angela Jardina**

Mentored by Iain Morrison  
Philosophy, Honors

Jhumpa Lahiri's "The Interpreter of Maladies" as a Work of Existentialist Fiction

**Funmilola Jesse**

Mentored by Alexandra Landon and Terry Hallmark  
Engineering, Honors; Political Science, Honors

Revolutionizing the Road: Analyzing President Biden's Ambitious EV Goal and Crafting Solutions to Possible Setbacks for a Sustainable Automobile Transition by 2030

**Monica Jimenez**

Mentored by Melody Li and Guadalupe San Miguel  
Modern and Classical Languages

Mapping Chinese Immigration History in Houston

**Arman Karimaghaei**

Mentored by Jakoah Brgoch  
Chemistry and Chemical and Biomolecular Engineering

A New Approach to Thermally Robust Refractory Materials

**Aasiyah Kassam**

Mentored by Hanako Yoshida  
Psychology

Examining the Relationship Between Joint Attention and Word Recall in Preschool Children

**Mariyah Kazim**

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Examining Variations in Medication Non-Adherence Among Older Individuals with Chronic Conditions

**Mariyah Kazim**

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Systematic Exploration: Mental Health, Recidivism, and Data Challenges in Criminal Justice

**Anisah Khan**

Mentored by Auritro Majumder and David Mazella  
English

The Great Indian Divide of 1947: Told by Two Generations

**Carter Klebuc**

Mentored by Aaron Becker  
Electrical and Computer Engineering

Robotic Manipulation of an Ultrasound Probe to Achieve 3D Navigation of a Magnetic Swimmer Robot

**Gabrielle Kostecki**

Mentored by Colin Haile and Therese Kosten  
Psychology

Anti-Fentanyl Vaccine Prevents Drug-Induced Reinstatement of Drug-Seeking Behavior in an Animal Model of Relapse

**Alicia Lartigue**

Mentored by Alex Badas  
Political Science

Gender Representation, Public Opinion, and Legitimacy in Decisions dealing with Women's Policy in the Judiciary

**Brenda Le**

Mentored by Richard Meisel  
Biology and Biochemistry

Comparing Survival Between Sexes in House Flies

**Christine Le**

Mentored by Ivan Small  
Anthropology

Land of the Big PX: A Social History of South Vietnam's Black Market Economy

**Queenie Lu**

Mentored by Beau Alward  
Psychology

Burtoni Box: Economical, High-Throughput Behavioral Assay Rig Observes Rapid Hormone Effects in Larval *Astatotilapia burtoni*

**Ashley Lubben**

Mentored by Carla Sharp and Tess Gecha  
Psychology

Impact of Emotional Dysregulation on Parent's Reactions to Children's Negative Emotions

**Eric Luna**

Mentored by Jeffrey Rimer and Si Li  
Chemical and Biomolecular Engineering

Effects of pH and Modifiers on Urate Crystallization

**Nicholas Macias**

Mentored by Seoung Hoon Park  
Health and Human Performance

Mediolateral Perturbation Performed During Walking on Post-Stroke Participants

**Mahita Marri**

Mentored by Hanako Yoshida and Elizabeth Perkovich  
Psychology

Influence of Child Gender on Sustained Attention and Word Recall Performance of Typically Developing Pre-Schoolers

**Candace Martinez**

Mentored by Elena Grigorenko  
Psychology

Exploring the Influence of Colors and Different Conditions of Stress during a Virtual Reality Go/NoGo Task

**Alivia Mayfield**

Mentored by José Angel Hernández  
History

Alexander the Great: A Historiography of Power

**Genesis McGriggs**

Mentored by Lesli Vollrath  
English, Honors

Intimacy as Social Relation & Craft: Exploring the House of Usher

**Carlos Mendieta**

Mentored by Andrew Kapral and Daniel Price  
Data and Society, Honors

Tracing the Roots of Environmental Racism in Houston's Fifth Ward

**Abigail Mendoza**

Mentored by Kerri Crawford  
Biology and Biochemistry

Do Native & Nonnative Species Differ in their Relationship to AMF?

