The distribution of sociocultural factors among underrepresented undergraduate students pursuing careers in health and research

Purpose:

Graduate social and economic factors among first-generation low-income and underrepresented ethnic minority students in a southern California university. To analyze if these factors are associated with academic performance and health outcomes among these students.

Background:

- Societal and economic factors in the U.S. have a significant impact on academic performance and health outcomes.
- Students with lower socioeconomic status are more likely to experience academic challenges.
- The study aims to identify factors that influence academic success and health outcomes among underrepresented students.

Methods:

- UC San Diego's Health Sciences Program conducted a survey.
- Participants were asked to rate their level of agreement with statements about academic and health-related factors.
- The survey included questions about factors such as financial stress, support networks, and academic preparation.

Results:

- Students who reported higher levels of financial stress had lower academic performance.
- Students who felt more supported by their family and peers had higher academic performance.
- Students who reported feeling more prepared for college had better health outcomes.

Discussion:

- The results highlight the importance of addressing financial stress to improve academic performance.
- Support networks, including family and peers, play a crucial role in academic success.
- Preparedness for college is linked to better health outcomes.

Conclusion:

- Financial stress, support networks, and academic preparation are critical factors impacting academic performance and health outcomes among underrepresented students.
- Strategies to address these factors could lead to improved academic and health outcomes.
Directory Notes

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Cover Photo: Nicolette Olivia Le at the 2019 International Cancer Education Conference, Salt Lake City, Utah

This directory reflects our best knowledge of UC San Diego undergraduates participating in mentored research between Summer 2019 and Summer 2020. We know this listing is not comprehensive and we welcome information regarding other undergraduate research projects from the aforementioned timeframe. We hope the 2020-21 directory will include an even larger number of groundbreaking undergraduate research projects at UC San Diego.

The data in this directory represent information available at the time of publication. The students listed completed research at any time between Summer 2019 and Summer 2020. For students in formal research programs, the dates listed for their projects represent the time they were in the particular program. Their research may have started prior and/or extended beyond their program participation. The students may have unlisted accomplishments (e.g. presentations, publications) that occurred or will occur outside the time frame for this year’s directory.
Acknowledgements

We would like to acknowledge the invaluable support our program staff have received from Chancellor Pradeep Khosla, Executive Vice Chancellor Elizabeth Simmons, Vice Chancellor of Student Affairs Alysson Satterlund, and Assistant Vice Chancellor for Student Retention and Success Maruth Figueroa, as well as Interim Assistant Vice Chancellor Ebonee Williams. We are grateful that they and our faculty mentors and other partners in promoting undergraduate research maintained the university's commitment to student centered research during this most unusual year.

Programs and scholarships identified in this directory were available between Summer 2019 and Summer 2020. They may or may not be available in subsequent years.

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This is a living document. Please report any corrections or submissions to Marie Sheneman, PhD at msheneman@ucsd.edu
For curious, creative, conscientious, and ambitious students, participating in structured cocurricular research programs is challenging enough. Anyone who has completed a research program has met the demands of finding a mentor and then likely being an accountable member of a research team, showing up, being quick (in action and in thought), sharing ideas, hitting roadblocks, and moving forward.

The effort comes with potentially life-changing payoffs. In addition to achieving specific results, dedicated researchers open doors for themselves to pursue their interests in graduate or professional schools or through postbaccalaureate fellowships at renowned national and international institutions, or gaining leadership positions in industry or government.

This year our students faced new challenges, from being denied access to their physical workspaces, to digital dilemmas, and, for too many of them, housing and food insecurities.

But these students persevered; they demonstrated resilience, persistence, and a willingness to reach out for assistance. This Directory honors their admirable devotion to scholarship, their commitment to their mentors and research partners, dedication to their families and communities, and unconquerable belief in learning.

In time, the circumstances under which they produced the results celebrated here will be less important than the remarkable work itself.
Contents

Fast Stats 6

Student Spotlights 7

Awards and Publications 13

Conferences 21

Research Programs and Students 25

Undergraduate Research Mentors 179

Amanda T. Calcetas, URS Scholar
SACNAS 2019, Honolulu, HI
UC San Diego undergraduate students in this directory conducted research

Students gave over 700 conference presentations

Students listed here published a peer-reviewed journal article

Majors represented in this directory:

- Engineering (37.5%)
- Physical Sciences (6%)
- Health Sciences (2%)
- Social Sciences (24%)
- Arts and Humanities (3%)
- Biological Sciences (24%)
- Other (0.5%)
- SIO (3%)
Student Spotlights
Although my first research position was a bioinformatics role at the Scripps Institution of Oceanography, my most impactful work has been in CS education. In partnership with IEEE - Eta Kappa Nu and Assistant Teaching Professor Niema Moshiri, I founded and led a 4-unit education research course that continues to be offered today.

At the time of founding, we were ~10 students trying to investigate the efficacy of the AP Computer Science A course while simultaneously connecting local high schools with the technical expertise of UC San Diego. We developed week-long modules on cutting-edge Computer Science topics (e.g. Artificial Intelligence, Computer Vision) that relied solely on knowledge that students should have gained from taking the AP course. We would then use adaptive grading and feedback technology to identify consistent errors or misconceptions in student answers, which would indicate a systemic failure of the AP course at teaching particular topics.

I had a professor who insisted, "If you want to learn anything, get out of the classroom." I'd amend that to, "If you want to learn post-undergraduate skills, get out of the classroom." It doesn't matter if you want to go into academia or industry—practical, hands-on research will teach you how to be both an independent contributor and a team member better than any class ever will.
I completed a literature review assessing COVID-19-related vulnerability in health disparities experienced by the Black Homeless population of Los Angeles, California. The relevance of my research project is most certainly the primary catalyst of my overall excitement for completing this project.

I feel very honored to have the opportunity to further examine the ways in which society and the United States Healthcare System affect certain individuals more than others. Particularly in the current times of COVID-19 and nationwide protests against the ongoing racism against the Black population, my research has become extremely important to me to further examine the ways in which health-based racism gravely affects my target population and to propose resolutions as a result.

Undergraduate research has allowed me to apply the skills and concepts I’ve learned in the classroom to practice and has been an incredible experience for me as a result. I firmly believe that all students should pursue undergraduate research in any form because it’s provided me with practical and experiential experience in my intended career field, and has offered plenty of clarity regarding my future goals as a researcher.
Gino Carfano (fellow student) and I began by devising a way to track the trajectory of flying boomerangs using Ultra-Wide Band (UWB), and as we further dove into the specs of UWB, we realized that the frequency nature of this technology might make it vulnerable to 5G New Radio (NR), the next generation of cellular technology.

As a result, we shifted our focus into evaluating the impact of 5G NR on commercially-available UWB indoor positioning systems through meticulous testing. In addition to that, we have worked on developing a simulation testbench for UWB theoretical performance limits using MATLAB and Simulink to verify our measurements.

Ultimately, both of the studies have culminated into successful paper submissions for AIAA and IEEE conferences, the latter being the 2019 Indoor Positioning and Indoor Navigation Conference in Pisa, Italy (See Video Here). As coauthor of the paper, I had the privilege of presenting our findings to 250 global industrial and academic experts at this prestigious conference. I am very excited to be putting my name out there in academic papers and presenting to actual professionals as an undergraduate student to show other students that this is possible.
I was interested in the intersection of engineering and the body, the idea of taking a pure science and translating it into practical applications. In addition, the project is based on immune engineering and I have always been interested in immunology, I find the cellular interactions and mechanisms fascinating.

With this experience, I am learning what research is about and gathering a big picture of what I want to do in the future. This experience can also help me during my graduate school application because it proves my willingness to participate in research. The skills I learn during my time as an undergraduate researcher can also help contribute to making me a better researcher and teacher in the future.
Emily Paris

**Biochemistry and Cell Biology, TREL5, URS**

Under the supervision of a postdoc, Tristan de Rond, in Bradley Moore's Lab at the Scripps Institution of Oceanography (SIO), my [honors thesis] project involved adjusting a microbial culturing technique, called "encapsulation", to capture and grow microbes in situ in marine sponges. The goal was to find new marine natural products and advance knowledge in microbiology by culturing new types of microbial life.

Towards the end of my senior year, I had the opportunity to participate in the all-female "Sedna Epic Expedition". In collaboration with the Gerald D'Spain Lab at SIO, I was able to record video and bioacoustics data of orcas by snorkeling with them in the fjords of Norway. The project intended to link orca bioacoustics and behaviors with environmental conditions over a period of three years. Our team also participated in microplastics research for the Dimitri Deheyn Lab at SIO and environmental DNA collections for the University of Tromsø.

My goal is to become a scientist with NASA and contribute to research on microbial life in extreme environments. Conducting research at UC San Diego developed my love for the independence that comes with having a PhD, which led me to pursue that path. I will start PhD program in Earth System Science at Stanford University in Fall 2020.
Awards and Publications
The **Undergraduate Library Research Prize**, co-sponsored by the UC San Diego Library, UC San Diego Alumni, and the Vice Chancellor for Student Affairs, is awarded to students who demonstrate a strategic and effective use of the UC San Diego Library as a resource in direct support of research undertaken on campus. Read further about the 2020 winners [here](#).

### Syreeta Nolan, 1st Place
**Life Sciences, Physical Sciences, and Engineering**

Research Project: A Systematic Review of Methamphetamine Use Disorder Considering Syndemic Factors in HIV

### Jack T. Whiteley, 2nd Place
**Life Sciences, Physical Sciences, and Engineering**

Research Project: Potassium Chloride-Dependent Activation of Immediate Early Genes in an Induced Neuron Model
The **Undergraduate Library Research Prize**, co-sponsored by the UC San Diego Library, UC San Diego Alumni, and the Vice Chancellor for Student Affairs, is awarded to students who demonstrate a strategic and effective use of the UC San Diego Library as a resource in direct support of research undertaken on campus. Read further about the 2020 winners [here](#).

**Garrett Martin, 1st Place**  
Social Sciences, Arts, and Humanities  

Research Project: Leveraging Death: Violence, Language, and History in the Conceptualization of Mortality Salient Activism

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**Ashley Amaladhas, 2nd Place**  
Social Sciences, Arts, and Humanities  

Research Project: Birds and Bees: The Effects of Comprehensive Sexual Health Education on Adolescents
2020 National Competitive Scholarship Winners

Anne Cardenas
Travis Fleming
Kevin Joslin
Sherry Zheng

National Science Foundation (NSF) Graduate Research Fellowship
Up to $34,000 stipend and up to $12,000 tuition for graduate study and research in science and engineering.

Harrison Li
Winston Churchill Scholarship
Funding for a year of Master’s study in engineering, mathematics, and the sciences at the University of Cambridge, Churchill College.

Dora Ogbonna
Barry Goldwater Scholarship
Financial award for undergraduate study for students who intend to pursue a career in research.
Kimblery Almaraz  
Jacobs School Student Travel Fund

Julia Asay  
2019 American Society of Pharmacognosy Undergraduate Research Award

Erica Chan  
Irwin Jacobs Award in Public Health Research from the Department of Family Medicine and Public Health (2019) and Independent Study in Public Health Research Award (2020)

Chinmay Kalluraya  
Outstanding Poster in the Computational and Systems Biology category at The Annual Biomedical Research Conference for Minority Students 2019

Gayatri Mainkar  
Outstanding Poster in the Cell Biology category at The Annual Biomedical Research Conference for Minority Students 2019

Marina Ramsey  
2020 Silagi Award for Undergraduate Excellence in Aging Research

Iris Ulloa  
Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) 2019 Travel Scholarship
Anu P. Chaparala

https://doi.org/10.1080/22221751.2020.1739564

Kartik Choudhary

https://doi.org/10.1021/acs.chemmater.9b03343

Janelle Coleen Dela Cueva

https://doi.org/10.1007/s41939-020-00076-0
Peer-Reviewed Publications (cont.)

Mariela Lopez-Valencia


Dibyabrata Mukhopadhyay


Andrew Nguyen

Marina Ramsey
https://doi.org/10.1001/jamapsychiatry.2020.0821

Maryana Saoor
https://doi.org/10.1089/bfm.2019.0277

Alexander Westra
https://doi.org/10.1007/s41939-020-00076-0
Conference for Research in the Arts, Social Sciences and Humanities (CRASSH) is a series of events and conferences with the purpose to recognize research done in the Arts, Social Sciences, and Humanities, as well as to encourage UC San Diego undergraduates to pursue research in these fields.

10 Students presented at a CRASSH event

93 Students attended a CRASSH event
Two of UC San Diego’s signature annual research conferences—the Undergraduate Research Conference and the Faculty Mentor Program Symposium—were replaced this year by the **Online Undergraduate Research Symposium (OURS)**, which was open to a more inclusive group of students with research experience.

136 Students participated in the OURS

6 Students participated in a live round-table discussion

View OURS presentation videos here
The Summer Research Conference (SRC) is an oral presentation conference open to all undergraduates conducting summertime research in the Southern California region. The SRC is held annually as a component of UC San Diego’s Academic Enrichment Programs’ (AEP) Summer Research Program (SRP). In 2020, the conference was held virtually.

294 UC San Diego undergraduate students presented their research at the 2019 SRC

257 UC San Diego undergraduate students presented their research at the 2020 SRC
Research Programs and Students
AEP offers UC San Diego undergraduates the opportunity to obtain valuable research-oriented academic or professional preparation in virtually any academic major including science, math, engineering, social sciences and the arts and humanities.

There are four academic year programs offered:

- CAMP
- FMP
- McNair
- TRELS

Alberto Castanedo, McNair Scholar
The **Summer Research Program (SRP)** through the Office of Academic Enrichment Programs equips students with the skills to become research scholars, encourages students' pursuit of graduate study, and increases graduate school enrollment among underrepresented, low-income, and first-generation college students.

In 2020, the Summer Research Program comprised of seven research programs:

- CAMP
- Converge Incubator
- Genentech
- McNair
- TRELs
- UC Scholars
- URS

*Tiffani Le, URS Scholar*

Staining heart sections in the Panda Lab at the Salk Institute for Biological Studies, Aug. 2020
The **UC San Diego Summer CAMP** is a 10-week, full-time research experience for undergraduates, supported by the California Louis Stokes Alliance for Minority Participation in Science, Engineering, and Mathematics grant from the National Science Foundation (NSF). The objective of the program is to provide students with the skills to pursue research careers and to stimulate serious consideration of graduate study.

**20 Students participated in CAMP**

- 10 Summer 2019
- 10 Summer 2020
CAMP Students

Michael Baluja, Cognitive Science  
Mentor: Paul Siegel, PhD  
Project (2020): Error Correction for Natural Language Processing Neural Networks.  
Conference: SRC 2020

Maliq de Piña, Management Science  
Mentor: Robert Sah, MD, ScD  
Project (2019): Geometric Characterization of Exostoses: A Literature Review  
Conference: SRC 2019

Ceiba Becker, Marine Biology  
Mentor: Stuart Sandin, PhD  
Project (2019): Potential Recovery of a Disturbed Reef Ecosystem  
Conference: SRC 2019

Jesus Fausto, Electrical Engineering  
Mentor: Frank Talke, PhD  
Project (2020): Portable Ophthalmic Instruments  
Conference: SRC 2020

Pio Blanco Campos, Bioengineering  
Mentor: Pedro Cabrales Arrevalo, PhD  
Project (2020): Effects of Polymerized Hemoglobin on subjects with pre-existing conditions  
Conference: SRC 2020

Samuel Figueroa, NanoEngineering  
Mentor: Shaochen Chen, PhD  
Conference: SRC 2019

Alejandro Dauguet, Neurobiology  
Mentor: Shelley Halpain, PhD  
Project (2020): Evaluating the relationship between synapse remodeling and local energy metabolism using an ATP sensor in dissociated hippocampal neurons  
Conference: SRC 2020

Jesse Garcia de Alva, Electrical Engineering  
Mentor: Ravinder Mittal, MD  
Project (2020): A Novel Gel Bolus to Improve the Impedance Based Measurement of Esophageal Luminal Cross Sectional Area during Primary Peristalsis  
Conference: SRC 2020

Read Student Spotlight Article Here
CAMP Students (cont.)

James Garrafa-Luna, Environmental Chemistry
Mentor: Daniel Petras, MS
Project (2020): Analyzing Chemical Anthropogenic Input in the Ocean Using Public Data
Conference: SRC 2020

Bolarin Lawrence, NanoEngineering
Mentor: Ester Kwon, PhD
Conference: SRC 2020

Natalia Henriquez, Physics (Materials Science)
Mentor: Tongyan Lin, PhD
Project (2020): Using CMB measurements to gain more precise understanding of dark matter density and interactions
Conference: SRC 2020

Bryn Lopez, Biology
Mentor: Julian Schroeder, PhD
Project (2019): Characterization of Sodium Azide (NaZ) Mutant Lines in Brachypodium Distachyon
Conference: SRC 2019

Jacqueline Hernandez, Biology
Mentor: Pamela Mellon, PhD
Project (2019): The Role of OTX2 in Kisspeptin Neurons in Reproductive Function
Conference: SRC 2019

Gabriel Lopez, Molecular and Cell Biology
Mentor: Lidija Vukovic
Project (2020): The H3-like region of SARS-CoV-2 protein E is acetylated by p300 HAT
Conference: SRC 2020

Jesi Miranda-Santos, Electrical Engineering
Mentor: Frank Talke, PhD
Project (2020): Portable Ophthalmic Instruments
Conference: SRC 2020

Sarah Kinney, Electrical Engineering
Mentor: Vikash Gilja, PhD
Project (2019): Efficient Mapping of the Motor Cortex
Conference: SRC 2019
CAMP Students (cont.)

Joshua Mumford, Aerospace Engineering
Mentor: David Pierce, PhD
Conference: SRC 2019

Ezechinyere Ukabiala, Bioengineering (Biotechnology)
Mentor: Robert Sah, MD, ScD
Conference: SRC 2019

Dora Ogbonna, Chem. Engineering
Read Student Spotlight Article Here
Mentor: Nisarg Shah, PhD
Project (2019): Delivery of immunomodulatory small molecules for tuning T cell activation
Conference: SRC 2019
Award: Barry Goldwater Scholarship

Weginbara Youpele, Electrical Engineering
Mentor: Raghav Subbaraman
Project (2020): Beam-Forming Calibration through UART-to-SPI Data Conversion
Conference: SRC 2020

Cristian Sharp, Physics
Mentor: Matthew Shtrahman, MD, PhD
Project (2019): Two-Photon Calcium Imaging of Human Brain Activity: the Next Frontier in Neuroscience
Conference: SRC 2019
Converge Incubator

The **Converge Incubator** is a pilot program for upper division undergraduates seeking a dedicated focus on entrepreneurship. The 8-week experience includes up to 20 hours per week of programming and requires participation in designated core elements of the Summer Research Program, including orientation and a capstone presentation at the **Summer Research Conference** in August. All participants receive access to resources and multifaceted mentorship through **The Basement**. This year’s program centered on addressing civic challenges affecting San Diego.

57 Students participated in Converge Incubator

24 Summer 2019
23 Summer 2020
14 Fellows
9 Auditing Students

*Read thisweek@UC San Diego article on Converge [here](#).*
Converge Incubator Students

Tanvi Bajaj, International Business  
Mentor: Jacques Chirazi  
Project (2020): Municipal Microgrid Planning  
Conference: SRC 2020  
Other Presentation: Converge Summer Showcase 2020

Yuhong (Vickie) Chen, Mathematics (Computer Science)  
Mentor: Vish Krishnan, PhD  
Project (2019): Smart Fridge  
Conference: SRC 2019

Neve Foresti, Cognitive Science (Design and Interaction)  
Mentor: Jacques Chirazi  
Project (2020): Flybility —Improving Airport Accessibility at SAN  
Conference: Converge Summer Conference: SRC 2020  
Other Presentation: Converge Summer Showcase 2020

Wanjun Gu, Chemical Engineering/Economics  
Mentor: Vish Krishnan, PhD  
Project (2019): PiggyRide  
Conference: SRC 2019

Ryan Heo, Computer Science  
Mentor: Vish Krishnan, PhD  
Project (2019): PiggyRide  
Conference: SRC 2019

Stanley Lee, Data Science  
Mentor: Vish Krishnan, PhD  
Project (2019): Tiscuss  
Conference: SRC 2019

Jianan Liang, Cognitive Science (Design and Interaction)  
Mentor: Vish Krishnan, PhD  
Project (2019): Tiscuss  
Conference: SRC 2019

Tongshan Liu, Chemistry  
Mentor: Vish Krishnan, PhD  
Project (2019): PiggyRide  
Conference: SRC 2019

Marlon Minchez, Communication  
Mentor: Briana Weisinger, MA  
Project (2019): Commteract Inc: Digital Information Accuracy for the Future  
Conference: SRC 2019
### Converge Incubator Students (cont.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Field</th>
<th>Mentor</th>
<th>Project Year</th>
<th>Project Description</th>
<th>Conference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Griffin Mittleman</td>
<td>Cognitive Science (Design and Interaction)</td>
<td>Briana Weisinger, MA</td>
<td>2019</td>
<td>Sav-e: The Online Environmental Marketplace</td>
<td>SRC 2019</td>
</tr>
<tr>
<td>Katherine Ngo</td>
<td>Cognitive Science</td>
<td>Jacques Chirazi</td>
<td>2020</td>
<td>Municipal Microgrid Planning</td>
<td>SRC 2020</td>
</tr>
<tr>
<td>Neha Sahota</td>
<td>Human Biology</td>
<td>Jacques Chirazi</td>
<td>2020</td>
<td>Flybility — Improving Airport Accessibility at SAN</td>
<td>SRC 2020</td>
</tr>
<tr>
<td>Zahabiya Nuruddin</td>
<td>Business Psychology</td>
<td>Vish Krishnan, PhD</td>
<td>2019</td>
<td>Discursive Healings</td>
<td>SRC 2019</td>
</tr>
<tr>
<td>Prem Shelat</td>
<td>Computer Engineering</td>
<td>Jacques Chirazi</td>
<td>2020</td>
<td>Novel Building Materials</td>
<td>SRC 2020</td>
</tr>
<tr>
<td>Eunhee Oh</td>
<td>Economics</td>
<td>Vish Krishnan, PhD</td>
<td>2019</td>
<td>Harvestthru</td>
<td>SRC 2019</td>
</tr>
<tr>
<td>Callie Suppa</td>
<td>Communications</td>
<td>Jacques Chirazi</td>
<td>2020</td>
<td>Team Rush Hour</td>
<td>SRC 2020</td>
</tr>
<tr>
<td>Tiffany Phan</td>
<td>General Biology</td>
<td>Briana Weisinger, MA</td>
<td>2019</td>
<td>UCSD SANDDBAR</td>
<td>SRC 2019</td>
</tr>
<tr>
<td>Steven Swee</td>
<td>Chemical Engineering</td>
<td>Jacques Chirazi, MA</td>
<td>2020</td>
<td>Novel Building Materials</td>
<td>SRC 2020</td>
</tr>
</tbody>
</table>
Converge Incubator Students (cont.)

Amer Tabban, Computer Science  
Mentor: Jacques Chirazi  
Project (2020): Myze  
Conference: SRC 2020

Charlie Tran, Data Science  
Mentor: Jacques Chirazi,  
Project (2020): Municipal Microgrid Planning  
Conference: SRC 2020

Cindy Tsai, Environmental Chemistry  
Mentor: Briana Weisinger, MA  
Project (2019): Tiscuss  
Conference: SRC 2019

Nicholas Vandenberg, Mathematics (Applied)  
Mentor: Vish Krishnan, PhD  
Project (2019): SoundSwell  
Conference: SRC 2019

Daniel Vazquez, Physics  
Mentor: Jacques Chirazi  
Project (2020): Team Rush Hour  
Conference: SRC 2020

Tiffany Wang, Chemical Engineering  
Mentor: Vish Krishnan, PhD  
Conference: SRC 2019

Yufei Wang, Interdisc Computing & the Arts  
Mentor: Briana Weisinger, MA  
Project (2019): Unia  
Conference: SRC 2019

Lindsey Young, Mechanical Engineering  
Mentor: Jacques Chirazi  
Project (2020): The Gender Minorities in Engineering Initiative  
Conference: SRC 2020
The **Faculty Mentor Program (FMP)** helps students of all majors build valuable relationships with UC San Diego faculty, develop research skills, and envision a future in graduate or professional school. The program is open to students with Junior or Senior standing, and research is conducted in Winter and Spring quarters.

### Program Benefits

<table>
<thead>
<tr>
<th>CREDIT</th>
<th>NETWORK</th>
<th>PROFESSIONAL DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get 4 units of 99 or 199 Independent Study credit for each quarter you participate in the FMP.</td>
<td>A close rapport with a faculty mentor can open up your world to a wider research community and the chance to meet leaders, future colleagues, and lifelong friends who share your intellectual curiosity.</td>
<td>The FMP offers a variety of workshops and seminars designed to help you become better researchers, writers, and explore the possibility of attending graduate school.</td>
</tr>
</tbody>
</table>

80 Students participated in FMP

This number includes McNair Scholars who are automatically part of FMP.
FMP Students

Faiza Abid, Biochemistry and Cell Biology  
Mentor: Willis Li, PhD  
Project (2020): Transcription factors. Pax3 and Pax9  
Conference: OURS 2020 ([View Presentation Here](#))

Kayla Aceves, Philosophy  
Mentor: Saba Bazargan-Forward, PhD  
Project (2020): Unifying an Individualist Account of Responsibility with a Historical Understanding of Structural Injustice  
Conference: OURS 2020 ([View Presentation Here](#))

Vinit Adani, Biochemistry and Cell Biology  
Mentor: Jair Siqueira-Neto, PhD  
Project (2020): A Review of the Pathogenesis of Chagas Disease  
Conference: OURS 2020 ([View Presentation Here](#))

Luis Alvarez, Cogn. and Behavioral Neuroscience  
Mentor: Uma Karmarkar, PhD  
Project (2020): The Neural Basis of Gain/Loss Framing and Decision Making Under Risk  
Conference: OURS 2020 ([View Presentation Here](#))

Michael Baluja, Cognitive Science  
Mentor: Paul Siegel, PhD  
Project (2020): Error Correction for Natural Language Processing Neural Networks  
Conference: OURS 2020 ([View Presentation Here](#))

Elizabeth Bennette, Psychology (Developmental)  
Mentor: Adena Schachner, PhD  
Project (2020): Children’s understanding of perception & physical interaction over video chat  
Conference: OURS 2020 ([View Presentation Here](#))
Sharad Bhagwat, Cognitive Science  
Mentor: Nigel Calcutt, PhD  
Project (2020): The Effects of Pirenzepine in Preventing and Reversing Nerve Damage Caused by Chemotherapy  
Conference: OURS 2020 (View Presentation Here)

Bryant Cao, Biology  
Mentor: Matthew Daugherty, PhD  
Project (2020): Rewiring the Mosquito Heat Shock Response with Helitron Transposable Elements  
Conference: OURS 2020 (View Presentation Here)

Kenneth Chen, Computer Science  
Mentors: Stephen Macneil, PhD; Steven Dow, PhD  
Project (2020): Community-driven design: How communities designed their way out of COVID-19  
Conference: OURS 2020 (View Presentation Here), Invited to present at OURS roundtable discussion

Zhixian Chen, Computer Engineering  
Mentor: Amarnath Gupta, PhD  
Project (2020): Performance Ontology Reasoning on OWL Data Using In-Memory Data Structure

Avery Coble, Marine Biology  
Mentor: Stuart Sandin, PhD  
Project (2020): The Role of Colony Integration and Growth Rate in Lesion Regeneration within population of massive coral Porites around Jarvis Island  
Conference: OURS 2020 (View Presentation Here)

Lauryn Crudele, Cognitive Science (Neuroscience)  
Mentor: Georgia Robins Sadler, PhD  
Project (2020): A Literature Review of Factors Influencing Undergraduate Students in the United States and Instruments to Measure Student Success

Anika Dandekar, Political Science (Public Policy)  
Mentor: LaGina Gause, PhD  
Project (2020): Travel Ban Framing Analysis  
Conference: OURS 2020 (View Presentation Here)
Valeria Gomez, Human Biology
Mentor: Pei-an (Betty) Shih, PhD
Project (2020): Fatty Acid Desaturase and Elongase Enzymes in Individuals with Anorexia Nervosa
Conference: OURS 2020 (View Presentation Here)

James Holcomb, Molecular and Cell Biology
Mentors: Samara Reck-Peterson, PhD; Jenna Christensen, PhD
Conference: OURS 2020 (View Presentation Here)

Joshua Hussong, Psychology
Mentor: Raenne Moore, PhD

Megan Li, Physics (Astrophysics)
Mentor: Karin Sandstrom, PhD
Project (2020): Active Galactic Nuclei
Conference: OURS 2020 (View Presentation Here)

Jennifer Nguyen, Pharmacological Chemistry
Mentor: Anjan Debnath, PhD
Project (2020): Search for New Potential Drug Leads Against Naegleria Fowleri Using High-Throughput Screening
Conference: OURS 2020 (View Presentation Here)

Elizabeth Peek, Cogn and Behavioral Neuroscience
Read Student Spotlight Article Here
Mentor: Colin Depp, PhD
Project: Sleep, Psychosis, and Social Cognition
Conference: OURS 2020 (View Presentation Here)

Haihao Sun, Computer Engineering
Mentor: Amarnath Gupta, PhD
Project (2020): Label-Specific Reachability in Property Graphs

Nicole Tran, Human Biology
Mentor: Job Godino, PhD
Project (2020): User Engagement for Weight Loss DBCIs
Conference: OURS 2020 (View Presentation Here)
FMP Students (cont.)

Cindy Tsai, Environmental Chemistry
Mentor: Georgia Robins Sadler, PhD
Project (2020): A Literature Review of Factors Influencing Undergraduate Students and Instruments to Measure Student Success

Joey Truong, Molecular and Cell Biology
Mentor: Samara Reck-Peterson, PhD
Project (2020): The Mechanism of FHF-Mediated Dynein Attachment to Cargo
Conference: OURS 2020 (View Presentation Here)

Shiva Upadhye, Cognitive Science (Machine Learning and Neural Computation)
Mentor: Andrew Kehler, PhD
Project (2020): Investigating Discourse Modeling in Neural Language Models

Yixing Wang, Computer Science
Mentor: Won Bae, PhD
Project (2020): Deep Learning in Medical Image Registration
Conference: OURS 2020 (View Presentation Here)

Si Wu, Computer Engineering
Mentor: Paul Siegel, PhD
Conference: OURS 2020 (View Presentation Here)

Luna Xia, Computer Engineering
Mentor: Won Bae, PhD
Project (2020): Accelerating T2-mapping for Quantitative MRI using Machine Learning and Multithreading
Conference: OURS 2020 (View Presentation Here)

Rachel Kai-Xin Yim, Global Health
Mentor: Michael R. Gorman, PhD
Project (2020): Sex Differences in Circadian Biology
Conference: OURS 2020 (View Presentation Here)

Yuxin Yuan, International Studies
Mentor: Marc Muendler, PhD
Project (2020): Within and across regions Income inequality in the U.S.
Conference: OURS 2020 (View Presentation Here)
Zhen Zhai, Electrical Engineering/Mathematics
Mentor: Paul Siegel, PhD
Project (2020): Belief propagation list decoder for polar code
Conference: OURS 2020 (View Presentation Here)

Haiyue Zhang, Mathematics (Applied)
Mentor: Titan Alon, PhD
Project (2020): Development of Reclamation Areas in China
Conference: OURS 2020 (View Presentation Here)

Junchen Zhao, Probability and Statistics
Mentor: Amarnath Gupta, PhD
Project (2020): Exploratory Analysis for Knowledge Graph by Probabilistic Sampling
Conference: OURS 2020 (View Presentation Here)
The **Genentech Scholars Program** is a 10-week full-time summer research program that is a sister program to the UC Scholars Program; the program’s objectives are to provide skills to become research scholars, stimulate students' serious consideration of graduate study, and increase learning and networking opportunities.

The Genentech Foundation seeks to support students in life science and technology fields who may have faced barriers to engaging in research in the past.
Genentech Scholars

**Natalia Avina-Ochoa**, Molecular and Cell Biology  
Mentors: Susan Kaech, PhD; Steven Zhao, PhD  
Project (2020): T cell gene expression in Pancreatic ductal adenocarcinoma  
Conference: SRC 2020

**Carla Espinoza**, Biochemistry and Cell Biology  
Mentor: Jerry Yang, PhD  
Conference: SRC 2019, The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019

**Skylar Bird**, Biochemistry and Cell Biology  
Mentor: Eric Schmelz, PhD  
Project (2020): Maize terpene synthase 8 contributes to a complex blend of fungal-elicited antibiotics  
Conference: SRC 2020

**Delina Kambo**, Bioengineering  
Mentor: Trey Ideker, PhD  
Conference: SRC 2020

**Brian Dinh**, Molecular and Cell Biology  
Mentor: Peter Shaw, PhD  
Project (2020): CFH and HTRA1 exhibit an antagonistic effect on inhibiting oxidized phospholipids uptake in human retinal pigment epithelial cells  
Conference: SRC 2020

**Lee Diego Lacasa**, Biochemistry and Cell Biology/Cogn and Behavioral Neuroscience  
Read Student Spotlight Article Here  
Mentor: Taylor Alan Doherty, MD  
Project (2020): The Effect of the STING Pathway on Innate Lymphoid Cell Changes During Type 2 Lung Inflammation  
Conference: SRC 2020
Genentech Scholars (cont.)

Mariela Lopez-Valencia, Cogn and Behavioral Neuroscience
Mentor: Christina Gremel, PhD
Project (2019): Effects of Alcohol Dependence on Incentive learning
Conference: SRC 2019, The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019

Erin Rosales, Human Biology
Mentor: Leonardo Nogueira, PhD
Project (2020): The effects of the lung treatment of SARS-CoV-2 spike proteins in mice on Lund and diaphragm ACE2 expression and plasma Ang II levels
Conference: SRC 2020

Soyoung Shin, Chemical Engineering
Mentor: Jinhye Bae, PhD
Project (2020): Diffusivity of water in homogeneous polyacrylamide (PAAm) hydrogels
Conference: SRC 2020

Geneva Walters, Molecular and Cell Biology
Mentor: Roger Sunahara, PhD
Project (2019): G Protein’s Role in the Up-Regulation of ERK Signaling
Conference: SRC 2019
Ronald E. McNair was nationally recognized for his work in the field of laser physics. He was selected by NASA for the space shuttle program in 1978 from a pool of ten thousand applicants. After his death in the Challenger Space Shuttle accident, the Ronald E. McNair Post-Baccalaureate Achievement Program was funded by Congress. The McNair Program is a federal TRIO program funded by the U.S. Department of Education to provide low-income, first generation college students, and students from groups underrepresented in graduate education, with doctoral study preparation.
McNair Scholars

**Michael Alvarez**, Philosophy  
Mentor: Monte Johnson, PhD  
Conference: SRC 2019

**Jazlyn Barrientos**, Public Health  
Mentor: Abigail Andrews, PhD  
Project (2019): Transformation of Central American Identity Seen Through Caravan Utilization  
Conference: SRC 2019

**Enrique Arcilla**, Urban Studies and Planning  
Mentor: Isaac Martin, PhD  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)

**Pio Blanco Campos**, Bioengineering  
Mentor: Pedro Cabrales Arrevalo, PhD  
Project (2020 Winter/Spring): Mechanical Hemolysis induction and Microcirculation effects  
Conference: OURS 2020  
(View Presentation Here)

**Apollo Blatchley**, Literature (Writing)  
Mentor: Seth Lerer, PhD  
Project (2019): Transcendence from Melancholia  
Conference: SRC 2019

**Alberto (Fredo) Avalos**, Nanoengineering  
Mentor: Saikat Chakraborty Thakur, PhD  
Project (2019): Characterization of a high power helicon plasma device  
Conference: SRC 2019

**Amanda Breton**, Bioengineering (BioSystems)  
Mentor: Pedro Cabrales Arrevalo, PhD  
Project (2019): Using Hyperspectral Analysis to Understand Tissue Oxygenation Rates  
Conferences: Society for Advancement of Chicanos/Hispanics and Native Americans in Science 2019, SRC 2019
**McNair Scholars (cont.)**

**Angelina Campos**, Literature (Writing)  
Mentor: Amelia Glaser, PhD  
Project (2019 Summer): Communists, Socialists, and leftists in American Children's literature  
Conference: SRC 2019

**Rigoberto Carreto**, Computer Engineering  
Mentor: Tara Javidi, PhD  
Project (2019): Neural Networks and Drones  
Conference: SRC 2019

**Alberto Castanedo**, Molecular Synthesis  
Mentor: Dionicio Siegel, PhD  
Project (2020): Synthesis of Diazirine-Alkyne Probes to Identify FAHFA Interacting Proteins  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Vanessa Cervantes**, Cogn. Science  
Mentor: Michael R. Gorman, PhD  
Project (2020): Sex differences in circadian clock flexibility: does it depend on an exercise wheel?  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Kelly Clemen**, Literature (Cultural Studies)  
Mentor: K. Wayne Yang, PhD  
Project (2019 Summer): Black Like Water: A Place-Based Approach to Student Retention at UCSD  
Conference: SRC 2019

**Alexis Corona**, Human Developmental Sciences  
Mentor: Lauren Brookman-Frazee, PhD  
Project (2019 Summer): Exploring Predictors of Therapist Use of Homework in Community Mental Health  
Conference: SRC 2019

**Marin Cross**, Biochemistry and Cell Biology  
Mentor: Amy Non, PhD  
Project (2020): Can acupuncture improve mental health and increase telomerase activity to promote healthy cellular aging?  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))
Sabrina Diaz, Molecular and Cell Biology
Mentor: Nan Hao, PhD
Project (2020): Allele switching in TERT gene in different cancer conditions
Conferences: SRC 2020, OURS 2020 (View Presentation Here)

Viviana Dominguez, Microbiology
Mentor: Matthew Daugherty, PhD
Project (2020): An Evolutionary Perspective on Picornavirus Proteases and their Host Targets
Conferences: SRC 2020, OURS 2020 (View Presentation Here)

Alexandra Escobar, Anthropology (Biological)
Mentor: Amy Non, PhD
Conference: SRC 2019

Samuel Figueroa, NanoEngineering
Read Student Spotlight Article Here
Mentor: Kenneth Vecchio, PhD
Project (2020 Winter/Spring): Engineering Ductility in Carbides for Ultra-High Temperature Resistant Applications
Conference: OURS 2020 (View Presentation Here)

Hatchly Galindo Moreno, Political Science
Mentor: Gloria Chacon, PhD

Isabella Garcia, Anthropology (Archaeology)
Mentor: Jade d'Alpoim Guedes, PhD
Project (2019): Reconstructing Prehistoric Famine Using Paleodemography
Conference: SRC 2019

James Garrafa-Luna, Environmental Chemistry
Mentor: David Quarfoot, PhD
Conference: SRC 2019
McNair Scholars (cont.)

Aayushma Gautam, Bioengineering (Biotechnology)
Mentor: Nicole Steinmetz, PhD
Project (2019): Plant virus combination immunotherapy to treat ovarian cancer
Conference: SRC 2019

James Giles King, Mathematics (Applied)
Mentor: K. Wayne Yang, PhD
Project (2020): Math Education for Black Students Juxtaposed to the Social Movements of the Past
Conferences: SRC 2020, OURS 2020 (View Presentation Here)

Monica Gonzalez, Human Developmental Sciences
Mentor: Frances Contreras, PhD

Daniel Hain, Psychology
Mentor: Vilayanur Ramachandran, PhD
Project (2020): New approaches to affect the efficiency of personality and synchronicity of working experiments in laboratory settings
Conferences: SRC 2020, OURS 2020 (View Presentation Here)

Jasmin Hernandez Santacruz, Linguistics, Psychology (Cognitive)
Mentor: Tamar Gollan, PhD
Project (2020): Cost-Benefit Analysis of Inhibition in Second-Language Learning
Conferences: SRC 2020, OURS 2020 (View Presentation Here)

Stephen Hoefler, Biochemistry/Chemistry
Mentor: Jose Burgos, MD
Project (2019): Volunteer Medical Scribe program for undergraduate students provides opportunities for low-resource clinics
Conference: SRC 2019
McNair Scholars (cont.)

**Tingfei Hu**, Biochemistry and Cell Biology  
Mentors: Darren Casteel, PhD; Renate Pilz, MD  
Project (2020): The Function of MYPT2, a Myosin Regulatory Subunit for Myosin Phosphatase in Cardiac Myocytes  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Anahi Ibarra**, Sociology (Social Inequality)  
Mentor: Frances Contreras, PhD  
Project (2019): Food and Housing: Assessing Basic Needs Efforts and Understanding the Experiences of Underrepresented Undergraduate Students at UCSD  
Conference: SRC 2019

**Jose Jimenez**, Cogn and Behavioral Neuroscience  
Mentor: Sarah Creel, PhD  
Project (2020): Cross-Language Activation in Spanish-English Bilinguals  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Unduwap Kandage Don**, Computer Engineering  
Mentor: Vikash Gilja, PhD  
Project (2020): Automated Bird Song Analysis  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Julissa Limatu**, Political Science (Comparative Politics)  
Mentor: Sebastian Saiegh, PhD

**Andrea Lin**, Structural Engineering  
Mentors: Shabnam Semnani, PhD; Kenneth Loh, PhD  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Yang Lu**, Psychology (Clinical)  
Mentor: Susan Tapert, PhD  
Project (2020): Adolescents’ Perceptions of Substance Use Harms are Contingent on Mode of Administration  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))
McNair Scholars (cont.)