**Isha Merchant**

Mentored by Bhavya Tiwari  
World Cultures and Literatures

Swifties and the Ticketmaster Great War

**Kelsey Middleton**

Mentored by Gabriela Baeza Ventura  
Arte Público Press

An Ear To The Ground: Olga M. Rodriguez

**Doris Miranda**

Mentored by Amber Thiessen  
Communication Sciences and Disorders

Effectiveness of Key Wording and Visual Attention  
Allocation of People with Aphasia

**Tessnim Mohammed**

Mentored by Ross Wienert  
Architecture

Harmonizing History and Modernity

**Maryam Mohy**

Mentored by Hayan Charara  
English and Creative Writing, Honors

Contemporary Iraqi Art: In The Shadow of The Baghdadi  
Modern Art Group

**Maryam Mohy**

Mentored by Hosam Aboul-Ela  
English

Khalid Mohammed Khalid Between Secularism and  
Islamicism: The Evolution of the Islamic State within 20th  
Century Egypt

**Kelly Montano**

Mentored by Marwa Ghazali  
Comparative Cultural Studies

Latinx Community and Health

**Paria Mosaffa**

Mentored by Wa Xian and Frank Mckeon  
Biology and Biochemistry

Cloning and Vulnerability of Intrinsically Resistant Subset  
of Ovarian Cancer Stem Cells

**Jennifer Newitt**

Mentored by Maria Burns  
Information Science Technology

Solving Data Overload and Pertinent Challenges in Data  
Analytics

**Carolyn Ngo**

Mentored by Andrew Kapral and Eric Villegas  
Engaged Data Science, Honors; Environmental Protection  
Agency

Creating a Flood-Induced Pollutant Spread Risk Index for  
Houston, Texas

**Carolyn Nguyen**

Mentored by William Ott  
Mathematics

Evader Detection in Hyperbolic Sensor Networks

**Emily Nguyen**

Mentored by Elizabeth Rodwell and Peggy Lindner  
Information Science Technology

Studying Urban Relationships and Identity Over Ancient  
Syria: User Experience

**Giao Nguyen**

Mentored by Thomas Teets  
Chemistry

Preparation of Three-Coordinate Heteroleptic Cu(I)  
Complexes using  $\beta$ -Diketiminato and Phosphine Ligands

**Minh Khue Nguyen**

Mentored by Greg Morrison  
Physics

Visualizing the Locations of Regulatory Elements in the  
Human Genome

**Theresa Nguyen**

Mentored by Alexander Statsyuk  
Pharmacological and Pharmaceutical Sciences

Aryl Fluorides for Kinase Inhibition

**Tran Nguyen**

Mentored by Qin Feng and Jacky Wu  
Biology and Biochemistry

Identifying and Characterizing the Epitope of PSMA  
Monoclonal Antibody J591 for Prostate Cancer  
Immunotherapy

**Jaer Nizam**

Mentored by Hien Nguyen  
Electrical and Computer Engineering

Unlocking Insights: Harnessing Varjo Aero VR Headset  
Eye-Tracking for Data Collection and Medical Diagnoses

**Hasan Nooruddin**

Mentored by Erin Kelleher  
Biology and Biochemistry

Investigating Differential Expression Patterns of Bruno  
Isoforms in Fertile and Sterile *D. melanogaster* Strains

**Veronica Nwanna**

Mentored by Christine LeVeaux-Haley  
Political Science, Honors

Kashmere Gardens, Texas, and the Case for Reparations

**Nora Obasi**

Mentored by Julie Dunsmore  
Psychological, Health, and Learning Sciences

Exploring African American Family Legacy through  
Narratives about Grandparents

**Ogechi Obiobasi**

Mentored by Craig Johnston  
Health and Human Performance

Associations Between Subjective Stress Level and Eating  
Behaviors by Weight Status Among College Students:  
Findings From the Research on Eating, Activity and  
Community Health (REACH) Study

**Ellis Odu**

Mentored by Carl Allen  
 Pediatrics-Oncology, Baylor College of Medicine  
 Proteomic Assessment of Cerebrospinal Fluid Reveals  
 Potential Biomarker for Neurodegenerative Langerhans  
 Cell Histiocytosis

**Miracle Ofomaja**

Mentored by Michael Nikolaou  
 Chemical and Biomolecular Engineering  
 Revisiting the SIR Standard: Modeling the Spread of  
 COVID-19 in Texas Using  $\alpha$ -SIR Model

**Gabriella Ozuna**

Mentored by Daniel Cherdack  
 Physics  
 Data Visualisation for Neutrino Interaction Physics

**Shan Pappa**

Mentored by Vedhus Hoskere  
 Civil and Environmental Engineering  
 Autonomous Ground Vehicle and Control Systems for 3D  
 Printing Robot

**Lillian Pennington**

Mentored by Erin Kelleher and Llewellyn Green  
 Biology and Biochemistry  
 Cracking the Drosophila Eggshell: Identifying Genes  
 Essential for UVB Sensitivity

**Dimanthi Perera**

Mentored by Greg Morrison and José Onuchic  
 Physics; Physics and Astronomy, Rice University  
 Are Nuclear Bodies Responsible for Forming Chromatin  
 Subcompartments?