**Josue Luna**, Mechanical Engineering  
Mentor: Joanna McKittrick, PhD  
Project (2019): Characterizing the Torsional Properties of the Helical Macro-Porosity Structure of the Cholla Cacti  
Conference: SRC 2019

**Stacy Maciel**, Cogn and Behavioral Neuroscience  
Mentor: Vilayanur Ramachandran, PhD  
Project (2019): Head Bobbing Effect and The Upside-Down World  
Conference: SRC 2019

**Haneen Mohamed**, Urban Studies and Planning  
Mentor: Shaista Patel, PhD  
Project (2020): An Identity Oriented Towards the Past: Nostalgia in Sudanese Cultural Production  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Morgan Montoya**, Cogn and Behavioral Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project (2020): Investigating Cognitive Function in Individuals from Different Racial and Ethnic Backgrounds & Its Interactions with Resilience  
Conferences: SRC 2020, Ours 2020  
([View Presentation Here](#))

**Jaqueline Munive**, Sociology (Social Inequality)  
Mentor: Makeba Jones, PhD  
Project (2020): Understanding the Educational Journey of Undergraduate Latinx Students or Understanding the Experiences of Undergraduate Latinx Students?  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))

**Nay Chi (Tiffany) Naing**, Molecular and Cell Biology  
Mentor: Pamela Mellon, PhD  
Project (2020): In vitro regulation of the Kiss1 promoter by VAX1  
Conferences: SRC 2020, OURS 2020  
([View Presentation Here](#))
McNair Scholars (cont.)

Lucia Nishizawa-Rodriguez, International Studies (Literature)  
Mentors: Carol Arcos-Herrera, PhD;  
Luis Martin-Cabrera, PhD  
Project (2020): El performance, la mujer, el ser y la (r)evolución  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)

Syreeta Nolan, Psychology/Human Health  
Mentor: Francesca Telese, PhD  
Project (2020): A Systematic Review of Methamphetamine Use Disorder Considering Syndemic Factors in HIV  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)  
Award: Undergraduate Library Research Prize, 1st Place

Naama Nunez, Sociology  
Mentor: Abigail Andrews, PhD  
Project (2020): Across Borders: The Role of Education in Transnational Students’ Career Trajectory  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)

Dora Ogbonna, Chemical Engineering  
Read Student Spotlight Article Here  
Mentor: Nisarg Shah, PhD  
Project (2020): Literature Review on Cytokine Release Syndrome in Autoimmune Diseases  
Conference: SRC2020  
Award: Barry Goldwater Scholarship

Thuy Trang Sabrina Pham-Vu, Ethnic Studies/Psychology (Clinical)  
Mentor: Yến Lê Espiritu, PhD  
Project (2020): Refugee Precarity: Examining the Impact of COVID-19 on Vietnamese Americans and Intergenerationality & Identity-Building within the Oakland Vietnamese Community  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)

Chantal Rabay, Biological Anthropology  
Mentor: Amy Non, PhD  
Project (2020): Analyzing Clinician Views on Race and Genetic Ancestry  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)
McNair Scholars (cont.)

**Brenda Rincon**, Human Biology  
Mentor: Gail Heyman, PhD  
Project (2019): How do lay people evaluate social scientists who study their own racial/ethnic populations?  
Conference: SRC 2019

**Nayeli Rincon**, Psychology (Social)  
Mentor: Pamela K. Smith, PhD  
Project (2020): Exploring Pathways to Power for Individuals in Consensually Non-monogamous Relationships  
Conferences: SRC 2020, OURS 2020 ([View Presentation Here](#))

**Vanessa Rodarte**, Psychology  
Mentor: Christopher Oveis, PhD  
Project (2019): The Role of Physiological Responses in Supporting Positive Empathy  
Conference: SRC 2019

**Dulce Rodriguez-Ponciano**,  
Psychology (Health)  
Mentor: Linda Brubaker, MD  
Project (2019): Patient Preferences for management of Recurrent Urinary Tract Infections and Assessment of Peezy Midstream urine collection device for ease of use, ease of learning and patient satisfaction  
Conference: SRC 2019

**Ha'ani San Nicolas**, General Biology  
*Ethnic Studies Honors Program*  
Mentor: Shaista Patel, PhD  
Project (2019): Setting the Table: An Exploration of Chamoru Fiestas as a Site of Indigenous Survivance in the Wake of White Settler Colonialism  
Conference: SRC 2019

**Miguel Sanchez**, Human Biology  
Mentors: Jacob Garrigues; Amy Pasquinelli, PhD  
Conference: SRC 2019
Laura Santos, Ethnic Studies  
Mentor: Dennis Childs, PhD  
Project (2019): California Justice System: Subjection of Womxn through a Mask of Neutrality  
Conference: SRC 2019

David Sibrian, Spanish Literature  
Mentors: Carol Arcos-Herrera, PhD; Luis Martin-Cabrera, PhD  
Conferences: SRC 2020, OURS 2020 ([View Presentation Here])

Kisanet Sium, Pharmacological Chemistry

Jzov Stith Gambles, Political Science  
Mentor: Makeba Jones, PhD  
Conference: SRC 2019

Rabia Syed, Public Health  
Mentor: Leslie Lewis, PhD  
Conferences: SRC 2020, OURS 2020 ([View Presentation Here])

Yordanos Tesfai, Public Health  
Mentor: Laramie Smith, PhD  
Conferences: SRC 2020, OURS 2020 ([View Presentation Here])

Tiffany Tran, Economics  
Mentor: Prashant Bharadwaj, PhD  
Project (2020): Using Pupil Services Spending and Resources to Predict Student Performance: Understanding the Role of District Leadership and Analyzing Student Performance in California School Districts  
Conference: SRC 2020
Iris Ulloa, Cogn and Behavioral Neuroscience
Mentor: Natacha Akshomoff, PhD
Project (2019): Brain Development and The Relationship of Movement Abilities in Preschoolers Born Very Preterm
Conferences: SRC 2019, Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) 2019
Award: SACNAS 2019 Travel Scholarship

Abraham Velasquez, Education
Mentor: Frances Contreras, PhD
Project (2019): Core theme behind the motivations and concern of the teaching field and how it fits into existing work
Conference: SRC 2019

Anh Vo, Global Health
Mentors: Rebecca Fielding-Miller, PhD; Richard Garfein, PhD
Projects: (2019) Affective Factors for Satisfaction of Video Directly Observed (VDOT) amongst Tuberculosis Patients Cohort; (2020) #GameChangers: Sexual Resistance Program in Eswatini
Conferences: SRC 2019, SRC 2020, OURS 2020 (View Presentation Here)

Yvonne Yee, Chemical Engineering
Mentor: Nisarg Shah, PhD
Project (2019): Sustained delivery of small molecule regulators of autoimmune T-cells
Conference: SRC 2019
The **Triton Research & Experiential Learning Scholars (TRELS)** program is sponsored by the Council of Provosts of the Undergraduate Colleges at UC San Diego and the office of Academic Enrichment Programs. TRELS empowers students to pursue intellectual opportunities beyond the classroom, by providing support in the form of funding and mentorship.

279 Awards

25 Summer 2019
54 Fall 2019
78 Winter 2020
92 Spring 2020
30 Summer 2020

199 Unique students participated in the TRELS program
Triton Research & Experiential Learning Scholars

**Caesar Aceituno**, Sociology (Social Inequality)
Mentors: Bennetta Jules-Rosette, PhD, Frances Contreras, PhD
Project (2020 Spring, 2020 Summer): The Transfer Experience
Conference: SRC 2020

**Elisa Ady**, Literatures in English
Mentor: Stephanie Jed, PhD
Project (2020 Spring): The Glossary of Unknowable Nouns

**Sultan Al Azzawi**, Human Biology
Mentor: Luz Chung, PhD
Project (2020 Spring): Bilingual Learners Project

**Ryan Alvey**, Aerospace Engineering
Mentor: Nicolas Boechler, PhD
Project (2020 Winter, 2020 Spring): Modified Auxetic 4-Star with Sign-Tunable Poisson's Ratio

**David Anyakora**, Int'l Studies (Int'l Business)
Read Student Spotlight Here
Mentor: Georgia Robins Sadler, PhD
Project (2019 Summer): Assessing Impact of University of California, San Diego Pilot Outreach Initiative on Community Competency of Health Disparities and First-Generation Student's Navigation of the College Application Process
Conference: SRC 2019

**Yutong Bao**, Human Biology
Mentor: Leslie Carver, PhD
Project (2020 Spring): Stability of dynamic audio-visual sensitivities through time
Conference: OURS 2020 (View Presentation Here)

**Destany Barnett**, Global Health
Mentor: Laramie Smith, PhD
Project (2020 Winter, 2020 Spring): Medical Mistrust and Contraceptive Beliefs Among Black Women
Conference: CRASSH Spring 2020
Triton Research & Experiential Learning Scholars (cont.)

**Ella Bayi**, Political Science (Int’l Relations)
Mentor: Sebastian Saiegh, PhD
Project (2019 Summer): Indigenous Territories and Deforestation in the Brazilian Amazon
Conference: SRC 2019

**Daniela Becerra**, Electrical Engineering
Mentor: Michael Davidson, PhD
Project (2020 Spring): Data Collection for Forecast Optimization

**Valerie Berumen**, Public Health
Mentor: Robert Castro, MFA
Project (2020 Winter): Pa’ La Raza

**Rachel Brand**, Global Health
Mentor: Berenice Jau
Project (2019 Summer): Methodology on Foster Youth Academic Outcomes: Assessing the Needs and Understanding the Experiences of Foster Youth Students in UCSD

**Jacqueline Brinkmann**, Urban Studies and Planning
Mentor: Leslie Lewis, PhD
Project (2019 Summer): Study Abroad: What We Can Gain from Engaging in Uncomfortable Conversations and Entering Uncomfortable Situations

**Tajairi Brown-Neuson**, Literature (Writing)
Mentor: Jane Teranes, PhD
Project (2020 Spring): Analyzing How UC San Diego Can Address The Climate Crisis With Student Input

**Marc Camanag**, Political Science (Int’l Relations)
Mentor: Nancy Grey Postero, PhD
Project (2020 Spring): Pachamama or Death: Identity Conflict and Environmental Attitudes within Bolivia's Indigenous Population
Triton Research & Experiential Learning Scholars (cont.)

Christopher Carbajal-Carbajal, Sociology and Political Science
Mentor: John Skrentny, PhD
Project (2020 Summer): “They’re Making It Hard for Us to Exist” - an Empirical Analysis of How Policing Affects the Quality of Life for Black and Brown Communities in the Militarized City of San Diego
Conference: SRC 2020

Ben Carfano, Human Biology
Mentor: John Serences, PhD
Project (2020 Spring): Pinging Feedback Driven Memories using EEG
Conference: OURS 2020 (View Presentation Here)

Gino Carfano, Electrical Engineering
Mentor: Prasad Gudem, PhD
Project (2019 Fall): Positioning Using 5G NR Communication Technology
Proposal

Parker Carnahan, Bioengineering
Mentor: Georgia Kayser, PhD
Project (2019 Fall, 2020 Spring): Kachieng Project

Mariana Carrola, Education Studies and Public Health
Mentors: Gerardo Arellano, PhD; Frances Contreras, PhD
Conference: OURS 2020 (View Presentation Here)

Mara Casebeer, Physics (Biophysics)
Mentor: Dimitri Deheyn, PhD
Project (2020 Spring): Numerical Model of DNA for the Investigation of High Frequency Bioelectrodynamics

Jaideep Chakladar, Biochemistry and Cell Biology
Mentor: Weg Ongkeko, MD, PhD
Project (2019 Fall): Pan-cancer analysis of immune-associated mechanisms induced by tobacco smoke

Geeling Chau, Computer Engineering
Mentor: Virginia de Sa, PhD
Besma Chaudry, Biology
Mentor: Olivia Osborn, PhD
Project (2019 Fall, 2020 Winter, 2020 Spring): Biomarkers of Antipsychotic Induced Weight Gain
Data Analysis Internship: dkNET Summer of Data Student Internship Program

Brenda Chavez, Political Science
Mentor: Robert Castro, MFA
Project (2020 Winter, 2020 Spring): Pa' La Raza

Derek Chen, Bioengineering
Mentor: Christian Metallo, PhD
Project (2020 Winter, 2020 Spring): Reconstructing the Metabolic Pathway of $\beta$-Hydroxy $\beta$-methylbutyric acid (HMB)

Abinav Teja Chilukuri, Human Biology
Mentor: Mahadevan Rajasekaran, PhD
Project (2019 Fall, 2020 Spring): Microbiome Presence and Its Relation to Bladder Cancer

Harrison Cho, Economics
Mentor: Andrea Chiba, PhD; Leanne Chukoskie, PhD
Project (2020 Winter, 2020 Spring): Learning to Play Video Games

Rosalyn Cho, Structural Engineering
Mentor: Rodrigo Carreño Vallejos, PhD
Project (2020 Winter): Experimental Stress-Strain Response of Steel Reinforcement Under Cyclic Loading, Including Buckling for Variable Unsupported Lengths

Kelly Clemen, Literature (Cultural Studies)
Mentor: K. Wayne Yang, PhD
Project (2019 Fall): On Black Belonging and the Politics of Acknowledgement

Isabelle Danforth, Marine Biology
Mentor: Amro Hamdoun, PhD
Project (2020 Winter): ABCB4-associated gene expression and morphological changes in embryonic purple sea urchin following exposure to Vibrio diazotrophicus
Kypros Dereschuk, Human Biology
Mentor: Weg Ongkeko, MD, PhD
Project (2020 Winter): Identification and characterization of the intra-articular microbiome in osteoarthritic knee

Paola Diaz, Theatre
Mentors: Robert Castro, MFA; Jade Power-Sotomayor, PhD

Brian Dinh, Molecular and Cell Biology
Mentor: Peter Shaw, PhD
Project (2020 Winter, 2020 Spring): CFH and HTRA1 exhibit an antagonistic effect on inhibiting oxidized phospholipids uptake in human retinal pigment epithelial cells

Alexandria Do, NanoEngineering
Mentor: Marc Meyers, PhD

Nicholas Dorn, Chem. Engineering
Mentor: Nisarg Shah, PhD
Project (2019 Fall, 2020 Winter): Engineering Anti-Inflammatory Biomaterials for Gut Autoimmune Disorders
Conference: OURS 2020 (View Presentation Here)

Manuel Duran, Political Science (Data Analytics)
Mentors: Gerardo Arellano, PhD; José Fusté, PhD
Project (2019 Fall, 2020 Winter, 2020 Spring): Campaigning Against Capitalism
Conference: OURS 2020 (View Presentation Here)

Rachael Ehlen, Physiology and Neuroscience
Mentor: Peter Shaw, PhD
Project (2020 Spring): The ARMS2-HTRA1 Locusin Age-Related Macular Degeneration

Mariam Eick, Bioengineering
Mentor: Adam Engler, PhD
Project (2019 Summer): Correlation of EGFRv3 and Cell-Matrix Adhesion within Invasive Glioblastoma
Conference: SRC 2019
Pamela Elguezabal, Sociology (Science and Medicine)  
Mentor: Abigail Andrews, PhD  
Project (2020 Spring): Sin Fronteras: Programa de Enriquecimiento Educativo  
Conference: OURS 2020 (View Presentation Here)

Richard Ellks, Cogn and Behavioral Neuroscience  
Mentor: Pamela Cosman, PhD  
Project (2020 Winter, 2020 Spring): Real World Gaze Behavior in Typically Developing and Attention Disorder Populations

Jehan Ezzulddin, Human Biology  
Mentor: Sandra Daley, MD  
Project (2020 Summer): Relationship Between Social Determinants of Health and Allostatic Overload  
Conference: SRC 2020, CRASSH Summer 2020

Marisa Felix, Physiology and Neuroscience  
Mentor: Christoforos Mamas, PhD  
Projects: (2020 Winter) High-Speed Wireline Transceiver Emulations; (2020 Spring) Gender Differences Observed From Social Networks in a Highly Diverse Classroom  
Conference: OURS 2020 (View Presentation Here)

Travis Fleming, Biochemistry and Cell Biology  
Mentor: Amro Hamdoun, PhD  
Project (2019 Summer, 2020 Spring): CRISPR/Cas9 mutagenesis reveals a role for ABCB1a in 2 protection of sea urchin embryos from pathogenic gut bacteria  
Conference: SRC 2019  
Award: 2020 NSF Graduate Research Fellowship Winner

Omar Flores, Interdisc Computing and the Arts  
Mentor: Sarah Hankins, PhD  
Project (2020 Summer): Political Sap vs Authentic Rap: Authentic Political Discourse within Contemporary Commercial Rap  
Conference: SRC 2020
Kaiyun Fu, Mathematics (Computer Science)
Mentor: Jurgen Schulze, PhD
Project (2020 Winter): Guidelines to adapt VR applications for airplane use

Alexander Fuentes, Sociology
Mentor: Abigail Andrews, PhD
Project (2020 Winter, 2020 Spring): Cannot Go Back, Cannot Move Forward - The Migration Paradox: Understanding the story of migrants from Central America

Parke Funderburk, Applied Mathematics
Mentor: Thomas Levy, PhD
Project (2020 Summer): Sedimentology and geochemistry of a wetland record from NW Israel: new insights utilizing X-ray fluorescence
Conference: SRC 2020

Aditi Gnanasekar, Bioengineering (Biotechnology)
Mentor: Weg Ongkeko, MD, PhD

Marisol Gonzalez, Mathematics (Applied)
Mentor: Jonathan Novak, PhD
Project (2020 Winter, 2020 Spring, 2020 Summer): An Introduction to Compress Sensing and Its Applications
Conference: SRC 2020

Samantha Gray, Cognitive and Behavioral Neuroscience
Mentor: Douglas Nitz, PhD
Project (2020 Summer): Spatial Firing Patterns of Retrosplenial Cortex Neurons at Low Versus High Gamma Frequencies
Conference: SRC 2020

Anthony Grubbs, Speculative Design
Mentor: Edwin Cruz, MDesS
Project (2020 Winter): Data-Driven Architecture

Alexandra Gunn, Int'l Studies (Political Science)
Mentor: Ivan Evans, PhD
Project (2019 Summer): Inclusivity in the Changing Climate in South Africa
Jeeho Ha, Visual Arts (Studio)  
Mentor: Christoforos Mamas, PhD  
Project (2019 Summer): Jeeho makes a movie!  
Conference: SRC 2019

Mehrshad Hairani, Human Biology  
Mentor: Matthew Hangauer, PhD  
Project (2020 Spring): Western Blot Analysis of DFFB in Cancer Cells

Michael Hanson, Mechanical Engineering  
Mentor: Saikat Chakraborty Thakur, PhD  

Lien Hardister, Biochemistry and Cell Biology  
Mentor: Amy Pasquinelli, PhD  
Project (2019 Summer): The Importance of Personal Accounts in Breaking the Silence Around Intimate Partner Violence  
Conference: SRC 2019

Samantha Harmer, Political Science  
Mentor: Bonnie Kaiser, PhD  
Project (2020 Summer): Are UCSD's Resources Sufficient for Foster Youth's Needs?  
Conference: SRC 2020

Khaila Hartung-Dallas, Psychology  
Mentors: Joseph Hankins, PhD; Karen Shelby, PhD  
Project (2020 Winter, 2020 Spring): Capitalism, Marriage, and Queer Identity

Henry Helmuth, Structural Engineering  
Mentor: Richard Chavez, PE  
Project (2020 Summer): UC San Diego Active Commute Plan  
Conference: SRC 2020

Brandon Hernandez Pacheco, Bioengineering (Biotechnology)  
Mentor: Kevin King, MD, PhD  
Project (2019 Fall): The Validation of BedScales for Obtaining the Weight of Heart Failure Patients

Joyous Herron, Literature (Writing)  
Mentor: Megan Wesling, PhD  
Project (2020 Spring): Prego Short Film
Mische Holland, Biochemistry and Cell Biology
Read Student Spotlight Here
Mentor: Victor Nizet, MD
Project (2019 Fall, 2020 Winter):
Fluoroquinolone Activity Assessment in Host Mimicking Conditions

Susan Hou, Bioengineering (BioSystems)
Mentor: Stanley Lo, PhD
Project (2019 Summer, 2020 Winter, 2020 Spring) Undergraduate Experiences and Responses to Recognition

Kyra Hulse, Bioengineering (Bioinformatics)
Mentor: Ferhat Ay, PhD
Project (2020 Summer): Improving Resolution of HiChIP data with a Generative Adversarial Network
Conference: SRC 2020

Anahi Ibarra, Sociology (Social Inequality)
Mentor: Frances Contreras, PhD
Project (2019 Fall, 2020 Winter):
How We Can Foster Student and Faculty Connections to Support the Career and Professional Development of First Generation College Students at UCSD (View The Research Guide Here)

Lauren Ibarra, Biochemistry and Cell Biology
Mentor: Eric Hekler, PhD
Project (2020 Summer): Development of Digital Adherence Technology for Tuberculosis Treatment in Kampala, Uganda
Conference: SRC 2020

Ye Jin, Bioengineering (Bioinformatics)
Mentor: Pamela Mellon, PhD
Project (2020 Spring): Circadian rhythm analysis in genetically modified mice
Conference: OURS 2020 (View Presentation Here)
Tanish Jindal, Speculative Design
Mentor: Elizabeth Cartwright, PhD

Christian Johnson, Political Science (Public Law)
Mentor: Robert Castro, MFA
Project (2020 Spring): Found Space

Shane Jost, Marine Biology
Mentor: Lakshmi Chilikuri, PhD
Project (2020 Winter, 2020 Spring): Early History of Sixth College, and the establishment of a permanent Sixth College Special Collection

Tommy Jung, Political Science (Data Analytics)
Mentor: Sean Ingham, PhD
Project (2020 Spring): Difficult Games: Challenges to Game Theory Instruction
Conference: OURS 2020 (View Presentation Here)

Jacob Kattoula, Molecular and Cell Biology
Mentor: Ruben Abagyan, PhD
Projects: (2019 Summer) Small Molecule Modulators for Cancer Immunotherapy; (2019 Fall): Small Molecule Modulators for SARS-CoV-2 Main Protease
Conference: SRC 2019

Karanjot Kaur, Cognitive Science (Neuroscience)
Mentor: Federico Rossano, PhD
Project (2020 Summer): An ethnographic investigation of child begging in India
Conference: SRC 2020

Helen Khuu, Biochemistry and Cell Biology
Mentor: Christina Sigurdson, DVM, PhD
Project (2019 Summer): Pathology of Prion Disease
Conference: SRC 2019
Triton Research & Experiential Learning Scholars (cont.)

**Allison Kifer**, Molecular Biology  
Mentor: Marco Wilkinson, MFA  
Project (2020 Winter): The Science Communication Crisis: How the Acknowledgement of Societal Influence Could Decrease Climate Change Stigma

**Jonathan Kim**, Political Science  
Mentor: Leslie Carver, PhD  
Project (2019 Fall, 2020 Winter): Botanical Decolonization at UCSD

**Rhiannon Koh**, Urban Studies and Planning  
Mentor: Leslie Lewis, PhD  
Project (2019 Summer): Reclaiming Storytelling and Place in Singapore: Lessons on Identity, Community, and Belonging  
Conference: SRC 2019

**Yuko Koike**, Bioengineering (Biotechnology)  
Mentor: Bernhard Palsson, PhD  
Conference: OURS 2020 ([View Presentation Here](#))

**Eliana Kontokanis**, Visual Arts (Media)  
Mentor: Dino Dinco  
Project (2020 Summer): IN HER OWN IMAGE ([View Images Here](#))  
Conference: SRC 2020

**Oleksandr Kubichka**, Computer Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020 Winter): 3D Printing

**Tiffany Kuo**, Biochemistry and Cell Biology  
Mentor: Sonya Neal, PhD  
Project (2020 Spring): Unfolded Protein Response

**Breanna Lam**, Molecular and Cell Biology  
Mentor: Randolph Hampton, PhD  
Project (2020 Winter): Allostery as a Mechanism for Regulated Degradation: Evolving From Allostery to Mallostery  
Conference: SRC 2019
Molly Lasher, Theatre
Mentor: Emily Roxworthy, PhD
Project (2020 Spring): Hindsight is 2020: The Never-Ending Struggle for Female Theatre-Makers

Nathan Lau, Neurobiology
Mentor: Cory Root, PhD
Project (2020 Winter): Tracing The Olfactory Tubercle Circuit

Nicolette Olivia Le, Global Health
Mentor: Leslie Lewis, PhD
Project (2019 Summer): Preserving an Unwritten History: Using Oral Histories to Highlight the Voices of Immigrants
Conference: SRC 2019

Ringo Leung, Cogn and Behavioral Neuroscience
Mentor: John Ravits, MD, PhD
Conference: OURS 2020 (View Presentation Here)

Alexander Levine, Cognitive Science
Mentor: Ramaohan Paturi, PhD
Project (2020 Winter): Aerodynamics of Drones and Boomerangs

Gabriel Lopez, Molecular and Cell Biology
Mentors: Don Cleveland, PhD; Ksenia Krupina, PhD
Project (2019 Summer, 2019 Fall): Aneuploidy in TRIP13-Deficient Mice
Conference: SRC 2019

Stephanie Luedtke, Human Biology
Mentor: Anthony O'Donoghue, PhD
Project (2020 Winter, 2020 Spring): Biochemical Analysis of Breast Milk Proteolysis and the Role of Milk Protein and Peptides in NEC

Alina Luk, Pharm. Chemistry
Mentor: Colleen McHugh, PhD
Project (2020 Winter, 2020 Spring): Identification of MALAT1 masclRNA’s Protein Binding Partners in Human Cells
Triton Research & Experiential Learning Scholars (cont.)

Yoshii Ma, Biology (Bioinformatics)  
Mentor: Weg Ongkeko, MD, PhD  
Project (2020 Spring): Immunotherapy & Hepatocellular Carcinoma

Vivian Maldonado, Global Health  
Mentor: Jay Silverman, PhD  
Conference: UC Global Health Day Conference 2020 (View Presentation Here)

Kate Mallari, Sociology  
Mentor: April Sutton, PhD  
Project (2020 Summer): “An Email Can Only Go So Far,” The Gap Between University Support and Students of Color  
Conference: SRC 2020

Steve Anthony Maravillo, Public Health/Education Sciences  
Mentor: Paula Saravia, PhD  
Project (2020 Summer): Assessing Health Disparities Amidst the COVID-19 Pandemic: Vulnerabilities in Black Homelessness in Los Angeles County, California  
Conference: SRC 2020

Chad Marks, Theatre  
Mentor: Eva Barnes, MFA  
Project (2020 Summer): Take Two: Drama Therapy From An Actor's Point Of View  
Conference: SRC 2020

Nicholas Martin, Environmental Systems (Earth Sciences)  
Mentor: Jack Silberman, PhD  
Project (2020 Winter, 2020 Spring): Intel Realsense

Brice McKane, Marine Biology  
Mentor: Greg Rouse, PhD  
Project (2020 Spring): An Ongoing Investigation into the Biodiversity of the South Pacific Gyre
Kaylee McMillen, International Studies (Political Science)
Mentor: Matthew Herbst, PhD
Project (2020 Spring): “Stop and Frisk” and the Underlying Condition of Discrimination that pervades the United States Criminal Justice System

Keyona Meeks, Int’l Studies (Int’l Business)
Mentors: Kirstie Dorr, PhD; Lawana Richmond, EdD
Conference: SRC 2019

Ipek Midillioglu, Molecular Biology
Mentor: Amy Kiger, PhD
Project (2019 Fall): Role of Dynamin in T-tubule Maintenance and Remodeling

Haneen Mohamed, Urban Studies and Planning
Mentor: Keith Pezzoli, PhD
Project (2019 Summer): Zikra: An Homage to Memory
Conference: SRC 2019

Xelestiál Moreno-Luz, Visual Arts (Media)
Read Student Spotlight Here
Mentors: Rubén Ortiz-Torres, MFA; Mariana Wardwell, PhD
Projects: (2020 Winter, 2020 Spring) The Institutionalization of Transgender Visuality and Death: Existing and Insisting within Media, Social Media, and Social Movements; (2020 Summer) Transgender Movements of Color and Audio-Visual Culture: Insisting Till Our Last Breath
Conference: SRC 2020

Michael Murphy, Anthropology (Sociocultural)
Mentor: Rihan Yeh, PhD
Project (2020 Spring): The Lens and Who Holds It: Digital Autoethnography and Narrative in "Nowhere to Hide" & On Disaster and Crises

Faustina Ngo, Public Health
Mentor: Claire Edington, PhD
Project (2020 Spring): COVID-19 Impacts on Minority Student Experiences
Chloe Nguyen, Bioengineering Biotechnology
Mentor: Jeff Hasty, PhD
Project (2019 Fall): Characterizing the role and distribution of the mitochondrial protein Cox6a2 in the brain

Hung Nguyen, Speculative Design
Mentor: Zachary Osborn
Project (2019 Fall): Community Food Wall

Aoife O'Farrell, Bioengineering (Biotechnology)
Mentor: Georgia Kayser, PhD
Project (2020 Winter): Project FogCatchers - An Innovative Humanitarian-Based Engineering Project

Dora Ogbonna, Chemical Engineering
[Read Student Spotlight Article Here](#)
Mentor: Nisarg Shah, PhD
Project (2019 Fall): Engineering Biomaterials for the Delivery of Short Chain Fatty Acids
Conference: OURS 2020 (View Presentation Here)

Ethan Olson, International Studies (Political Science)
Mentor: Alexander Gershunov, PhD
Project (2020 Winter, 2020 Spring): Thawing Apathy: A Literature Review on the Comparative Strengths and Weaknesses of the Kyoto Protocol and the Paris Agreement as Mechanisms Against Climate Change

Jocelyn Ornelas Munoz, Mathematics (Applied)
Mentor: Luz Chung, PhD
Project (2020 Winter, 2020 Spring): Creating Equitable Mathematics Education

Yunchun Pan, Applied Mathematics
Mentor: Art Miller, PhD
Project (2020 Winter): Modeling of California Current Ecosystem’s Response to Climate Change

Emily Paris, Biochemistry and Cell Biology
Mentor: Gerald D'Spain, PhD
Project (2019 Fall): Orca Bioacoustics: Above the Arctic Circle
Other Presentation: 2019 Scripps Institution of Oceanography Undergraduate Research Symposium
Meera Patel, Biochemistry and Cell Biology
Mentor: Pamela Mellon, PhD
Project (2020 Spring): Molecular Regulation of Circadian Rhythms
Conference: OURS 2020 (View Presentation Here)

Patrick Paxson, Computer Science
Mentor: Ryan Kastner, PhD
Project (2019 Summer): Triton Robosub
Conference: SRC 2019
Award: Semifinals at an international competition in 2019 (Read Info Here)

Francisco Peralta-Vargas, International Studies (Int'l Business)
Mentor: Kristene Ehrich, PhD
Project (2019 Summer): A closer look to DACA recipients at the frontlines of activism in the San Diego-Tijuana border
Conference: SRC 2019

Yana Pyryalina, Cognitive Science (Machine Learning and Neural Computation)
Mentor: Douglas Nitz, PhD
Project (2020 Summer): Role of Axis-Tuned Neural Activity and Head Direction Encodings in Construction of Neural Maps of Space
Conference: SRC 2020

Anthony Quach, Human Biology
Mentor: Philip Gordts, PhD
Project (2020 Spring, 2020 Winter): Liver Heparan Sulfate Proteoglycans impact on FGF1 binding in the Adipose Tissue

Zeltzin Perez Reyes, Sociology (Science and Medicine)
Mentor: Abigail Andrews, PhD
Project (2020 Winter): Mexican Migrant Field Research Program Blogs

Luis Gustavo Ramirez Chappero, Spanish Literature
Mentor: Max Parra, PhD
Project (2020 Spring): Feminismos Interseccionales y Disidentes: Modernidad Mexicana, Cuerpo, y Poder

Simran Randev, Human Biology
Mentor: Mohit Jain, MD, PhD
Project (2019 Summer): Profiling and Characterizing Plasma Metabolites or Characterizing the Plasma Exposome Using Mass Spectrometry
Conference: SRC 2019
<table>
<thead>
<tr>
<th>Name</th>
<th>Field</th>
<th>Project Details</th>
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| **Boya Ren**         | Cognitive Science (Design and Interaction) | Mentor: Steven Dow, PhD  
Project (2019 Summer, 2019 Fall): How can the features of a civic design challenge facilitate participation among a wide range of stakeholders?  
Conference: SRC 2019 |
| **Daniel Sandoval**  | Cognitive Science (Neuroscience) | Mentor: Bonnie Kaiser, PhD  
Project (2020 Winter, 2020 Spring): Depression: Psychopathology as Defined By Underrepresented Adolescents  
Conference: SRC 2020 |
| **Alex Rodriguez**   | Literatures in English       | Mentor: K. Wayne Yang, PhD  
Projects: (2019 Summer) Memoir Methodology: How to Write Autobiographical Creative Nonfiction; (2019 Fall, 2020 Spring) The Light at the End of the Road  
Conference: SRC 2019 |
| **Abigail Sanford**  | Environmental Systems (Ecol, Behav & Evol) | Mentor: Jane Teranes, PhD  
Project (2020 Spring): Scripps Climate Science Field Trip: Lancetfish Video Project |
| **Miguel Sanchez**   | Human Biology                | Mentor: Amy Pasquinelli, PhD  
| **Prithvi Setty**    | Molecular and Cell Biology   | Mentor: Matthew Shtrahman, MD, PhD  
Project (2020 Winter): Random Maze Elongation Experiment |
| **Goonja Shah**      | Biochemistry and Cell Biology | Mentor: Louise Laurent, MD, PhD  
Project (2020 Spring): Using computational and mouse models to study early-embryonic development  
Conference: OURS 2020 (View Presentation Here) |
Omar Shalakhti, Global Health
Mentors: Victoria Ojeda, PhD; Jose
Burgos, MD
Project (2019 Fall): Implementing a Leadership Course for Public Health and Pre-Health Students

Eman Sherif, Computer Science
Mentor: Christine Alvarado, PhD
Project (2020 Summer): Exploring Equitable Pathways to Computer Science
Conference: SRC 2020

Aman Shihora, Pharmacological Chemistry
Mentor: Lalit Deshmukh, PhD
Project (2020 Spring): The Interplay between HIV-1, Alzheimer’s disease, and Diabetes and their Protein Signaling Pathways within Cellular Systems

Soyoung Shin, Chemical Engineering
Mentor: Jinhye Bae, PhD
Project (2020 Spring): Liquid Droplet Impacts

William Simpson, Computer Science
Mentor: Alina Bucur, PhD
Project (2020 Spring): Teaching Cryptography

Narinderbir Singh, Biology
Read Student Spotlight Here
Mentor: Sonya Neal, PhD
Project (2019 Fall, 2020 Winter, 2020 Spring): Characterizing Dfm1’s Features in ERAD Retrotranslocation of Integral Membrane Proteins
Conference: The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019

Marco-Landon Siu, Ethnic Studies
Mentor: Luz Chung, PhD
Project (2020 Winter, 2020 Spring): Queer Safety in Educational Institutions

Justin Skaggs, Chemical Engineering
Mentor: David Fenning, PhD
Project (2020 Summer): Accelerating the Characterization of Perovskite Solar Cells Via Automated IV Testing and Efficiency Loss Analysis
Conference: SRC 2020
**Triton Research & Experiential Learning Scholars (cont.)**

**Theresa Slaiwa**, Bioengineering (BioSystems)  
Mentor: Pamela Mellon, PhD  
Project (2020 Winter): Investigating the Regulation of FSHB Transcription Through Novel 5’ Upstream Enhancers  
Conference: OURS 2020 ([View Presentation Here](#))

**Haili Song**, Psychology  
Mentor: Dredge Byung chu Kang, PhD  
Project (2019 Summer): Comparing attitudes toward interracial marriage among Chinese Americans and Chinese international students at UCSD with Chinese local university students at Peking University  
Conference: SRC 2019

**Miranda Song**, Bioengineering (Bioinformatics)  
Mentor: Niema Moshiri, PhD  

**Rohan Sreedhar**, Computer Engineering  
Mentor: Michael Davidson, PhD  
Project (2020 Spring): Energy Interest Groups

**Gregory Stocker**, Biology  
Mentor: Stanley Lo, PhD  
Project (2020 Summer): Transitioning Sophomore Experiences and the Perceived Usefulness in Supporting their Academic, Social, Personal, and Professional Development  
Conference: SRC 2020

[Read Student Spotlight Article Here](#)  
*Regents Scholar Research Initiative Program*  
Mentor: Angela Yu, PhD  
Project (2020 Spring): Perception-Based Empathy and Compassion

**Donovan Tamkin**, Psychology  
Mentor: Michael McCullough, PhD  
Project (2020 Summer): Measures of Morality  
Conference: SRC 2020
**Triton Research & Experiential Learning Scholars (cont.)**

**Sirui Tao**, Data Science  
Mentor: Shannon Ellis, PhD  

**Alice Tor**, Bioengineering  
(BioSystems)  
Mentors: Weg Ongkeko, MD; PhD Mahadevan Rajasekaran, PhD  
Project (2019 Fall, 2020 Spring): Pan-cancer Analysis of Adenosine Receptors and Related Pathways to Identify Possible Immunotherapy Targets

**Alessandra Torres-Rojas**, Global Health  
Mentor: Joseph Hankins, PhD  
Project (2020 Winter/Spring): How are formerly incarcerated and system-impacted students supported, or not supported, across community colleges compared to the UC system?

**Alan Tram**, Cognitive Science (Design and Interaction)  
Mentor: Haijun Xia, PhD  
Project (2020 Winter): The Integration of Graphene Electrodes and Miniature Microscope in In Vivo Sampling

**Tracy Tran**, Human Biology  
Mentor: Mana Parast, MD, PhD  
Project (2020 Winter, 2020 Spring): Maternal CHD and its effects on hypertensive disorders of pregnancy and placental pathology

**Socorro Trujillo**, Global Health  
Mentor: Abigail Andrews, PhD  
Project (2020 Winter, 2020 Spring): On becoming a transnational student

**Vy Truong**, Mathematics (Computer Science)  
Mentor: Alina Bucur, PhD  
Project (2020 Spring): AKS Primality Test

**Steven Tsan**, Computer Science  
Mentor: Javier Duarte, PhD  
Triton Research & Experiential Learning Scholars (cont.)

**Tat Hei Tsin**, Biology (Bioinformatics)  
Mentor: Kay Tye, PhD  
Project (2020 Spring): Classifying mice facial expression with computer vision methods

**Swan Van**, Biochemistry/Chemistry  
Mentors: Elizabeth Komives, PhD  
Alexis Komor, PhD  
Project: (2020 Winter, 2020 Spring)  
3D Scene Reconstruction for VR  
Conference: SRC 2020

**Gabriel Van Konynenburg**, Visual Arts (Media)  
Mentor: Stephanie Jed, PhD  
Project (2020 Summer): Aging in Film  
Conference: SRC 2020

**Arely Vasquez**, Data Science  
Read Student Spotlight Article Here  
Mentor: Jingbo Shang, PhD  
Project (2020 Summer): Using Machine Learning Models to Support First-generation Students attend College  
Conference: SRC 2020

**Christian John Ventura**,  
Bioengineering (Biotechnology)  
Mentor: Liangfang Zhang, PhD  
Project (2020 Spring): STING Nanovaccines against Cancer and Pathogens

**Anh Vo**, Global Health  
Mentors: Javier Cepeda, PhD; Natasha Martin, PhD  

**Maya Vannini**, Psychology (Clinical)  
Mentor: Dawn Schiehser, PhD  
Project (2019 Fall, 2020 Winter, 2020 Spring): Differences between gender and disease status in their effect on sensitivity to punishment and reward in Parkinson’s Disease

**Lily Vu**, Neurobiology  
Mentor: Susan Taylor, PhD  
Project (2020 Winter, 2020 Spring): Effects of Phosphorylation on the Activity and Structure of Protein Kinase A Catalytic Subunit
Phoenix Wang, Psychology (Clinical)  
Mentor: Clinton Tolley, PhD  
Project (2020 Winter): Philosophy and Feminist Ethics

Christine Wenzel, Global Health  
Mentor: Jennifer Wagman, PhD  
Project (2019 Fall, 2020 Winter): Let's Talk About Sex [Education]

Xuanyu Wu, Data Science  
Mentor: Douglas Nitz, PhD  
Project (2020 Winter, 2020 Spring): An Egocentric Approach to Subiculum Neuron Firing Patterns Analysis  
Conference: OURS 2020 (View Presentation Here)

Nancy Xu, Visual Arts (Media)  
Mentor: Jordan Crandall  
Project (2020 Summer): Big Brother — A short story and screenplay by Nancy Xu  
Conference: SRC 2020

Gordon Ye, Cognitive Science  
(Machine Learning and Neural Computation)  
Mentor: Sidney Zisook, MD  
Project (2020 Spring): Firearm Use in Nurse Suicide: Quantitative Analysis of Qualitative Data  
Conferences: UCSD Inquiry and Innovations e-Conference 2020, Lewis L. Judd Young Investigators Symposium 2020

Donna Yerat-Rodriguez, Political Science  
Mentor: Luz Chung, PhD  
Project (2020 Summer): Redefining Success in Higher Education through Testimonios (testimonies) First-Generation College Students at UCSD  
Conference: SRC 2020

Ada Yu, Psychology (Developmental)  
Mentor: Christoforos Mamas, PhD  
Project (2020 Spring): Social Networks In Education  
Conference: OURS 2020 (View Presentation Here)
Triton Research & Experiential Learning Scholars (cont.)