**Hannah Pham**

Mentored by Maria Walker  
 Optometry  
 Multi-Center Outcomes of Scleral Lens Wearers:  
 Demographics and Prescribing Patterns of Scleral Lens  
 Practitioners

**Hang Phan**

Mentored by Martin Nunez and Romina Dimarco  
 Biology and Biochemistry  
 Air Layering Pinus Taeda Suggest Possible Method for  
 Isolating Sterile Roots on Older Trees

**Malini Prasad**

Mentored by Irene Guenther  
 History, Honors  
 Fashion After World War II: a Look at Clothing and the  
 Resilience of German Women During Allied Occupation

**Ashlyn Pro**

Mentored by Marc Hanke  
 Biology, Honors  
 Tracking Estuarine Sedimentation through Novel Concrete  
 Oyster Units

**Patrick Redmond**

Mentored by Siavash Zamiran and Mahdi Safa  
 Civil and Environmental Engineering  
 Seismic Hazard Investigation of LNG Export Facilities in  
 the USA

**Saron Regassa**

Mentored by Sarah Munawar  
 Public Policy  
 Digital Images of Black Womanhood and A Girl's  
 Exploration of Her Online Reflection

**Giovani Rivera**

Mentored by Konrad Krakowiak and Sarah Hlaihel  
 Civil and Environmental Engineering  
 Streamlined Valorization of Coal Combustion Residue  
 via Supercritical CO<sub>2</sub>: Mineralization to Produce  
 Environmentally - Benign Construction Materials

**Sarah Rizvi**

Mentored by Luis Medina and Andrea Ochoa Lopez  
 Psychology  
 The Role of Polypharmacy on Cognitive Performance

**Haley Romine**

Mentored by Chandra Mohan  
 Biomedical Engineering  
 Mesenchymal Plasticity Correlates with Renal Pathology in  
 Lupus Nephritis as Revealed by Imaging Mass Cytometry

**Josiah Rooker**

Mentored by Siavash Zamiran  
 Civil and Environmental Engineering  
 Investigation of Soil-Pipe Interaction Under Longitudinal  
 Loading

**Judith Segovia**

Mentored by Arne Lekven  
 Biology and Biochemistry  
 Fluorescent Reporter Proteins Tracking SSR Regulated  
 Lineage Markers in *Nothobranchius furzeri*

**Sarah Semmel**

Mentored by J. Leigh Leasure  
 Psychology  
 Neuroprotective Effects of Exercise on Binge Alcohol-  
 Induced Brain Damage

**Glynn Serda**

Mentored by Michael Harold  
 Chemical and Biomolecular Engineering  
 Low Temperature Oxidative Dehydrogenation of Ethane

**Dena Shahri**

Mentored by Clayton Neighbors and Nicole Hall  
 Psychology  
 COVID-19 Stress Positively Associated With Obsessive-  
 Compulsive Disorder Severity in College Women: Results  
 From Two Models

**Hammad Shaikh**

Mentored by Loi Do  
Chemistry

Synthesis of Iridium Small Molecule Intracellular Metal Catalysts (SIMCats) for Reductive Amination of Aldehydes

**Syna Sharma**

Mentored by Jakoah Brgoch  
Chemistry and Chemical and Biomolecular Engineering  
Structural and Optical Properties of Ba<sub>2</sub>Sc<sub>2</sub>B<sub>4</sub>O<sub>11</sub>:Eu<sup>2+</sup>

**Amna Siddiqui**

Mentored by Auritro Majumder  
English

Diverging Parallels: Perceptions of Revolutionary Violence and Their Impact on Murder Novels

**Maya Singh**

Mentored by Omolola Adepoju  
College of Medicine

Bridging the Digital Divide in Healthcare: Access to Technology, Internet Usage, and Online Health Information-Seeking Behaviors (HISB) in a Racially Diverse, Lower-Income Population

**Ali-Rayhaan Soonasra**

Mentored by Kirill Larin  
Biomedical Engineering

Analyzing Vascular Changes in Systemic Sclerosis Utilizing Optical Coherence Tomography Angiography

**Rosaleen Sweiti**

Mentored by Cynthia Yoon  
Health and Human Performance

Associations of Changes in Perceptions of Wellbeing during COVID-19 with Disordered Eating Behaviors and Intuitive Eating Among College Students: Findings from Research on Eating, Activity, and Community Health Study