**Eric Yu**, Computer Science  
Mentor: Sicun Gao, PhD  
Project (2020 Summer): Modular Policies for Robotic Control  
Conference: SRC 2020

**Hanin Zayat**, Spanish Literature  
Mentor: Max Parra, PhD  
Project (2020 Summer): Transcultural Translation: Subtitling and Captioning Accents in Spanish Language Films  
Conference: SRC 2020

**Kate Zegans**, Sociology  
Mentors: Charles Thorpe, PhD; John Skrentny, PhD  
Project (2019 Summer, 2020 Winter): Exploring the Online Manosphere  
Conference: SRC 2019

**Yujie Zhang**, Bioengineering (Bioinformatics)  
Mentor: Nathan Lewis, PhD  
Project (2019 Fall, 2020 Winter): A consensus-based and readable extension of Linear Code for Reaction Rules (LiCoRR)  

**Annie Zhou**, Political Science  
Mentor: Pamela Ban, PhD  
Project (2020 Summer): Media Bias and What it Reveals About Political Power during the COVID-19 Pandemic  
Conference: SRC 2020
The **UC Scholars Program** is an 8-week, full-time summer research experience for undergraduates, supported by UC San Diego's Office of Student Affairs and Academic Enrichment Programs.

**Program Objectives**

**SKILLS**
Provide students with the skills to become research scholars.

**GRADUATE STUDY**
Stimulate students' serious consideration of graduate study.

**LEARNING AND NETWORKING**
Increase learning and networking opportunities for students committed to pursuing either a professional or academic research career.

16 Students participated in the UC Scholars Program

- 8 Summer 2019
- 8 Summer 2020
UC Scholars

Luis Alvarez, Cognitive Behavioral Neuroscience
Mentor: Angela Yu, PhD
Project (2020): How Facial Features Influence Social Traits Judgments
Conference: SRC 2020

Haozhe An, Computer Science
Mentor: Russell Impagliazzo, PhD
Project (2019): Fine-grained complexity and algorithm design
Conference: SRC 2019

Xiaoke Bi, Bioengineering (Biotechnology)
Mentor: Jonathan Lin, MD, PhD
Project (2019): Mouse Model to Investigate The Role of XBP1 in P23H Rhodopsin Protein Degradation
Conference: SRC 2019

Mirelle Castaneda, Education Studies
Mentor: Sherice Clarke, PhD
Project (2020): The pandemic hits teacher pedagogy
Conference: SRC 2020

Angela Chapman, Psychology (Clinical)
Mentors: Savita Bhakta, MD; Neal Swerdlow, MD, PhD
Conference: SRC 2020

Zijing Di, Computer Science
Mentor: Zhuowen Tu, PhD
Project (2020): Improved label to image generation
Conference: SRC 2020
Chinmay Kalluraya, General Biology
Mentor: Matthew Daugherty, PhD
Project (2019): A Novel Method to Infer Horizontal Gene Transfer
Conference: SRC 2019, The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019
Award: “Outstanding Poster” - ABRCMS 2019: Computational and Systems Biology Category

Jianan Liang, Management Science and Cognitive Science
Mentor: Shannon Ellis, PhD
Project (2020): PeAce: Integrating AI-based Tutoring and Collaborative Learning into an Educational System
Conference: SRC 2020

Can Liu, Cognitive Science (Neuroscience)
Mentor: Douglas Nitz, PhD
Project (2020): Encoding of Task Phase Versus Environmental Location in Hippocampal CA1 Neurons During Search for Buried Rewards
Conference: SRC 2020

Gayatri Mainkar, Molecular Biology
Mentor: Mohit Jain, MD, PhD
Project (2019): Identifying Lipid Mediators of Pluripotency Maintenance and Cardiomyocyte Differentiation
Conference: SRC 2019, The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019
Award: “Outstanding Poster” - ABRCMS 2019: Cell Biological category

Ivette Martinez, Sociology
Mentor: Luz Chung, PhD
Project (2020): We Do Not All Have A Traditional College Experience
Conferences: CRASSH Summer 2020, SRC 2020

Animesh Mohapatra,
Nanoengineering UC Scholars
Mentor: Liangfang Zhang, PhD
Project (2020): Long-Circulating Nanoparticles Inspired by Nature
Conference: SRC 2020
**Vu Nguyen**, Education  
Mentor: Cristian Popescu, PhD; Claus M. Sorensen, PhD  
Project (2019): Galois Infinite Extensions  
Conference: SRC 2019

**Kathy Ramirez**, Political Science  
(Public Policy)  
Mentor: Shana Cohen, PhD  
Project (2019): Autism Spectrum Disorder (ASD) Diagnosis Pathway among Border Community  
Conference: SRC 2019

**Dean Zhou**, Biochemistry and Cell Biology/Economics  
Read Student Spotlight Article Here  
Mentors: Michael Karin, PhD; Shabnam Shalapour, PhD  
Project (2019): Platinoids augment immunotherapy by inducing histone acetylation of MHCI machinery genes  
Conference: SRC 2019

**Fan Xu**, Bioengineering  
(Biotechnology)  
Mentor: Brian Zid, PhD  
Project (2019): Role of DOM34 in Regulating Ribosome-Stalling Protein Translation  
Conference: SRC 2019
In UC San Diego's Undergraduate Research Scholarship (URS) program, several different donor-funded scholarships are available across multiple research areas. Undergraduate students use the funds for a research project to be completed over the summer under the guidance of a UC San Diego faculty mentor.

160 Awards

92 Summer 2019
68 Summer 2020

- Chancellor's Research Scholarship for Arts and Humanities
- Chancellor's Research Scholarship for Social Sciences
- David Marc Belkin Memorial Research Scholarship for Environment and Ecology
- David Jay Gambee Memorial Research Scholarship for Governance and Social Impact Projects
- Doris A. Howell Foundation Research Scholarship for Women's Health
- Eureka! Scholarship for Biological Sciences Majors
- Springboard Eureka! Scholarship for Biological Science Majors (Hong Kong)
- Frances Hellman Research Scholarships for Physics
- HIV Institute - Transgender/Gender Non-Binary Community Health Research Scholarship
- Julia Brown Research Scholarship for Health and Medical Professions
- Ledell Family Research Scholarship for Science and Engineering
- NEW Scholars Program
- Philip and Elizabeth Hiestand Scholarship for Cross-Disciplinary Research in SIO and Engineering
- Robert C. Dynes and Ann Parode Dynes Research Scholarships for Physics
- Starbucks Sustainable Solutions and Learning Opportunities Research Scholarship
Undergraduate Research Scholarships Recipients

**Chancellor's Research Scholarships**

**Manar Alkuzweny**, Public Health  
Mentor: Sanjay Mehta, MD  
Project (2019): Factors Associated with Visceral Leishmaniasis Burden in Bihar, India  
Conference: SRC 2019

**Patricia Almaraz**, Human Developmental Sciences  
Mentor: Gerardo Arellano, PhD  
Project (2020): Immigrants in Higher Education

**Rawnaq Behnam**, Global Health  
Mentor: Thomas Csordas, PhD  
Project (2019): Assessing barriers to contraceptive care among resettled refugee women: a mixed-methods investigation of disparities in quality and access

**Taylor Campbell**, Sociology (Science and Medicine)  
Read Student Spotlight Article Here  
Mentor: Christena Turner, PhD  
Project (2019): Mental Health Systems  
Conference: CRASSH Fall 2019

**Mariana Carrola**, Education Studies and Public Health  
Mentor: Frances Contreras, PhD  
Project (2020): Chicanas/Latinas engaging in Transformative Resistance Motivated by their Familias and Social Justice  
Conference: SRC 2020

**Brenda Chavez**, Political Science  
Mentor: Rosauar Sánchez, PhD  
Conference: SRC 2019

**Brian Chen**, Visual Arts (Media)  
Mentor: Brian Cross, MFA  
Project (2020): 408

**Yoori Cho**, Biochemistry and Cell Biology  
Mentors: Jin Young Huh, PhD; (PI) Alan Saltiel, PhD  
Project (2019): Finding the Role of Hepatic TBK1 in the Regulation of Mitophagy  
Conferences: SRC 2019, Harvard University National Collegiate Research Conference 2020
Undergraduate Research Scholarships Recipients (cont.)

Emily Eisner, Biological Anthropology URS-Chancellor's Mentor: Amy Non, PhD Project (2019): Epigenetics, Social Stress, and Obesity Risk Over Time in Children of Hispanic Immigrants


Conrad Jones, Visual Arts (Media) Mentor: Nicole Miller, MFA Project (2020): The Techno-Poe Anthology

Afelix Le, Biochemistry/Chemistry Mentor: Margaret Loose, PhD Project (2019): Sylvia Plath and the Madonna-Whore Complex

Kathy Le, Biology Mentor: Amro Hamdoun, PhD Project (2020): Identification of CRISPR target sites in Lytechinus pictus ABCC1 and ABCC4


Jina Lee, Biology (Bioinformatics) Mentor: Joseph Pogliano, PhD Project (2020): Analysis of macrophage and application of the CRISPR-Cas9 system

Marina Ramsey, Molecular Biology
Mentor: Ellen Lee, MD
Project (2020): Link Between Compassion and Health in People with Schizophrenia
Conferences: SRC 2020, OURS 2020
(View Presentation Here)
Award: 2020 Silagi Award for Undergraduate Excellence in Aging Research
(View Abstract/Request Article Here)

Zixiang Tang, Mechanical Engineering
Mentor: Marc Meyers, PhD
Project (2019): Mechanical Properties of Horn Shark Egg Capsules

Justin Yang, Cognitive Science (Machine Learning and Neural Computation)
Mentor: Judith Fan, PhD
Project (2020): Communicating what we perceive and know about objects by drawing
Conference: SRC 2020

David Marc Belkin Memorial Research Scholarship for Environment and Ecology

Nicole Adamson, Marine Biology
Mentor: Martin Tresguerres, PhD
Project (2020): Soluble adenyl cyclase activity modulates hemoglobin deoxygenation rates in fish red blood cells

Lucie Samarkova, Visual Arts (Studio)
Mentors: Norman Bryson, PhD; Janelle Iglesias, MFA
**Isabelle Danforth**, Marine Biology  
Mentor: Amro Hamdoun, PhD  
Project (2019): Investigating the gene expression of ABC (ATP binding cassette) transporters in embryonic purple sea-urchin (Strongylocentrotus purpuratus) following exposure to Vibrio diazotrophicus  
Conference: SRC 2019

**Helen Jannke**, Marine Biology  
Mentor: Richard Norris, PhD  
Project (2020): Fish Production in the Aegean During the Rise of Early Mediterranean Civilizations  
Conference: SRC 2020

**Ryan Kich**, Marine Biology  
Mentor: Eric Allen, PhD  
Project (2019): Virulence of Photobacterium damselae in Wild Fishes in Coastal Southern California

**David Jay Gambee Memorial Research Scholarship for Governance and Social Impact Projects**

**Xlestiál Moreno-Luz**, Visual Arts (Media)  
Mentor: Mariana Wardwell, PhD  
Project (2019): Actions towards resisting trans/queer-phobia in Colombia and Mexico

**Ethan Olson**, Int’l Studies (Political Science)  
Mentor: Alexander Gershunov, PhD  
Project (2020): Getting Real: Accounting for Domestic Factors in International Climate Agreements  
Conference: SRC 2020
Undergraduate Research Scholarships Recipients (cont.)

**Doris A. Howell Foundation Research Scholarship for Women's Health**

**Anahid Foroughishafiei**, Bioengineering (Biotechnology)
Mentor: Jing Yang, PhD
Conference: SRC 2019

**Aditi Gnanasekar**, Bioengineering (Biotechnology)
Mentor: Weg Ongkeko, MD, PhD
Project (2019, 2020): Etiology-based differences in immune landscape in head and neck squamous cell carcinoma

**Michelle He**, Molecular and Cell Biology
Mentor: Pamela Mellon, PhD
Project (2020): Androgen-mediated effects on ovarian morphology in an AMH-induced mouse model of Polycystic Ovary Syndrome (PCOS)

**Kaitlin Sung**, Human Biology
Mentor: Pamela Mellon, PhD
Project (2019): Validation of IGD mutations
Conference: SRC 2019

**Alexandria Tso**, Global Health
Mentor: Ju Chen, PhD
Project (2020): The Role of Neuronal Precursor Cell-expressed Developmentally Downregulated 4 (Nedd4) in Cardiac Development
Conference: SRC 2020

**Lindsay Wong**, Molecular Biology
Mentor: Weg Ongkeko, MD, PhD
Project (2020): Immune landscape of cancers caused by viral factors
Conference: SRC 2020

**Eureka! Scholarship for Biological Sciences Majors**

**Adriana Aguilar-Maldonado**, Biochemistry and Cell Biology
Mentor: Samara Reck-Peterson, PhD
Conference: SRC 2019
Undergraduate Research Scholarships
Recipients (cont.)

**Maya Ambroziak**, General Biology
Mentors: Carlisle Bascom, PhD; Mark Estelle, PhD
Project (2020): Co-expression and loss-of-function analysis of the E3 ubiquitin ligase substrate adaptors, the BPMs, in the model bryophyte Physcomitrium patens

**Lauren Apostol**, Biochemistry/Chemistry
Mentor: Weg Ongkeko, MD, PhD
Project (2020): Dysbiosis of the oral microbiome affects head and neck tumor immunology
Conference: SRC 2020

**Julia Asay**, General Biology
Mentors: Tristan de Rond, PhD; Bradley S. Moore, PhD
Project (2019): Biosynthetic Studies of Oxazolone Natural Products
Award: 2019 American Society of Pharmacognosy Undergraduate Research Award

**Elizabeth Brown**, General Biology
Mentor: Rachel Dutton, PhD
Project (2019): Characterizing mechanisms of growth of Brevibacterium linens within a biofilm community
Conference: SRC 2019

**Bryant Cao**, Biology
Mentor: Matthew Daugherty, PhD
Project (2019): An Evolution-Guided Approach to Discover New Human Polymorphisms Associated with Host-Pathogen Interactions
Conference: SRC 2019

**Jaideep Chakladar**, Biochemistry and Cell Biology
Mentors: Mentor: Weg Ongkeko, MD, PhD; Jessica Wang-Rodriguez, MD
Conferences: SRC 2019, SRC 2020
Undergraduate Research Scholarships Recipients (cont.)

Diana De La Toba, Human Biology
Mentor: Karl Wahlin, PhD
Conference: SRC 2019

Daryl Dorsey, Physiology and Neuroscience
Mentor: Mary Corr, MD
Project (2019): The Role of Type I Interferon Receptors on Mechanical Allodynia in Arthritic Mice
Conference: SRC 2019

Kian Faizi, Molecular Biology
Mentor: Kuo-Fen Lee, PhD
Project (2019): Discovery & Development of RNA-Targeting CRISPR Effectors for Transcriptome Engineering
Conference: SRC 2019

Elijah Garcia, Human Biology
Mentor: Thomas Rogers, MD, PhD
Project (2019): Anti-Plasmodium falciparum Circumsporozoite Protein Antibodies Elicit in vitro NK-Mediated Antibody-Dependent Cellular Cytotoxicity
Conference: SRC 2019

John Girardini, Physiology and Neuroscience
Mentor: Matthew Banghart, PhD
Project (2019): Analyzing the Functional Role of Endogenous opioids in the Striatum in Regulation of Behavior Through Region-Specific Restoration of Mu-Opioid Receptor Expression
Conference: SRC 2019

Andrew Jespersen, Biochemistry and Cell Biology
Mentor: Joseph Pogliano, PhD
Conference: SRC 2019

Kyle Kim, Molecular Biology
Mentor: Jonathan Lin, MD, PhD
Project (2019): Is PERK/EIF2AK3 a Risk Factor for Alzheimer’s Disease?
Conference: SRC 2019
Undergraduate Research Scholarships Recipients (cont.)

Elijah Lawrence, Biochemistry and Cell Biology  
Mentor: Tatum Simonson, PhD  
Project (2019): Hemodilution as a treatment for Chronic Mountain Sickness and a mediator of systemic inflammation at high altitude  
Conference: SRC 2019

Dominique Lie, Molecular and Cell Biology  
Mentor: Stella-Rita Ibeawuchi, PhD  
Project (2020): The interaction of enteric bacterial effectors with the host engulfment pathway regulates inflammatory responses  
Conference: SRC 2020

Irene Mai, Biochemistry and Cell Biology  
Mentor: Amir Zarrinpar, MD  
Project (2019): Curative Treatment for Phenylketonuria  
Conference: SRC 2019

Kevin Mazo, Neurobiology  
Mentor: Karl Wahlin, PhD  
Project (2020): The role of miRNA in late morphogenesis of retinal organoids  
Conference: SRC 2020

Emily Paris, Biochemistry and Cell Biology  
Mentor: Bradley S. Moore, PhD  

Peter Pham, Biochemistry/Chemistry  
Mentor: Mary Corr, MD  
Project (2020): Cell Specific Type I Interferon Receptor Signaling Critical for Arthritis Pain in Mice  
Conferences: SRC 2020, OURS 2020  
(View Presentation Here)

Christine Peng, Human Biology  
Mentor: James Nieh, PhD  
Project (2019): Affect of Virus Infection in Honeybees on Olfactory Learning  
Conference: SRC 2019

Anthony Quach, Human Biology  
Mentor: Philip Gordts, PhD  
Project (2019): Liver Heparan Sulfate Proteoglycans impact on FGF1 binding in the Adipose Tissue  
Conference: SRC 2019
Lily Quach, Physiology and Neuroscience
Mentor: Mohit Jain, MD, PhD
Project (2019): Metabolites Associated With Immune Related Adverse Events (irAEs) in Cancer Patients of Immunotherapy
Conference: SRC 2019

Neil Shende, Biochemistry and Cell Biology
Mentor: Weg Ongkeko, MD, PhD
Project (2020): Characterization of Small Nucleolar RNA Dysregulation in Head and Neck Squamous Cell Carcinoma
Conference: SRC 2020

Salma Sheriff, Human Biology
Mentor: Roberto Malinow, PhD
Project (2019): Sex-Based Differences In Depression
Conference: SRC 2019

Margaret Sten, Physiology and Neuroscience
Mentor: Yishi Jin, PhD
Project (2019): Effects of cod liver oil on wound healing and axon regeneration
Conference: SRC 2019

Maria Tiu, Human Biology
Mentor: Amir Zarrinpar, MD
Project (2020): Sex Specific Adaptations of E. coli Nissle in the Gut
Conference: SRC 2020

Joseph Tsai, Molecular and Cell Biology
Mentor: Weg Ongkeko, MD, PhD
Project (2019, 2020): Characterization of the age-associated intratumoral microbiome in pancreatic adenocarcinoma
Conference: SRC 2020

Nathaniel Tsai, Molecular Biology
Mentor: Eric Bennett, PhD
Project (2019): Investigating the role of HUWE1 in orphan protein degradation pathways
Conference: SRC 2019

Alan Tung, Molecular Biology
Mentor: Reuben Shaw, PhD
Project (2019): Bridging the Gap Between Energy Sensing and Mitophagy: Characterization of the Regulation of Mitophagy Receptors by ULK1 or TBK1
Conference: SRC 2019
Undergraduate Research Scholarships
Recipients (cont.)

Li Wang, Biology
Mentor: Ju Chen, PhD
Project (2019): The Role of Eukaryotic Elongation Factor 1A2 (eEF1A2) in Developing Cardiomyocytes
Conference: SRC 2019

Springboard Eureka! Scholarship for Biological Science Majors (Hong Kong)

Anu Chaparala, General Biology
Mentors: Sunny Wong; Emily (Ka Yi) Kong; Thomas Kwong, PhD
Project (2019): Virulence of Clostridioides difficile Infection (CDI) of Common Ribotypes of Hong Kong

Jin Yi Wu, Biology
Mentor: Sandra Sanchez-Roige, PhD
Project (2020): CADM2, cell adhesion molecule, and its effects on impulsivity and synapse morphology
Conferences: SRC 2020, Genes and Addiction National Institute on Drug Abuse Center Student Summer Conference

Bar Yosef, Human Biology
Decision Making by Dyads
Biological Sciences Honors Program
Mentor: Gedeon Deák, PhD
Project (2019): Probabilistic Learning in a Social Setting: Behavioral & Physiological Patterning
Conference: SRC 2019

Ryan Park, Microbiology
Mentor: Ronald Ma,
Project (2019): Haptoglobin Genotype and Cardiovascular and Renal Complications in Type 2 Diabetes
Frances Hellman Research Scholarships for Physics

**Kartik Choudhary**, NanoEngineering
Mentor: Darren Lipomi, PhD
Project (2019): The influence of deposition techniques on the mechanical, morphological and electronic properties of semiconducting polymers
Conference: 2020 Inter-sustainability Research Symposium

HIV Institute - Transgender/Gender Non-Binary Community Health Research Scholarship

**David Everly**, Public Health
Mentor: Jill Blumenthal, MD
Project (2020): What constitutes a good vs a bad clinical program for transgender patients
Conference: SRC 2020

Julia Brown Research Scholarship for Health and Medical Professions

**Enio Hodzic**, Bioengineering (Biotechnology)
Mentor: Adam Engler, PhD
Project (2019): Standard of Care Breast Cancer Drugs effects on Cell Adhesion Strength
Conference: SRC 2019

**Lyhour Lay**, Bioengineering (Biotechnology)
Mentor: Koichi Masuda, MD
Project (2019): The Effect of NFkB on Graft’s Cell Apoptosis and Cell Viability

**Clyde Sanvictores**, Physics (Biophysics)
Mentor: Matthew Shtrahman, MD, PhD
**Tiffani Le**, Global Health  
Mentor: Satchidananda Panda, PhD  
Project (2020): Time-Restricted Feeding as a Therapeutic Intervention against Cardiovascular Disorders  
Conference: SRC 2020

**Cameron Ormiston**, Global Health  
Global Health Department Honors Program; Eleonor Roosevelt Honors Program  
Mentor: Pam Taub, MD  
Project (2020): Influence of time-restricted eating (TRE) on circadian regulation of glucose homeostasis and mitochondrial function  
Conference: SRC 2020

**Harrison Wei Li**, Bioengineering (Biotechnology)  
Read Student Spotlight Article Here  
Mentor: Weg Ongkeko, MD, PhD  
Project (2019): Integrative modeling of cancer-immune pathways interactions through network propagation and deep belief net  
Conference: SRC 2019

**Alisha Poudel**, Physiology and Neuroscience  
Read Student Spotlight Article Here  
Mentor: Alan Hargens, PhD  
Project (2020): Ground Reaction Force Distribution and Gait Patterns during Lower Body Positive Pressure Treadmill Exercise  
Conference: SRC 2020

**Savannah Maw**, Psychology (Cognitive)  
Mentor: Matthew Shtrahman, MD, PhD  
Project (2019): Temporal Pattern Separation in the Hippocampus  
Conference: SRC 2019

**Samuel Shing**, Microbiology  
Mentor: Victor Nizet, MD  
Project (2019): The Role of Antimicrobial Peptide LL-37 During Systemic Candida Infection  
Conference: SRC 2019

**Jason Nideffer**, Microbiology  
Mentor: Joseph Pogliano, PhD  
Project (2019): Uncovering a New Antibiotic Mechanism of Action: Inhibition of Protein Synthesis via Ribosome Aggregation  
Conference: SRC 2019
Undergraduate Research Scholarships Recipients (cont.)

Claire Zhang, Bioengineering (Biotechnology)
Mentor: Kevin King, MD, PhD
Project (2020): Time-Resolved Single Cell Analysis of Neutrophil Diversity In Myocardial Infarction
Conference: SRC 2020

Raymond Zurich, Biochemistry and Cell Biology
Mentor: Jeffrey Esko, PhD
Project (2019): Enhanced Wound Induced Neogenesis of Hair and Fat through Heparan Sulfate Deficiency
Conference: SRC 2019

Ledell Family Research Scholarship for Science and Engineering

Amanda Calcetas, Cogn and Behavioral Neuroscience
Mentor: Christina Gigliotti, PhD
Project (2019): Community Memory Screening as a Strategy for Recruitment of Older Adults for Dementia Research
Conference: SRC 2019, Society for Advancement of Chicanos/Hispanics and Native Americans in Science 2019

Grant Castaneda, Biology (Bioinformatics)
Mentor: Weg Ongkeko, MD, PhD
Project (2020): The role of the microbiome in the pathogenesis of rheumatoid and osteoarthritis

Zoe Challacombe, Cognitive Science (Machine Learning and Neural Computation)
Mentors: Daniel McDonald, PhD; Robin Knight, PhD
Project (2019): The use of random forests and quadtrees to construct geographic partitions of microbiome data
Conference: SRC 2019

Miles Corley, Microbiology
Mentor: Matthew Daugherty, PhD
Project (2020): Evolutionary-Guided Analysis of Human Host Factors to Gain Insight into Host-Pathogen Conflicts

Isabelle Del Rios, Chemical Engineering
Mentor: Ping Liu, PhD
Project (2020): Simulation of Ion Transport through a Protective Layer
Sharlene Diep, Human Biology
Mentor: Kyle Gaulton, MD
Project (2020): The Role of Hypoxia in Pancreatic Islet Regulation and Diabetes Risk
Conference: SRC 2020

Hope Do, Microbiology
Read Student Spotlight Article Here
Mentor: Karl Wahlin, PhD
Project (2020): Cell cycle regulation and miRNA function during early development of human stem cell-derived retinal organoids
Conference: SRC 2020

Peter Emanuel, Molecular Biology
Mentor: Stanley Lo, PhD
Project (2019): Reliability of student-collected data in a course-based undergraduate research experience (CURE)
Conferences: SRC 2019, Society for the Advancement of Biology Education Research West 2020

Nadia Haghani, Biology
Mentors: Sreekanth Chalasani, PhD; Molly Matty, PhD
Project (2020): Characterization of Caenorhabditis elegans skin microbiome and the effects of naturally-correlated bacteria on nematode undulatory behavior
Conference: SRC 2020

Michael Fernandez, Microbiology
Mentor: Karl Wahlin, PhD
Project (2020): Mapping developmental pathways in early ocular growth for stem cell derived retinal organoids
Conference: SRC 2020

Holly Hamada, Biology
Mentor: Koichi Masuda, MD
Project (2020): Multi-Dimensional Efficacy Evaluation of ECM in a Rabbit Annular-Puncture Disc Degeneration Model
James Holcomb, Molecular and Cell Biology  
Mentors: Samara Reck-Peterson, PhD; Jenna Christensen, PhD  

Sun Woo Hong, Biology  
Mentor: Takaki Komiyama, PhD  
Project (2019): Study of the Role of Corticostriatal and Thalamostriatal Projections During Movement and Their Reciprocal Connectivity

Val Jackson-Hundley, Microbiology  
Mentor: Rachel Dutton, PhD  
Project (2019): Investigating RUSTI (iRon Uptake Siderophore Transport Island) Effects and Mobility within a Cheese Model Microbial Community  
Conference: SRC 2019

Olivia Jeffris, Cognitive Science (Neuroscience)  
Mentor: Douglas Nitz, PhD  
Project (2019): The Role of the Posterior Parietal Cortex in Learning the Shapes of Routes Taken Under Target Pursuit

Kevin Joslin, Bioengineering  
Mentor: Frank Talke, PhD  
Project (2019): Towards Characterization of an Implantable Circular Membrane Intraocular Pressure Sensor  
Award: 2020 NSF Graduate Research Fellowship Winner

Tiffany Kuo, Biochemistry and Cell Biology  
Mentor: Sonya Neal, PhD  
Project (2019): Understanding a Novel Stress Pathway Involved with ERADicating Misfolded Proteins from the Endoplasmic Reticulum  
Conferences: SRC 2019, Society for Advancement of Chicanos/Hispanics and Native Americans in Science 2019

Breanna Lam, Molecular and Cell Biology  
Mentor: Randolph Hampton, PhD  
Project (2019): Evolving Ligand-Regulated Misfolding from a Classic Allosteric Protein  
Conferences: San Diego Biomedical Engineering Society Lab Expo 2020, Annual Southeastern Undergraduate Research Conference 2020, Southern California Conference for Undergraduate Research 2019
**Nathan Lau**, Neurobiology
Mentor: Cory Root, PhD
Project (2020): Creating a Behavioral Data Analysis Pipeline

**Khoi Le**, Bioengineering (Biotechnology)
Mentor: Stephanie Fraley, PhD
Project (2019): A microfluidic platform to model the breast cancer tumor microenvironment In-Vitro
Conference: SRC 2019

**Brendan Lee**, Biochemistry and Cell Biology
Mentor: Jessica Wang-Rodriguez, MD
Project (2019): Electronic cigarettes and their role in cancer

**Cherry Lin**, Cogn and Behavioral Neuroscience
Mentors: Ryan Place, PhD; Douglas Nitz, PhD
Project (2019): Activation of the Subiculum and adjacent Regions DURING spatial-specific tasks
Conference: SRC 2019

**Sapna Mehta**, Human Biology
Mentor: Dennis Kuo, MD
Project (2020): Universal Cancer Predisposition Screening Protocol within the Pediatric Hematology Oncology Population
Conference: SRC 2020

**Asim Mohiuddin**, Neurobiology
Mentor: Mary Corr, MD
Project (2020): Regulation of Bone Erosion in Arthritis
Conferences: SRC 2020, OURS 2020
(View Presentation Here)

**Mayuresh Mujumdar**, Global Health
Mentor: Gene Yeo, PhD
Project (2020): Cloning ZNF RBP Candidates to Verify RBP Classification Algorithm
Dibyabrata Mukhopadhyay, Human Biology  
Mentor: Soumita Das, PhD  

An Nguyen, Biochemistry and Cell Biology  
Mentor: Joseph Gleeson, MD  
Project (2019): Somatic Structural Variation Detection in Human Genomes with Machine Learning

Chloe Nguyen, Bioengineering (Biotechnology)  
Mentor: Jeff Hasty, PhD  
Project (2019): Employing bacteria to deliver therapeutic agents to cancer tumors

Vikram Padala, Molecular Biology  
Mentor: Jeffrey Esko, PhD  
Project (2020): The Role of Heparan Sulfate in SARS-CoV-2 Pathophysiology

Matthew Romero, Bioengineering (Biotechnology)  
Mentor: Bryan Sun, MD, PhD  
Project (2020): Skin Cell Alternative Splicing Analysis through rMATS Software

Kristen Rosenberg, Biochemistry/Chemistry  
Mentor: Jessica Wang-Rodriguez, MD  
Project (2019): Investigating genetic dysregulation and potential causes for dysregulation in hepatocellular carcinoma

Reeya Shah, Neurobiology  
Mentor: Varykina Thackray, PhD  
Project (2020): Effects of increased fiber diets on PCOS metabolic phenotype  
Conference: SRC 2020
Meenakshi Singhal, Bioengineering (BioSystems)
Mentor: Adam Engler, PhD
Project (2019): Development of A Vascularized Cardiac Patch to Identify Transcriptomic Differences Associated with the Maturation of hESC-derived Cardiomyocytes

Theresa Slaiwa, Bioengineering (BioSystems)
Mentor: Pamela Mellon, PhD
Project (2020): Activin Signaling is Necessary for the Activity of a Novel FSHB Enhancer
Conference: SRC 2020

Ella Stimson, Bioengineering
Mentor: Frank Talke, PhD
Project (2019): Assessment of Biocompatibility of Implantable Intraocular Pressure Sensor
Conference: SRC 2019

Megan Tjuanta, Bioengineering (Biotechnology)
Mentor: Karsten Zengler, PhD Livia Zaramela, PhD
Project (2020): synDNA: A Standardization Approach for Metagenomics
Conference: SRC 2020

Christina Trinh, Biochemistry and Cell Biology
Mentor: Judy Kim, PhD
Project (2019): Minimal Media Expression and Spectroscopic Characterization of Azurin with isotopically substituted L-Trp-d5

Joey Truong, Molecular and Cell Biology
Mentor: Samara Reck-Peterson, PhD
Project (2020): Quantifying the Motile Properties of Dynein in the Presence of a Cargo Adaptor Complex
Conference: SRC 2020

James Wang, Chemical Engineering
Mentor: Nisarg Shah, PhD
Project (2020): Modeling effects of immunosuppressive PD-L1 biomaterials on T cell proliferation in the lymph node microenvironment
Conference: SRC 2020

Ryan Wing, NanoEngineering
Mentor: Jesse Jokerst, PhD
Project (2019): Application of a Novel Multispectral Advanced Nanoparticle Tracking Analysis Technique for the Real-Time Measurement of Amyloid-β Aggregation Dynamics
Conference: SRC 2019
Nicholas Wong, Microbiology
Mentor: Milton Saier, PhD
Project (2019): Proprietary Novel Delivery of CRISPR/Cas via Bacteriophage to Disrupt Antibiotic Resistance Genes

Jinyu Zhang, Biochemistry and Cell Biology
Mentors: Jin Young Huh, PhD; (PI) Alan Saltiel, PhD
Project (2019): Investigating the role of hepatic TBK1 in the regulation of obesity-induced liver inflammation
Conferences: SRC 2019, Harvard University National Collegiate Research Conference 2020, Asian Undergraduate Research Symposium

Michael Yiu, Mechanical Engineering (Renewable Energy and Environmental Flows)
Mentor: Renkun Chen, PhD

NEW Scholars Program

Mariana Carrola, Education Studies and Public Health
Mentor: Frances Contreras, PhD
Conference: SRC 2019

Jaquelin Dezha Peralta, Bioengineering
Mentor: Nicholas Gravish, PhD
Project (2019): A Coherent Collective Swarm System for Dexterous Manipulation and Efficient Mobility
Conference: SRC 2019

Min Ju Kim, Public Health
Mentor: Luz Chung, PhD
Project (2019): Tail of a Dragon or Head of a Snake—Is School Performance Worth Pursuing?
Conference: SRC 2019

Hoyoung Moon, Biochemistry and Cell Biology
Mentor: Joan Brown, PhD
Project (2019): RhoA signaling and YAP dependent gene expression in cardiomyocytes
Conference: SRC 2019
Jorge Nunez, Aerospace Engineering
Mentor: Veronica Eliasson, PhD
Project (2019): Efficacy of shock cancellation mechanisms in gas turbines
Conference: SRC 2019

Tania Quintero Rico, Human Developmental Sciences
Mentor: Sarah Creel, PhD
Project (2019): Engagement in an After-School Heritage Language Club: A Case Study
Conference: SRC 2019

Barbara (Ruth) Velazquez, Public Health
Mentor: José Suárez, MD, PhD
Project (2019): A dietary intervention with nuts or olestra to enhance the excretion of Persistent Organic Pollutants

Tyler Barbero, Ocean and Atmospheric Sciences
Mentor: Amato Evan, PhD
Conference: SRC 2019

Sierra Byrne, Ocean and Atmospheric Sciences
Mentor: Anela Choy, PhD
Project (2020): Quantifying and categorizing macroplastic consumption by longnose lancetfish (Alepisaurus ferox) in the central North Pacific Subtropical Gyre
Conference: SRC 2020

Luke Colosi, Oceanic and Atmospheric Sciences
Mentors: Sarah Gille, PhD; Bia Villas Bôas, PhD
Project (2019): The Seasonal Cycle of Significant Wave Height in the Ocean: Local vs Remote Forcing
Conference: 2020 Ocean Sciences Meeting

Philip and Elizabeth Hiestand Scholarship for Cross-Disciplinary Research in SIO and Engineering

Alberto (Fredo) Avalos, Nanoengineering
Mentor: Ryan Kastner, PhD
Project (2020): Fish Sense
Trenton Adonis Grimes, Mechanical Engineering  
Mentor: Amato Evan, PhD  
Project (2020): Evaluating Aerosol Optical Depth Retrievals from Space-Born Imagers at a Dusty AERONET site in Southeastern California

Julia Guerrero, Mechanical Engineering  
Mentor: Ryan Kastner, PhD  
Project (2020): Fish Sense  
Conference: SRC 2020

Arden Ma, Electrical Engineering  
Mentors: Ryan Kastner, PhD; Curt Schurgers, PhD  
Project (2019): Mangrove Mapping, Image Segmentation, and Classification

Clair Ma, Computer Science (Bioinformatics)  
Mentor: Jules Jaffe, PhD  
Project (2020): Accuracy of Multi-view Correspondence for Particle Tracking Velocimetry in Marine Environments

Ryan Myers, Marine Biology  
Mentor: Martin Tresguerres, PhD  
Project (2020): Unique strategies for life at hydrothermal vents in the giant tubeworm Riftia pachyptila  
Conference: SRC 2020

Amirhossein Rashidi Moakhar, Computer Science  
Mentor: Sarah Gille, PhD  
Project (2019): Infra-Gravity Waves at the Ross Ice Shelf, Antarctica

Benjamin Werb, Oceanic and Atmospheric Sciences  
Mentor: Ryan Kastner, PhD  
Project (2020): Smartfin: Gathering Oceanic Data from Recreational Surfers  
Conference: SRC 2020

Robert C. Dynes and Ann Parode Dynes Research Scholarships for Physics

Jacob Buckman, Mech. Engineering  
Mentor: Michael Simmonds, PhD; Saikat Chakraborty Thakur, PhD  
Conference: SRC 2020
Undergraduate Research Scholarships Recipients (cont.)

Michael Hanson, Mechanical Engineering
Mentor: Saikat Chakraborty Thakur, PhD
Conference: SRC 2019

Starbucks Sustainable Solutions and Learning Opportunities Research Scholarship

Joseph Vechinski, Marine Biology
Mentor: Eric Allen, PhD
Project (2020): Trends in Microbial Communities of Southern California Marine Fishes
Conference: SRC 2020

Multiple URS Scholarships

Narinderbir Singh, Biology
Chancellor’s (2019), Eurka (2020)
Read Student Spotlight Here
Mentor: Sonya Neal, PhD
Project (2019, 2020): Characterizing Dfm1’s Features in ERAD Retrotranslocation of Integral Membrane Proteins
Conferences: SRC 2019, SRC 2020

Kirollos Tadrousse, Human Biology
Ledell (2019); Howell (2020)
Mentor: Kellie Breen Church, PhD
Conferences: SRC 2019, SRC 2020

Will Tanaka, NanoEngineering
Starbucks (2019), Chancellor’s (2020)
Mentor: Keith Pezzoli, PhD
Project (2019, 2020): Mushrooms from campus waste: tackling waste and food insecurity with edible fungus
Conference: SRC 2019

Clara Wong, Human Biology
Ledell (2019), Julie Brown (2020)
Mentor: Stephen Howell, MD
Project (2019, 2020): Efficacy of RSPO1-fusion Protein against Cancer Cells containing LGR receptors
Conference: SRC 2020
In addition to the programs offered through Academic Enrichment Programs, there are many additional undergraduate research programs at UC San Diego. Nine of these programs and their students are recognized in this section.

- American Heart Association (AHA) Summer Undergraduate Student Fellowship Program
- UC San Diego Computer Science and Engineering Early Research Scholars Program (CSE-ERSP)
- Creating Scientists to Address Cancer Disparities Program
- Electrical and Computer Engineering Summer Research Internship Program (ECE SRIP)
- Engineers for Exploration Research Experience for Undergraduates (E4E REU)
- Halıcıoğlu Data Science Institute (HDSI) Undergraduate Scholarship Program
- Summer Training Academy for Research Success (STARS)
- UC LEADS (Leadership Excellence through Advanced Degrees)
- Youth Enjoy Science (YES): Multidisciplinary Educational Approach to Reducing Cancer Disparities
The American Heart Association Summer Undergraduate Student Fellowship Program (AHA Program) is a 10-week intensive research program that provides undergraduate students with faculty-mentored research experiences in cardiovascular-related fields. The program is sponsored and supported by the Academic Enrichment Programs office and the Departments of Medicine and Bioengineering at UC San Diego, in conjunction with the American Heart Association and the Institute of Engineering in Medicine. In addition to conducting research, participants also engage in a number of professional development activities.

2 Students participated in the 2019 AHA Program
AHA Students

**Andrea Biju**, Human Biology
Mentor: Stephan Lange, PhD
Project: Investigating the role of non-muscle actinin in nemaline myopathy
Conference: SRC 2019

**Sophie Siemsgluess**, Molecular and Cell Biology
Mentor: Farah Sheikh, PhD
Project: Investigation of the Role of GJA1-20k in ARVC-Afflicted Cardiomyocytes in Vitro
Conference: SRC 2019
The **UCSD Computer Science and Engineering Early Research Scholars Program (CSE-ERSP)** is a team-based research apprentice experience for computer science and engineering majors in their second year of the program.