**Logan Tantibanchachai**

Mentored by Luis Oliveria  
Philosophy

Free Will in Rhetoric and Oration

**Parsa Tari**

Mentored by Haleh Ardebili  
Mechanical Engineering

Characterization of FEC Solid Polymer Electrolyte

**Ronald Thomas**

Mentored by Rosenda Murillo  
Psychological, Health, and Learning Sciences

Gender Disparities in the Association between Food Insecurity and Psychological Distress in Latino Adults

**Anna Maria Trabulsi**

Mentored by Cynthia Yoon  
Health and Human Performance

Associations of Cyberbullied Male and Female College Students with Disordered Eating Behaviors

**Dylan Tran**

Mentored by Daphne Hernandez  
Health and Human Performance

Prevalence and Economic Hardship as Outcomes of Medical Debt among Food Pantry Clients in Atlanta and Houston

**Melody Tran**

Mentored by Marc Hanke  
Biology, Honors

Volunteer Water Quality Data of Galveston Bay is Comparable to Professional Data

**Sydney Tunches**

Mentored by Monique Mills  
Communication Sciences and Disorders

Language Processing in Parents and Children

**Carter Ung**

Mentored by Shishir Shah  
Computer Science

Assessing Pose Variation in Facial Recognition Algorithms

**Wasay Usmani**

Mentored by Maria Burns  
Information Science Technology

AI Applications in the Film Industry: Groundbreaking Legal and Utility Avenues

**Ramya Valipe**

Mentored by Michelle Belco  
Political Science, Honors

The Federal Government and Social Media Liability

**Ramya Valipe**

Mentored by Ioannis Konstantinidis  
Computer Science

Trump and the 2020 Election Tweet Sentiments and Virality

**Han Van**

Mentored by Bin Guo and Sundus Amina  
Pharmacological and Pharmaceutical Sciences

Interleukin-15 Receptor Antagonist Suppresses Sepsis in Lipopolysaccharide Induced Sepsis Mouse Model

**Damian Vasquez**

Mentored by Harish Krishnamoorthy  
Electrical and Computer Engineering

Optimal Locations for Solar PV Panels on the Lunar Surface

**David Vaughan**

Mentored by Steven Craig  
Economics

Impediments to Adoption of AI-enabled Diagnostics in Medical Imaging

**Daniel Viray**

Mentored by Andrew Kapral  
Engaged Data Science, Honors

Analyzing the Impact of Car Dependency on Health Measures in the Houston Area

**Arisha Vishnani**

Mentored by Arlene Macdonald  
Medicine and Society, Honors

Analyzing the Efficacy and Overall Impact of Pharmacological Treatments of Attention-Deficit Hyperactivity Disorder Within the Pediatric Population

**Elaine Vo**

Mentored by Virginia Rangel  
Educational Leadership and Policy Studies

Investigation on How Geoscience Fieldwork Motivations and Benefits Compare in Relative Frequency

**Tram Vo**

Mentored by Maria Burns  
Information Science Technology

Crisis Resilience & Management: A Case on Airbnb

**Linh Vuong**

Mentored by Vincent Tam  
Pharmacy Practice and Translational Research

Development of Preclinical Models of Vancomycin Nephrotoxicity

**Kaitlyn Wells**

Mentored by Cynthia Yoon and Craig Johnston  
Health and Human Performance

Associations Between College Student Living Situations and Eating Behaviors

**David Whaley**

Mentored by Mahdi Safa  
Civil and Environmental Engineering

Reduction of Carbon Emissions Generated by LNG Storage

**Cole Woody**

Mentored by Preethi Gunaratne  
Biology and Biochemistry

MHCole: A Pipeline for Accurate Prediction of Peptide-HLA Binding Affinities

**Sofia Young**

Mentored by Beau Alward and Andrew Hoadly  
Psychology; Biology and Biochemistry

CRISPR/Cas9 Gene Knockout of Somatostatin (sst1.1) in African cichlid *Astatotilapia burtoni*