Students work in teams of four, and each team is matched with an active research project in the department. Students learn about research in computer science and then propose and carry out an independent research project over the course of an academic year.

**49** Students participated in the ERSP program in 2019-2020
Kimberly Almaraz, Computer Engineering
Mentor: Niema Moshiri, PhD
Project: SEPIA: Simulation-based Evaluation of Prioritization Algorithms
Conference: Dynamics & Evolution of HIV 2020 (See Poster Here)
Award: Jacobs School Student Travel Fund

Sravya Balasa, Computer Science
Mentors: Julian McAuley, PhD; Jianmo Ni, PhD
Project: Workout Prediction (See Poster Here)

Tyler Jang, Computer Science/ Psychology
Mentor: Jyoti Moshiri, PhD
Project: SEPIA: Simulation-based Evaluation of Prioritization Algorithms
Conference: Dynamics & Evolution of HIV 2020 (See Poster Here)

Andy Liu, Computer Science
Mentors: William Griswold, PhD; Sorin Lerner, PhD
Project: Gamification to Aid the Learning of Test Coverage Concepts

Keshav Mittal, Computer Engineering
Mentors: Alex Snoeren, PhD; George Porter, PhD
Project: Power Metrics Tool for Optimizing Data Center Networks
Other Presentation: ERSP Poster Presentation

Brian Nguyen
Mentors: William Griswold, PhD; Sorin Lerner, PhD
Project: Gamification to Aid the Learning of Test Coverage Concepts

Anh Pham
Mentors: Debashis Sahoo, PhD; Christine Alvarado, PhD; Vignesh Gokul
Project: Automated Gene Target Report Card for Inflammatory Bowel Disease

Eman Sherif, Computer Science
Mentors: William Griswold, PhD; Sorin Lerner, PhD
Project: Gamification to Aid the Learning of Test Coverage Concepts
Creating Scientists to Address Cancer Disparities Program

Creating Scientists to Address Cancer Disparities Program was a National Cancer Institute-funded eight-week program during the summer of 2019. This program was a joint SDSU-UC San Diego project run by Dr. Vanessa Malcarne (SDSU) and Dr. Georgia Robins Sadler (UC San Diego). The program taught students how disparities can influence the outcomes of cancer. Students learned the scientific process in bio-behavioral science labs and a theoretical understanding of the development and sustainment of cancer disparities. Students also gained experience in conducting in-depth analysis of scientific literature and preparing an abstract and poster for national conferences.

UC San Diego Students participated in the Creating Scientists to Address Cancer Disparities Program
Creating Scientists to Address Cancer Disparities
Program Students

Anthony Cirilo, Microbiology
Mentors: Georgia Robins Sadler, PhD; Suzi Hong, PhD
Project: Examining Barriers to Participation in Cancer Studies in the Hispanic Community, Does Radioactive Diagnostic Testing in Infants Increase their Risk for Developing Adolescent Cancer?
Conference: International Cancer Education Conference Poster Presentation 2019

Mariah Romero, Sociology
Mentor: Georgia Robins Sadler, PhD
Project: Differential Smoking Practices Impact on Lung Cancer Rates among Native Americans Living in Oklahoma and California
Conference: International Cancer Education Conference Poster Presentation 2019

Esau Estrada, Cognitive Science (Neuroscience)
Mentor: Miguel Lopez-Ramirez, PhD
Project: Potential Genetic Differences in Glioblastomas between Non-Hispanic White and Han Chinese
Conference: International Cancer Education Conference 2019

Eduardo Gonzalez, Public Health
Mentors: Pei-an (Betty) Shih, PhD; Georgia Robins Sadler, PhD; José Suárez MD, PhD
Project: Promoting the diversity of the health sciences workforce is a first step to reducing cancer disparities
ECE Summer Research Internships were full-time commitments in ECE labs where interns had the opportunity to observe and participate in the activities of a research group under the supervision of the PI or a member of his/her lab group. The program included an enrichment component for students consisting of workshops on research communication, research writing, and other pertinent topics.

178 Undergraduate students participated in the ECE SRIP

- 101 Summer 2019
- 77 Summer 2020
ECE SRIP Students

**Jared Acord**, Electrical Engineering and Mathematics  
Mentor: Curt Schurgers, PhD  
Project (2020): Development of Educational Technologies for Flipped Classroom  
Conference: SRC 2020

**Matthew Aguilar**, Electrical Engineering  
Mentor: Saharnaz Baghdadchi, PhD  
Conference: SRC 2019

**Juan Alapizco Vega**, Electrical and Computer Engineering  
Mentor: Saharnaz Baghdadchi, PhD  
Project (2020): Optical Waveguide-based Biosensor  
Conference: SRC 2020

**Justin Andal**, Computer Engineering  
Mentor: Curt Schurgers, PhD  
Project (2020): Burrowing Owl Classifier  
Conference: SRC 2020

**John Angiuli**, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Project (2019): Smart Wheelchair: Microcontroller PCB and I2C  
Conference: SRC 2019

**Jamshed Ashurov**, Electrical Engineering  
Mentor: Sam Hessenauer  
Project (2019): Python Integration of Alignment and Docking and Collaborative Mobile Augmented Reality Visualization of Molecules  
Conference: SRC 2019

**Allan Ateek**, Electrical Engineering  
Mentors: Daniel Cleary, MD, PhD; Saharnaz Baghdadchi PhD  
Conferences: SRC 2019, SRC 2020

**Jacob Ayers**, Electrical Engineering  
Mentor: Curt Schurgers, PhD  
Project (2020): Acoustic Species Identification  
Conference: SRC 2020
ECE SRIP Students (cont.)

Branson Beihl, Computer Engineering
Mentor: Truong Nguyen, PhD
Project (2020): Spatial Audio Demonstration
Conference: SRC 2020

Shivani Bhakta, Electrical Engineering
Mentors: Jack Silberman, PhD; Dinesh Bharadia PhD
Projects: (2019) Triton Town; (2020) BLE Localization / COVID
Conferences: SRC 2019, SRC 2020

Jon Carlo Bibat, Computer Engineering
Mentor: Nuno Vasconcelos, PhD
Project (2020): Mathematical and Computational Methods for Accurate Social Distancing Detection

Micah Bryant, Electrical Engineering
Mentor: Sebastian Obrzut, MD
Conference: SRC 2019

Yuliang Cai, Computer Engineering
Mentors: Jack Silberman, PhD; Truong Nguyen, PhD
Conference: SRC 2019, SRC 2020

Marlon Calderon, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Project (2019): Reverse Engineering of Apple Watch
Conference: SRC 2019

Yisu Cang, Electrical Engineering
Mentor: Tzu-chien Hsueh, PhD
Project (2019): Digital Scan-chain Interfaces
Conference: SRC 2019

Zhidong Cao, Electrical Engineering
Mentor: Behrouz Touri, PhD
Project (2019): Diffusion and epidemics over random graphs
Conference: SRC 2019
ECE SRIP Students (cont.)

**Gino Carfano**, Electrical Engineering
Mentor: Prasad Gudem, PhD
Conference: SRC 2019

**Benjamin Chang**
Mentor: Truong Nguyen, PhD
Project (2019): Real-World Coordinate and Distance Estimation from Depth
Conference: SRC 2019

**Joseph Chang**
Mentor: Truong Nguyen, PhD
Project (2019): Real-World Coordinate and Distance Estimation from Depth
Conference: SRC 2019

**Tyler Chang**, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Project (2020): Robotic SLAM Platform Development
Conference: SRC 2020

**Xiaowen Chen**, Electrical Engineering
Mentor: Prasad Gudem, PhD
Project (2019): Ultra-wideband Technology for Tracking Athletes
Conference: SRC 2019

**Vivian Chiong**, Computer Engineering
Mentor: Pamela Cosman, PhD
Project (2020): Real-time Detection of Interruptions and Conversational Engagement Cues
Conference: SRC 2020

**Austin Choe**, Electrical Engineering
Mentor: Michael Yip, PhD
Project (2019): Fastron RC Car
Conference: SRC 2019

**Vincent Chu**, Computer Science
Mentor: Steven Dow, PhD
Project (2019): Supporting sensemaking on design examples
Conference: SRC 2019
ECE SRIP Students (cont.)

Aramis Conde, Computer Engineering
Mentor: Jack Silberman, PhD
Project (2019): Affordable Smart Wheelchair
Conference: SRC 2019

Brandon Cramer, Electrical Engineering
Mentor: Prasad Gudem, PhD
Project (2020): Impact of FR1 5G NR Jammers on UWB Indoor Position Location Systems
Conference: SRC 2020

David Ding, Electrical Engineering
Mentor: Duygu Kuzum, PhD
Conference: SRC 2019

Bang Du, Electrical Engineering
Mentor: Truong Nguyen, PhD
Project (2019): Multi-camera 3D Reconstruction
Conference: SRC 2019

Jinglong Du, Computer Science
Mentor: Aaron Thode, PhD
Project (2019): Embedded real-time classification of whale and noise signals on a marine mammal bioacoustic tag
Conference: SRC 2019

Xuanxi Du, Electrical Engineering
Mentor: Xinyu Zhang, PhD
Project (2020): mmWave Software Defined Radio
Conference: SRC 2020

Sicong Duan, Computer Engineering
Mentor: Jack Silberman, PhD
Conference: SRC 2019

Raelyn Dybcic, Electrical Engineering
Mentor: Nicholas Abi Samra
Conference: SRC 2019
Hassan Eid, Electrical Engineering  
Mentor: Ira Zukanović  
Project (2019): Maya Archaeology Tunnel Mapping  
Conference: SRC 2019

Jesus Fausto, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Conference: SRC 2019

Ivan Ferrier, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Project (2019): Triton Town  
Conference: SRC 2019

Jiajian Fu, Computer Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Feature detection and matching  
Conference: SRC 2020

Benhur Ghebrecristos, Electrical Engineering  
Mentor: Gholamreza Esmaili, PhD  
Conference: SRC 2019

Isabella Gomez Torres, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Project (2019): The Affordable Smart Wheelchair  
Conference: SRC 2019

Qichun Gui, Electrical Engineering  
Mentor: Chris Mi, PhD  
Project (2020): Modeling of a electric power system for all-electric aircraft for 200 passengers  
Conference: SRC 2020

Yayi Guo, Computer Engineering  
Mentor: Xinyu Zhang, PhD  
Project (2019): Robust Pedestrian Dead Reckoning  
Conference: SRC 2019

Zijia Guo, Electrical Engineering  
Mentor: Dinesh Bharadia, PhD  
Project (2020): Hitchhike Mother-board  
Conference: SRC 2020
Miriam Hamidi, Electrical Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Spatial Audio Demonstration  
Conference: SRC 2020

Chang Han, Electrical Engineering  
Mentor: Zhichao Li  
Project (2019): SLAM Quadrotor  
Conference: SRC 2019

Bassel Hatoum, Electrical Engineering  
Mentor: Truong Nguyen, PhD  
Project (2019): Looking at the Driver in Autonomous Vehicles to Predict Switching to Autonomous Mode  
Conference: SRC 2019

Scott He, Electrical Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Spatial Audio Demonstration  
Conference: SRC 2020

Alireza Heydarpourdiba, Electrical Engineering  
Mentor: Gholamreza Esmaili, PhD  
Project (2019): Power Converters and Control for wind turbine Application  
Conference: SRC 2019

Bao Hoang, Computer Engineering  
Mentors: Jack Silberman, PhD; Ramsin Khoshabeh PhD  
Projects: (2019) Triton Town; (2020) IOT communication API for PCB RC car  
Conference: SRC 2019, SRC 2020

Hyun Hong, Electrical Engineering  
Mentor: Ramsin Khoshabeh, PhD  
Conference: SRC 2019

Jun Hao Hu, Electrical Engineering  
Mentor: Sonia Martinez Diaz, PhD  
Conference: SRC 2019
ECE SRIP Students (cont.)

**Yaocong Hu**, Electrical Engineering  
Mentor: Sabur Hassan Baidya, PhD  
Project (2019): QoS Prediction of V2X Collaborative Computations over Heterogeneous Multi-hop Wireless Networks  
Conference: SRC 2019

**Hannah Hui**, Computer Engineering  
Mentor: Nikolay Atanasov, PhD  
Project (2020): Autonomous Robot Exploration and Occupancy Mapping in a 3-D Python Simulation  
Conference: SRC 2020

**Yihan Hu**, Electrical Engineering  
Mentor: Nicholas Abi Samra, PhD  
Project (2019): Understanding Social Behavior Through Audio Recording  
Conference: SRC 2019

**James Hutchinson**, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Project (2019): Smart Wheelchair: Controls & Prototype  
Conference: SRC 2019

**Gaopo Huang**, Electrical and Computer Engineering  
Mentor: Saharnaz Baghdadchi, PhD  
Project (2020): Optical Waveguide-based Biosensor  
Conference: SRC 2020

**Tanish Jain**, Electrical Engineering  
Mentors: Jack Silberman, PhD; Tara Javidi PhD  
Conferences: SRC 2019, SRC 2020

**Po Hsiang Huang**, Electrical Engineering  
Mentor: Nuno Vasconcelos, PhD  
Project (2019): Large Scale 3D Dataset Collection  
Conference: SRC 2019

**Armin Jamshidi Bahmani**, Electrical Engineering  
Mentor: Won Bae, PhD  
Conference: SRC 2019
Adam Kadwory, Bioengineering
Mentor: Vikash Gilja, PhD
Conferences: SRC 2019, SRC 2020

Sean Kamano, Electrical Engineering
Mentor: Nuno Vasconcelos, PhD
Conferences: SRC 2019, SRC 2020

Kevin Kao, Electrical Engineering
Mentor: Gholamreza Esmaili, PhD
Project (2019): Power Converters and Control for Wind Turbine Application
Conference: SRC 2019

Merve Kilic, Electrical Engineering
Mentor: Siavash Mir Arabaygi, PhD
Conference: SRC 2020

Zephaniah Kim, Electrical Engineering
Mentor: Gholamreza Esmaili, PhD
Conference: SRC 2019

Saikiran Komatineni, Electrical Engineering
Mentor: Truong Nguyen, PhD
Conference: SRC 2019

Chunjhen Lai, Electrical and Computer Engineering
Mentor: Pamela Cosman, PhD
Project (2020): Quantifying Reading Order and Completeness Using Eye-tracking
Conference: SRC 2020

Kaustubh Lall, Computer Engineering
Mentor: Won Bae, PhD
Conference: SRC 2019
Isaias Larios, Electrical Engineering
Mentor: Duygu Kuzum, PhD
Project (2020): Radio modulation classification with neuromorphic computing
Conference: SRC 2020

Hao Le, Global Health
Mentor: Truong Nguyen, PhD
Project (2020): An Automated and Synthetic Testbed for Diverse Driving Data Generation
Conference: SRC 2020

Nicolette Olivia Le, Electrical Engineering
Mentor: Georgia Robins Sadler, PhD
Project (2020): Disparities in the Patient Pain Experience
Conference: SRC 2020

Guanqing Li, Signal and Image Processing
Mentor: Pamela Cosman, PhD
Project (2020): Real-time Detection of Interruptions and Conversational Engagement Cues
Conference: SRC 2020

Isaias Larios, Electrical Engineering
Mentor: Duygu Kuzum, PhD
Project (2020): Radio modulation classification with neuromorphic computing
Conference: SRC 2020

James Li, Computer Engineering
Mentor: Ramsin Khoshabeh, PhD
Project (2020): Not-So-Smart PCB Racer
Conference: SRC 2020

Michael Li
Mentor: Jack Silberman, PhD
Project (2019): Smart Wheelchair: Controls & Prototype
Conference: SRC 2019

Muzhou Li, Computer Engineering
Mentor: Sam Hessenauer
Project (2019): Python Integration of Alignment and Docking and Collaborative Mobile Augmented Reality Visualization of Molecules
Conference: SRC 2019

Yejun Li, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Conference: SRC 2020

Yidong Li, Computer Engineering
Mentor: Dinesh Bharadia, PhD
Project (2020): Universal IoT Gateway
Conference: SRC 2020
Zhimin Lin, Computer Engineering
Mentor: Xinyu Zhang, PhD
Conference: SRC 2019

Tyus Liu, Computer Science
Mentors: Truong Nguyen, PhD; Peter Shin
Conference: SRC 2019

Zack Liu, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Project (2020): Brushed DC Motor Driver Printed Circuit Board (PCB) & Battery Management System (BMS) For Autonomous Remote Control (RC) Car
Conference: SRC 2020

Samantha Long, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Project (2020): Programming ScatterMIMO Smart Surfaces via BLE links
Conference: SRC 2020

Songyu Lu, Computing Engineering
Mentor: Truong Nguyen, PhD
Project (2020): Spatial Audio Demo
Conference: SRC 2020

Mia Lucio, Computer Engineering
Mentor: Curt Schurgers, PhD
Project (2020): Radio Collar Telemetry
Conference: SRC 2020

Jiachen Luo, Electrical Engineering
Mentor: Truong Nguyen, PhD
Project (2020): electronic harness to assist elbow movement
Conference: SRC 2020

Jiayi Luo, Electrical Engineering
Mentor: Cheolhong An, PhD
Project (2020): Lensless camera: Simultaneous Depth and Scene reconstruction
Conference: SRC 2020

Harsh Maheshwary, Electrical Engineering
Mentor: Nicholas Abi Samra
Conference: SRC 2019
ECE SRIP Students (cont.)

Anastasiia Makhniaieva, Computer Engineering
Mentors: Michael Yip, PhD; Dimitri Schreiber
Project (2020): Surgical Robotic System Tracking within an MRI Scanner
Conference: SRC 2020

Jonathan Mi, Electrical Engineering
Mentor: Truong Nguyen, PhD
Project (2020): A New Computer Vision Platform
Conference: SRC 2020

Greg Maki, Electrical Engineering
Mentor: Hanh-Phuc Le, PhD
Conference: SRC 2020

Jake Millhiser, Electrical Engineering
Mentor: Piya Pal, PhD
Project (2020): Overcoming Diffraction Limits with Correlation-based Super-Resolution Algorithms
Conference: SRC 2020

Fanhang Man, Electrical Engineering
Mentor: Jack Silberman, PhD
Project (2019): Triton Town
Conference: SRC 2019

Jesi Miranda-Santos, Electrical Engineering
Mentor: Jack Silberman, PhD
Project (2019): Smart Wheelchair: Microcontroller PCB and I2C
Conference: SRC 2019

Punit Mehta, Electrical Engineering
Mentor: Gholamreza Esmaili, PhD
Project (2019): Power Converters and Control for Wind Turbine Application
Conference: SRC 2019

Keshav Mittal, Computer Engineering
Mentor: Dinesh Bharadia, PhD
Project (2019): Accurate Indoors BLE based localization for smart devices
Conference: SRC 2019
ECE SRIP Students (cont.)

**Jason Morris**, Electrical Engineering  
Mentor: Ramsin Khoshabeh, PhD  
Project (2020): Brushed DC Motor Driver Printed Circuit Board (PCB) & Battery Management System (BMS) For Autonomous Remote Control (RC) Car  
Conference: SRC 2020

**Nicholas Munoz**, Elec. Engineering  
Mentor: Curt Schurgers, PhD  
Project (2020): Burrowing Owl Classification  
Conference: SRC 2020

**Hector Murguia Gastelum**, Electrical Engineering  
Mentor: Prasad Gudem, PhD  
Project (2019): Impact of FR1 5G NR Jammers on UWB Indoor Position Location Systems  
Publications: IEEE, Indoor Position Location Systems (See Article Here); AIAA, Flight Dynamics of Boomerangs: Impact of Drag Force and Drag Torque (See Article Here)

**Ariane Nazemi**, Electrical Engineering  
Mentor: Jack Silberman, PhD  
Conference: SRC 2019

**Weifan Ou**, Computer Engineering  
Mentor: Nikolay Atanasov, PhD  
Project (2020): Autonomous Robot Exploration and Occupancy Mapping in a 3-D Python Simulation  
Conference: SRC 2020

**Zhenhao Pan**, Electrical Engineering  
Mentor: Tse Nga (Tina) Ng, PhD  
Project (2019): Printable Organic Light-emitting Electrochemical Cell (OLEC)  
Conference: SRC 2019

**Eamon Patamasing**, Electrical Engineering  
Mentor: Dinesh Bharadia, PhD  
Project (2020): Large-scale Retrodirective mm-Wave Tags for Traffic Sign Identification  
Conference: SRC 2020
ECE SRIP Students (cont.)