**Ameer Zaman**

Mentored by Lorenzo Deveza  
Orthopedics, Baylor College of Medicine

In Vitro Cartilage Regeneration

**Anairany Zapata**

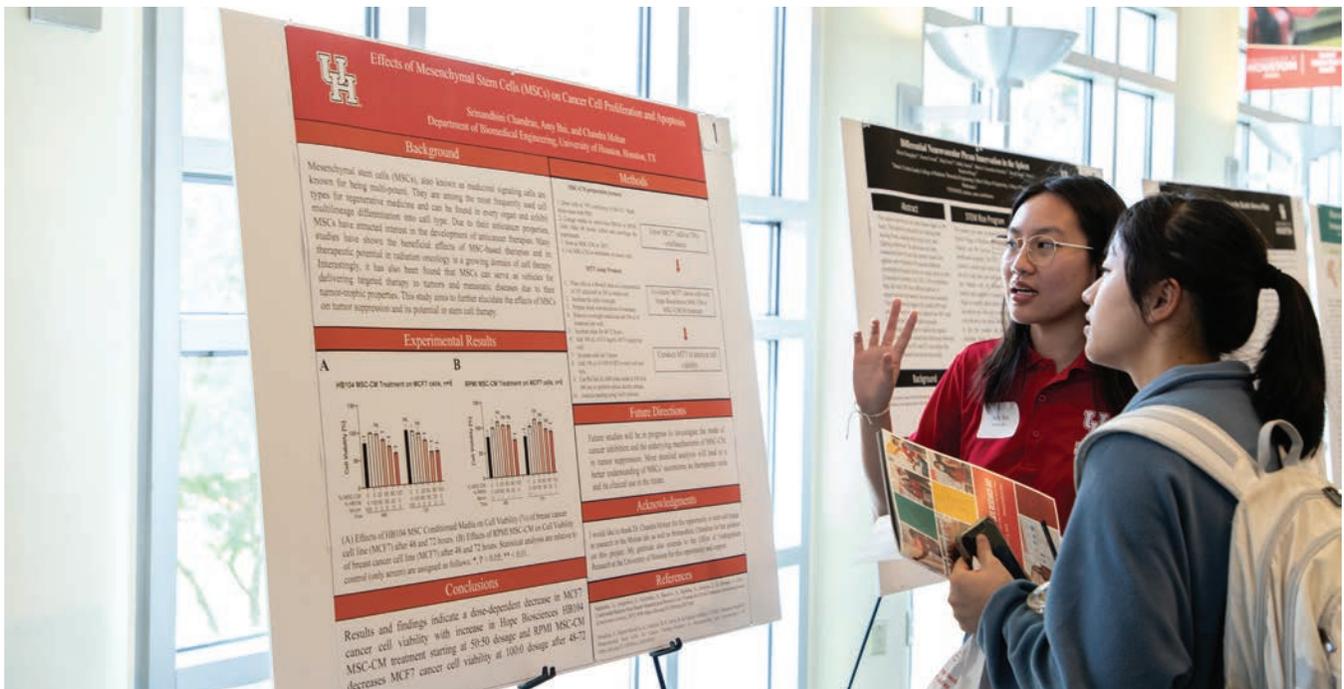
Mentored by Daphne Hernandez  
Health and Human Performance

Revisions to the Spanish-Language Food Security Survey Module: First Round of Cognitive Interviews

**Elena Zelaya**

Mentored by Audrey Miller  
Women's, Gender and Sexuality Studies

"No Soldier Left Behind": Gender Violence and Institutional Betrayal in the Case of Army Specialist Vanessa Guillén



## GROUP PRESENTATIONS

**Amina Abdal-Jamiil, Sarah Biagiotti, Khai Hua, Kaden Knecht, Huy Nguyen, and Solesha Shea**  
 Mentored by Mequanint Moges and Alexander Duvall  
 Computer Engineering Technology; Network Communications  
 Markus AI Project Emerald

**Aliah Abidali, Miranda Galvan, and Litzzy Ocampos**  
 Mentored by Kayce Solari Williams  
 Psychological, Health, and Learning Sciences  
 Culturally-Tailored Approaches and Hispanic Women's Participation in Health Research Studies in Texas: A Systematic Review of the Literature

**Nikhila Achanta, Srivarshini Achanta, Carlos Mendieta, Anika Vadlamudi, and Ana Velazquez**  
 Mentored by Andrew Kapral and Daniel Price  
 Data and Society, Honors  
 Prescribing Justice: Houston's Redlining Impact on Medical Access

**Oluwadamilola Adenote, Mario Cerda, Michael Klushin, Eric Pham, Harrison Sao, and Anthony Ung**  
 Mentored by Nathaniel Wiggins  
 Industrial Engineering  
 Facility Redesign Project: Repurposed Space

**Eberechukwu Adikaibe, Abdulrahman Aljahmi, Paul Kunchandy, Sara Pareja, and Ruben Romo**  
 Mentored by Nathaniel Wiggins  
 Industrial Engineering  
 Development of an Internal Audit System for API Compliance

**Gail Aflalo, Dylan Magee, and Olivia Ong**  
 Mentored by Jokubas Ziburkus  
 Biology and Biochemistry  
 Towards Multisensory Topography: Multisensory Maps of UH

**Sachitha Aithal, Sigmund Haidacher, Preston Lee, and Marcella Smith**  
 Mentored by Bradley Smith  
 Psychological, Health, and Learning Sciences  
 Evaluating the Effectiveness of the Math Confidence Through Cubing Project Under the Bonner Leaders Program

**Oluwatobi Alagbe, Sandra Igboanugo, and Elizabeth Weaver**  
 Mentored by Joyce Olushola Ogunrinde  
 Health and Human Performance  
 Engage. Equip. Empower.: A Case for Corporate Social Responsibility Through Experiential Learning

**Stuart Alfafara, Benjamin George, Peter Kieu, and Tony Tran**  
 Mentored by Mequanint Moges  
 Engineering Technology  
 Otto Sorting Bin

**Tristan Alhadad, Zeel Engineer, Sergio Garcia, and Yuha Hosoki**  
 Mentored by Edgar Bering and Andrew Renshaw  
 Physics  
 VLF Waves and High Energy Particles During an Annular Solar Eclipse

**Kais Ali and Nathan Fuentes**  
 Mentored by Emily LaVoy  
 Health and Human Performance  
 The Effects of 15 Minutes vs. 30 Minutes of Moderate Intensity Exercise on Lymphocytes, Monocytes and Granulocytes

**Nadia Ali, Jordan Mann, and Danielle Sarmiento**  
 Mentored by Laura Lee  
 Personal Early Educational Performance Support  
 Mind Over Matters: Race and Ethnic Disparities Among College Men

**Zied Almasri, Ahmad Elhadj, Natalia Freire, Ulker Gure, and Zulma Mejia**  
 Mentored by Nathaniel Wiggins  
 Industrial Engineering  
 K&G Process Improvement

**Cecilia Alombere and William Nguyen**  
 Mentored by Mahdi Safa  
 Civil and Environmental Engineering  
 Modelling of Liquefaction Around Marine Structures

**Christopher Javier Arienza, Reem El Miari, Sharon Moonsammy, and Diane Nguyen**  
 Mentored by Nathaniel Wiggins and Steven Baird  
 Industrial Engineering; Siemens Energy  
 Innovation in Siemens Energy Service Centers: Laser Scanning Technology

**Falak Asad, Rea Rose Estrada, and Haley Romine**  
 Mentored by Marc Hanke  
 Biology, Honors  
 A Proposal to Reducing Foodborne Illnesses from Grocery Store Produce

**Yorliann Aviles, Elizabeth Beltran, Jasmine Dhaliwal, Abigail Pomeroy, and Rebecca Wagley**  
 Mentored by Ashutosh Agrawal  
 Mechanical Engineering  
 Speculum Redesigned for Women's Comfort: The Cerviscope

**Ziad Aziz, Cassandra Palmerin, and Chelsea Palmerin**

Mentored by Mahdi Safa  
Civil and Environmental Engineering  
AI-Driven Flood Forecasting and Response System

**Lara Badran, Katelyn Cortez, Vivian Dang, Carolyn Ngo, and Fatima Shaikh**

Mentored by Christina Miyawaki  
Graduate College of Social Work  
Montreal Cognitive Assessment (MoCA) Determines Visuospatial Skill Loss in Vietnamese Older Adults

**Ayesha Baloch and Kristin Dinh**

Mentored by Bradley Smith  
Psychological, Health, and Learning Sciences  
Analyzing SAT Scores: Efficacy of Out-of-Session Worksheets in Aspire's SAT Program

**Mimi Beregen, Alyssa Green, and Kristi Tran**

Mentored by Bradley Smith and Janet Lawler  
Psychological, Health, and Learning Sciences; Political Science, Honors  
The Effects of Public Speaking Mentorship on Perceived Self-Confidence and Advocacy Skills

**Iana Bernas, Thien Ha, Niyoocha Izadbakhsh, and Carolyn Ngo**

Mentored by Martin Nuñez  
Biology and Biochemistry  
Evaluating the Use of Mustard, Swiss Chard, and Pak Choi Seeds As Plant Bioassays for Phytotoxin Detection in Immature Compost

**Samuel Borromeo, Jonathan Chan, and Cuong Duong**

Mentored by Abdul Khan  
Engineering Technology  
Using Natural Microbiome Consortia to Improve Water and Nutrient Use Efficiency in Current Aeroponics Systems

**Karson Bradley, Joshlyn Mendez, Evan Orlandi, and Christopher Porter**

Mentored by Samia Afrin, Devina Fernandez, and Michael Ramirez  
Mechanical Engineering Technology  
Endress and Hauser Mobile PTU

**Milena Brocchini, Elisa Cardenas, and William Massaras**

Mentored by Douglas Erwing and Gail Buttorff  
History, Honors; Public Affairs  
Navigating the Road Ahead: Strategic Infrastructure Planning for Electric Vehicle Adoption in the Greater Houston Area

**Milena Brocchini and Ritesh Ravi**

Mentored by Andrew Kapral and Daniel Price  
Data and Society, Honors  
Revising The Universal Soil Loss Equation to Predict the Theoretical Extent Enhanced Pocket Prairies Can Mitigate Toxin in Rainfall Runoff

**Alex Cantu, Javier Carrasco, Gerardo Correa, and Alan Rodriguez Gamez**

Mentored by Samia Afrin  
Mechanical Engineering Technology  
Hybrid Solar Desalination

**Hy Cao and Danny Le**

Mentored by Mehmet Sen  
Biology and Biochemistry  
Elucidating the Mysteries Behind Fibrinogen Interactions in Blood Clotting

**Matt Clark, Toluwalope Fabiyi, Mary Seume, and Emme Tomasello**

Mentored by Nancy Young and Leandra Zarnow  
History  
The Personal as Political: Learning About the 1977 National Women's Conference Through Individual Stories

**Niamh Clark and Julianna Hamilton**

Mentored by David Mazella  
English  
Exploring Satire: Mode or Genre? Perspectives from Edinburgh, 1771

**Yesenia Contreras, Amanual Getaneh, Fatima Guzman, Or Sarah Kasongo, and Dulce Zamora**

Mentored by Nathaniel Wiggins  
Industrial Engineering  
Enhancing Efficiency: Eaton Facility Relayout Initiative

**Christian Cruz and Annacely Martinez**

Mentored by Mahdi Safa  
Civil and Environmental Engineering  
Fortification of Seabed in Marine Structures

**Paul Daniel and Ellis Odu**

Mentored by Norma Olvera and Rhonda Scherer  
Psychological, Health, and Learning Sciences; Sports and Fitness, UHD  
Navigating Medical Weight Problem Diagnosis in Hispanic Adults: A Predictive Approach

**Paul Daniel and Ellis Odu**

Mentored by Norma Olvera and Rhonda Scherer  
Psychological, Health, and Learning Sciences; Sports and Fitness, UHD  
Perceptions and Idealizations of Body Size in Latina Mother-Daughter Dyads

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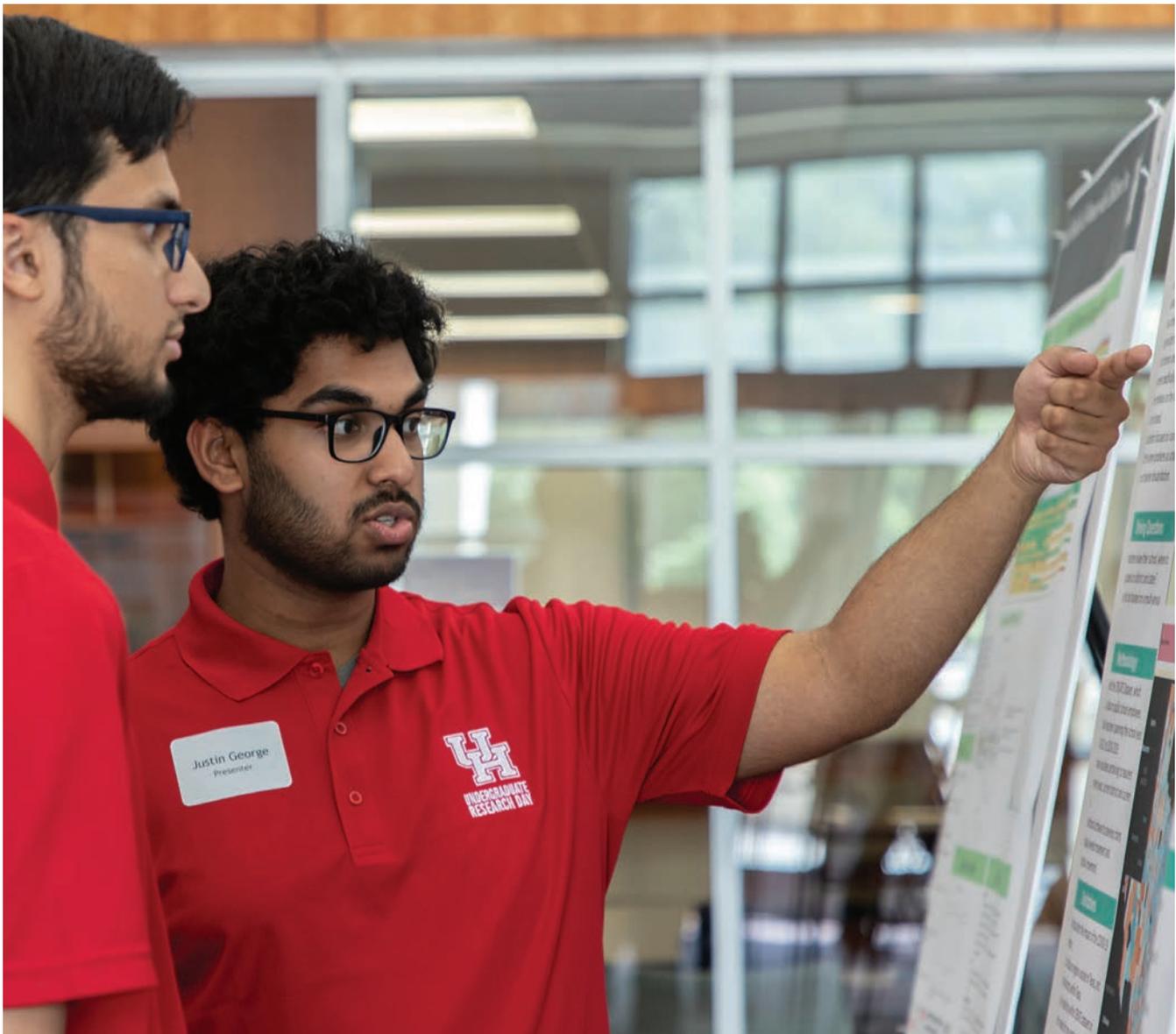
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The Fifth Ward Cancer Cluster: Analyzing the Financial Burden of Cancer Care



# Screening Attitudes, and Biochemical on-Based Afghan Refugee Women



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Asadi, Maryam Neshastehriz, and Samina Salim  
al Sciences, College of Pharmacy, University of Houston

## METHODS

**Study design / Inclusion**  
was conducted through Multi Cultural  
, a Houston-based 501(C)(3) non-profit  
assisting refugees

ari versions of demographics, Afghan  
ecklist<sup>1</sup> assessing mental health (ASC),  
Migration Stress (RPMS)<sup>2</sup>, and Breast  
ing Beliefs Questionnaire (BCSBQ)<sup>3</sup>  
distributed via REDCap platform.  
ed a \$25 Target gift card as  
r participation

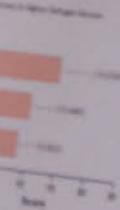
**Infection and Lab Analysis**  
en were deidentified.

cortisol, C-reactive protein, and  
ells were examined using  
ble kits (Salimetrics, USA)

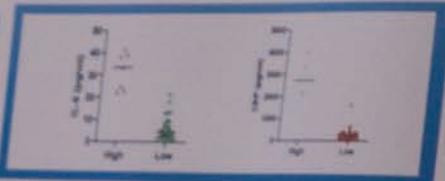
**Statistical analysis**  
s inclusive of means, standard  
intervals calculated

conducted between  
PMS, and BCSBQ responses

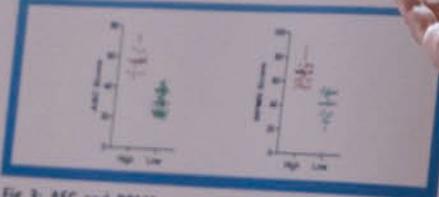
## RESULTS



**Breast Questionnaire (BCSBQ):**  
omen (n=67) were surveyed on  
ness of breast cancer using a  
is population. Bars represent  
e high barriers, low knowledge,  
ck-ups. Data were analyzed



**Fig 2: Markers of inflammation.** IL-6 and C-Reactive protein levels. Statistically significant differences between high (susceptible) and low (resilient) CRP



**Fig 3: ASC and RPMS scores.** Data were analyzed using Pearson correlation (SPSS, V27).

## Overview of Correlation and Demographics Data

- ASC scores correlated with time spent in US, perceived discrimination, economic strain
- Over 40% without health insurance, had not finished high school
- Over 70% and about 50% unfamiliar with mammograms and clinical breast examination, respectively

## CONCLUSIONS

High stress levels as determined through ASC and RPMS in susceptible Afghan women correlated with high levels of CRP, and high IL-6. Targeted interventions into stress reduction and breast cancer awareness for Afghan refugee women is warranted.

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**Kalena Holeman**  
English  
FrameWorks, PURS, and  
Mellon Research Scholars  
Recipient



“Undergraduate research has granted me opportunities, experiences, and knowledge that have helped me build my story. My interest in the regenerative power of stem cells led me to MD Anderson. I am excited to see where research takes me as I pursue becoming a physician-scientist.”

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