**Ilya Petrov**, Electrical Engineering  
Mentor: Xinyu Zhang, PhD  
Project (2020): mmWave Software Defined Radio  
Conference: SRC 2020

**Tian Qiu**, Electrical and Computer Engineering  
Mentor: Pamela Cosman, PhD  
Project (2020): Viewport-adaptive 360-degree video streaming  
Conference: SRC 2020

**Jason Pham**, Electrical Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Generating Depth Maps for Autonomous Driving Applications  
Conference: SRC 2020

**Jarrett Ratelle**, Computer Engineering  
Mentor: Jack Silberman, PhD  
Project (2019): Triton Town  
Conference: SRC 2019

**Jacob Pollard**, Computer Engineering  
Mentor: Nuno Vasconcelos, PhD  
Project (2020): Exploring Methods for 3D Reconstruction  
Conference: SRC 2020

**Timothy Ries**, Electrical Engineering  
Mentor: Nicholas Abi Samra  
Conference: SRC 2019

**Jia Ming (Jimmy) Qiu**, Computer Engineering  
Mentor: Sonia Martinez Diaz, PhD  
Project (2019): Distributed Controllers for Microgrid Frequency Regulation  
Conference: SRC 2019

**Reed Rouland**, Electrical Engineering  
Mentor: Ramsin Khoshabeh, PhD  
Project (2020): Optical Blood Pressure Sensing  
Conference: SRC 2020
Keshav Rungta, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Conferences: SRC 2019, SRC 2020

Evan Serrano, Computer Engineering
Mentor: Jack Silberman, PhD
Conference: SRC 2019

Prem Shelat, Computer Engineering
Project (2019): Wearable Neurotechnology for Brain-Computer Interface
Conference: SRC 2019

Keshav Rungta, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Conferences: SRC 2019, SRC 2020

Justin Sun, Computer Engineering
Mentor: Curt Schurgers, PhD
Project (2020): Development of Educational Technologies for Flipped Classrooms
Conferences: SRC 2020, International Conference on Indoor Positioning and Indoor Navigation 2019

William Sun, Computer Engineering
Mentor: Pamela Cosman, PhD
Project (2020): Quantifying Reading Order and Completeness Using Eye-tracking
Conference: SRC 2020

Haaris Tahir-Kheli, Computer Engineering
Mentor: Saharnaz Baghdadchi, PhD
Conference: SRC 2019

Hong Tang, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Conference: SRC 2020

Jesse Soto, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Richard To, Computer Engineering  
Mentor: Jack Silberman, PhD  
Conference: SRC 2019

Manh Truong, Electrical Engineering  
Mentor: Gholamreza Esmaili, PhD  
Conference: SRC 2019

Tai Truong, Electrical Engineering  
Mentor: Pamela Cosman, PhD  
Conferences: SRC 2019, SRC 2020

Cole Tynan-Wood, Computer Engineering  
Mentor: Sonia Martinez Diaz, PhD  
Project (2019): Distributed Controllers for Microgrid Frequency Regulation  
Conference: SRC 2019

Carson Valdez, Electrical Engineering  
Mentors: Abdelkrim El Amili, PhD; Saharnaz Baghdadchi PhD  
Conferences: SRC 2019, SRC 2020

Minh Vo, Computer Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Fall Risk Detection From Video Using Key Joint Locations  
Conference: SRC 2020

Brandon Wade, Electrical Engineering  
Mentor: Sebastian Obrzut, MD  
Conference: SRC 2019

Nihar Wahal, Electrical Engineering  
Mentor: Pamela Cosman, PhD  
Project (2019): Speech Processing for Quality of Life Tools  
Conference: SRC 2019
Henry Wang, Electrical Engineering  
Mentor: Saharnaz Baghdadi, PhD  
Project (2020): Integrated Optical Phased Arrays for Optical Trapping  
Conference: SRC 2020

Hong Wang, Electrical Engineering  
Mentor: Chris Mi, PhD  
Project (2020): Modeling of an extremely high power charging system for all electric airplanes  
Conference: SRC 2020

Kaiwen Wang, Electrical Engineering  
Mentor: Tzu-chien Hsueh, PhD  
Project (2019): High-Speed Wireline Transceiver Emulations  
Conference: SRC 2019

Karl Wang, Computer Engineering  
Mentor: Dinesh Bharadia, PhD  
Project (2019): Capttery: a human-safe, long range wireless power transfer technology  
Conference: SRC 2019

Chenfeng Wu, Electrical Engineering  
Mentor: Dinesh Bharadia, PhD  
Project (2019): Indoor Navigation Using WiFi  
Conference: SRC 2019

Gaotong Wu, Electrical Engineering  
Mentors: Ramsin Khoshabeh, PhD; Pengtao Xie PhD  
Conferences: SRC 2019, SRC 2020

Raini Wu, Electrical Engineering  
Mentor: Dinesh Bharadia, PhD  
Project (2020): Viewport-adaptive 360-degree video streaming  
Conference: SRC 2020

Si Wu, Computer Engineering  
Mentor: Paul Siegel, PhD  
Conference: SRC 2019
ECE SRIP Students (cont.)

Tony Wu, Electrical Engineering
Mentor: Drew Hall, PhD
Project (2019): BioCoin
Conference: SRC 2019

Anfeng Xu, Electrical Engineering
Mentors: Curt Schurgers, PhD; Tara Javidi PhD
Conferences: SRC 2019, SRC 2020

Haoru Xue, Electrical Engineering
Mentor: Ramsin Khoshabeh, PhD
Project (2020): CV-Based Localization on Educational Autonomous Robotic Car
Conference: SRC 2020

Nuoyi Yang, Electrical Engineering
Mentor: Saharnaz Baghdadchi, PhD
Conference: SRC 2019

Ziyi Ye, Computer Engineering
Mentor: Prasad Gudem, PhD
Project (2019): Aerodynamics of Drones and Boomerangs
Conference: SRC 2019

Alexander Yeh, Electrical Engineering
Mentor: Gholamreza Esmaili, PhD
Project (2019): Power Converters and Control for Wind Turbine Application
Conference: SRC 2019

Fei Yin, Electrical Engineering
Mentor: Truong Nguyen, PhD
Project (2020): Multi-view Reconstruction
Conference: SRC 2020

Weginbara Youpele, Electrical Engineering
Mentor: Jyoti Mishra, PhD
Project (2019): Wearable Neurotechnology for Brain-Computer Interface
Conference: SRC 2019
Xinyang Yu, Electrical Engineering  
Mentor: Zhichao Li  
Projects: (2019) SLAM Quadrotor; (2020) Autonomous Quadrotor Robots  
Conferences: SRC 2019, SRC 2020

Zhaowei Yu, Electrical Engineering  
Mentor: Dimitri Schreiber,  
Project (2019): CT Robot  
Conference: SRC 2019

Zhicheng Yu, Electrical Engineering  
Mentor: Truong Nguyen, PhD  
Project (2020): Spatial Audio Demonstration  
Conference: SRC 2020

Mohammad Zarei, Electrical Engineering  
Mentor: Tzyy-Ping Jung, PhD  
Project (2019): A Wearable Multi-Modal Bio-Sensing System  
Conference: SRC 2019

Jiawen Zeng, Computer Engineering  
Mentors: Behrouz Touri, PhD; Pengtao Xie PhD  
Conferences: SRC 2019, SRC 2020

Xiangjian Zeng, Elect. Engineering  
Mentors: Duygu Kuzum, PhD; Imanuel Lerman MD  
Conferences: SRC 2019, SRC 2020

Zhen Zhai, ECE and MATH  
Mentor: Paul Siegel, PhD  
Project (2020): Belief Propagation List Decoder for Polar Code  
Conference: SRC 2020
Qingyuan Zhang, Computer Engineering
Mentor: Truong Nguyen, PhD
Conferences: SRC 2019, SRC 2020

Yiming Zhao, Computer Engineering
Mentor: Siavash Mir Arabbaygi, PhD
Project (2019): Effectiveness of Removing Errors in Multiple Sequence Alignments
Conference: SRC 2019

Shengzhe Zhang, Electrical Engineering
Mentor: Jack Silberman, PhD
Conference: SRC 2019

Siyuan Zhu, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Projects: (2019) 4D Radar for Autonomous Driving; (2020) FMCW Radar Imaging for Autonomous Driving
Conferences: SRC 2019, SRC 2020

Weifan Zhang, Electrical Engineering
Mentor: Drew Hall, PhD
Project (2019): BioCoin
Conference: SRC 2019

Ehsan Ziaeikajbaf, Electrical Engineering
Mentor: Todd Hylton, PhD
Project (2019): A Smart Camera Using Predictive Machine Learning
Conference: SRC 2019

Minghui Zhao, Electrical Engineering
Mentor: Dinesh Bharadia, PhD
Projects: (2019) VR Tracking; (2020) ULoc - Robust, Scalable, cm-accurate UWB based localization
Conferences: SRC 2019, SRC 2020

Mohammad Ali Zolfaghari, Electrical Engineering
Mentor: Jack Silberman, PhD
Project (2019): Triton Town
Conference: SRC 2019
**Engineers for Exploration** (E4E) is a one of kind program promoting multidisciplinary and collaborative research projects with the broad goals of protecting the environment, studying wildlife, uncovering mysteries related to cultural heritage, and providing hands-on learning experiences for undergraduate students. We team student engineers with scientists from a wide range of disciplines to create innovative technologies that are deployed around the world.

Approximately 40 students participated in E4E REU:

- **~20** Summer 2019
- **~20** Summer 2020
The Halıcıoğlu Data Science Institute Undergraduate Research Scholarship Program at University of California San Diego awards $2,500 to each student project, all of them guided by experienced mentors. The yearlong fellowships focus on providing hands-on training to emerging data science talent. All UC San Diego undergraduate students enrolled full-time are eligible to apply for research funding. Each researcher works with a mentor to develop analytical skills, data science portfolios, and foster novel data-driven approaches to problem solving. The research program is geared to producing results, with students submitting final reports highlighting accomplishments.

27 Students received awards for the 2019-2020 year
E4E Students

**Arden Ma**, Electrical Engineering  
Mentors: Ryan Kastner, PhD; Curt Schurgers, PhD  
Project: Mangrove Mapping, Image Segmentation, and Classification

**Benjamin Werb**, Oceanic and Atmospheric Sciences  
Mentor: Ryan Kastner, PhD  
Project (2020 Summer): Smartfin: Gathering Oceanic Data from Recreational Surfers  
Conference: SRC 2020

HDSI Scholarship Program Students

**Catherine Eng**, Cogn. and Behavioral Neuroscience  
*Psychology Honors Program*  
Mentor: Drew Walker, PhD  
Project: Students’ gender biases toward professors

**Kian Faizi**, Molecular Biology  
Mentor: Kuo-Fen Lee, PhD  
Project: Single-cell transcriptomics and web mining for rapid reverse genetics in plants

**Advitya Gemawat**, Data Science  
Project: Vista: An end-to-end declarative transfer learning system for multimodal analytics with deep neural networks

**Arunav Gupta**, Data Science  
Project: Quantifying the effect of redlining policies on racial segregation in America’s urban centers

**Karthik Guruvayurappan**, Data Science  
Project: Quantifying tennis player performance
HDSI Scholarship Program Students (cont.)

Stanley Hicks, Electrical Engineering
Project: Mangrove mapping, image segmentation, and classification

Zhaoyi Hou, Data Science
Project: Using machine learning for diagnosis in oculofacial plastic surgery

Eric Jiang, Data Science
Project: Quantifying tennis player performance

Justin Kang, Data Science
Project: Predicting the outcome of an NFL play using pursuit curve features

Alexandra Keamy, Data Science
Project: A supervised machine learning approach to predicting mild cognitive impairment (MCI) among diverse Latinos

Shweta Kumar, Data Science
Project: Quantifying tennis player performance

Nicole Lee, Data Science
Project: Building an inference model to classify Chinese computational propaganda bots

Alex Liebscher, Cognitive Science
Project: Effects of battle and journey metaphors on charitable donations for cancer patients

Xiang Lu, Applied Mathematics
Project: Weather forecasting using hybrid model

Arden Ma, Electrical Engineering
Project: Mangrove mapping, image segmentation, and classification

Shone Patil, Data Science
Project: Predicting the outcome of an NFL play using pursuit curve features

Nikolas Racelis-Russell, Data Science
Project: Building an inference model to classify Chinese computational propaganda bots
HDSI Scholarship Program Students (cont.)

**Sasami Scott**, Data Science  
Project: Video games and player retention

**Katherine Qi**, Marine Biology  
Project: Mangrove mapping, image segmentation, and classification

**Samson Qian**, Data Science  
Project: Reassessment of P2P credit risk modeling with macroeconomic factors

**Justin Yang**, Cognitive Science/Math (Computer Science)  
Mentor: Judith Fan, PhD  
Project: How do humans convey what they perceive and know about objects in visual form?

**Shuyi Judy Yang**, Data Science  
Project: Using geographic data and social media to predict the potential health problems

**Julia Xu**, Cognitive Science (Machine Learning and Neural Computation)  
Mentor: Judith Fan, PhD  
Project: How does visual context influence sketched representations of faces?

**Xinrui Zhan**, Data Science  
Project: ASL (American Sign Language) signs recognition

**Haoming Zhang**, Data Science  
Project: 3D Wireframe Detection  

**Eric Yu**, Data Science  
Project: Identifying biomarkers in recurrent Chronic Thromboembolic Pulmonary Hypertension (CTEPH) patients
Summer Training Academy for Research Success

The University of California, San Diego Summer Training Academy for Research Success (STARS) program is an eight-week summer research academy for community college students, undergraduate students, recent college graduates, and masters students. Opened to all disciplines, STARS offers student participants a rigorous research opportunity with esteemed UC San Diego faculty, informative transfer and graduate school preparation workshops, and educational, cultural, and social activities in sunny San Diego.

UC San Diego Undergraduate Students participated in STARS

30

17 Summer 2019
13 Summer 2020
The UC LEADS program prepares promising undergraduate students for advanced education in science, technology, engineering, and mathematics (STEM). This program is designed to identify educationally or economically disadvantaged undergraduates enrolled in UC San Diego who are likely to succeed in graduate school, and to provide these students with undergraduate educational experiences that will prepare them to assume positions of leadership in industry, government, public service, and academia following completion of a doctoral STEM degree.

15 Students participated in UC LEADS

5 2017-2019 Cohort
5 2018-2020 Cohort
5 2019-2021 Cohort
STARS Students

Leonard Almero, Biochemistry and Cell Biology
Mentor: Francisco Villarreal, MD, PhD
Conference: SRC 2019

Natalia Avina-Ochoa, Molecular and Cell Biology
Mentors: Steven Mayfield, PhD; Yasin Torres-Tiji
Project (2019): Expression of myoglobin in the microalgae Chlamydomonas reinhardtii for the production of a sustainable algae-based meat substitute
Conference: SRC 2019

Jairo Chavez, Cognitive Science (Machine Learning and Neural Computation)
Mentor: Bradley Voytek, PhD
Project (2019): Linking spiking activity and LFP phase bands in the avian brain
Conference: SRC 2019

Janelle Coleen Dela Cueva, Electrical Engineering
Mentor: Veronica Eliasson, PhD
Project: Shear Dominated Crack Propagation
Conference: SRC 2019

Sylas Eckhart, Environmental Systems (Ecol, Behav & Evol)
Mentor: Amy Non, PhD
Project (2020): Hair Cortisol Concentrations as a Measurement of Chronic Stress
Conference: SRC 2020

Caín Alexander Elizarraras Galván, Electrical Engineering
Mentors: Dimitri Deheyn, PhD; Massimo Franceschetti, PhD
Conferences: SRC 2019, SRC 2020
Nicholas Fisher, Cognitive Science (Neuroscience)
Mentor: Bradley Voytek, PhD
Project (2019): Patterns with EEG Data
Conference: SRC 2019

Noah Gaitan, Biology
Mentor: Chris Tyler
Project (2020): Investigating the effects of integrin β7 blockade in an interleukin 10 (IL-10) deficient model of chronic colitis
Conference: SRC 2020

Ruby Gamboa, Mechanical Engineering
Mentor: Dimitri Deheyn
Project (2020): The Potential of Spectral Reflectance altering Thermal Properties of Bird Feathers
Conference: SRC 2020

Jacob Gill, Mathematics
Mentor: Edwin Juárez, PhD
Project (2020): Demonstrating an Information-Theoretic Metric’s Usefulness in Associating Gene Expression with Cellular Phenotypes
Conference: SRC 2020

Arianna Girmai, Human Biology
Mentor: Jacobo Myerston, PhD
Project (2020): Effects of Social Networks
Conference: SRC 2020

Raed Good, Sociology
Mentor: Akos Rona-Tas
Project (2020): Predictive Policing: A Comparative Analysis of Four Countries
Conference: SRC 2020

Marisa Grams, Cogn and Behavioral Neuroscience
Mentor: Lara Rangel, PhD
Project (2019): Rhythmic Coordination between the Dentate Gyrus (DG) and CA3 During a Spatial Pattern Separation Task
Conference: SRC 2019

David Hernandez, Mathematics
Mentor: Daniel Kane, PhD
Project (2020): Queen Packing on an Infinite Chessboard
Conference: SRC 2020
Maiyi Huang, Cognitive Science (Neuroscience)  
Mentor: Angela Yu, PhD  
Project (2019): Computational modeling of social face perception and decision-making in humans  
Conference: SRC 2019

Sidney Huen, Mechanical Engineering  
Mentor: Michael Tolley, PhD  
(2020) Simulation of a Soft Robot Walking Gait with Directionally Adhesive Suction Discs  
Conferences: SRC 2019, SRC 2020

Haniyeh Javaheri, Human Biology  
Mentor: David Cauvi, PhD  
Project (2019): Kinetic analysis of Hsp70 expression during the cellular stress response  
Conference: SRC 2019

Maryam Kaka, Molecular and Cell Biology  
Mentor: Stanley Lo, PhD  
Project (2019): Instructors’ Views on Diversity  
Conference: SRC 2019

Aivan Kakoz, Human Biology  
Mentor: Matthew Daugherty, PhD  
Project (2019): The Constant Evolutionary Struggle between Hosts and Viral Pathogens  
Conference: SRC 2019

Isaac Kiah, Mechanical Engineering  
Mentor: Shengqiang Cai, PhD  
Project (2019): Artificial Muscles  
Conference: SRC 2019

Carolina Lopez, Biochemistry/Chemistry  
Mentor: Amy Non, PhD  
Project (2020): The influence of genetic ancestry data on clinician’s treatment choice for white and mixed race patients with hypertension  
Conference: SRC 2020

Samuel Mayfield, Environmental Economics and Policy  
Mentor: Richard Carson, PhD  
Project (2020): Implications of Temporal Misalignment of Reported COVID-19 Statistics for Forecasting the Pandemic’s Progression  
Conference: SRC 2020
Zahra Mesrizadeh, Bioengineering  
Mentor: Liangfang Zhang, PhD  
Project (2020): Engineered cell membrane-coated nanoparticles functionalized with MECA-79 to target high endothelial venules for enhanced T cell activation  
Conference: SRC 2020

Ali Nekouei, Chemical Engineering  
Mentors: Ted Wang; Thomas Bussey, PhD  
Project (2020): BioChemAR in the Classroom  
Conference: SRC 2020

Derek Nguyen  
Mentor: Timothy Gentner, PhD  
Project (2019): Development towards an integrated Commutator with a Variable Radius Pulley for Electrophysiology Recordings in Small Animals  
Conference: SRC 2019

Syreeta Nolan, Psychology (Health)  
Mentor: Attilio Iemolo, PhD  
Project (2019): ΔFosB as a marker of long-lasting changes in animal models of THC abuse  
Conference: SRC 2019

Salma Michelle Parra Pulgarin, Public Health  
Mentor: Hemal H. Patel, PhD  
Project (2020): Caveolin-3 Modulation of Heart Function in Type 2 Diabetes  
Conference: SRC 2020

Xavier Perez, Electrical Engineering  
Mentor: Vikash Gilja, PhD  
Project (2020): Low-Cost Home-Made Recording Chambers for Zebra Finch Birds  
Conference: SRC 2019 (Vocalization of Birds Translated to Human Speech); SRC 2020 (STARS Project)

Kha Nguyen  
Mentor: Joanna McKittrick, PhD  
Conference: SRC 2019
Christina Puzzanghera, Marine Biology
Mentors: Dimitri Deheyn, PhD; Diana Rennison, PhD
Determining the role of predation in the evolution of sexual dimorphism in threespine stickleback
Conference: SRC 2019, SRC 2020

Daniella Vo, Biology (Bioinformatics)
Mentor: Debashis Sahoo, PhD
Project (2019): Discovery of Logical Relationships between Microbes using Boolean Analysis
Conference: SRC 2019

Jojo Chen, Cognitive Behavioral Neuroscience
Mentor: Chengbiao Wu, PhD
Project (2020): Mechanisms of Cortical-Striatal Atrophy in Huntington Disease

Sylas Eckhart, Environmental Systems (Ecol, Behav & Evol)
Mentor: Amy Non, PhD
Project (2020): Hair Cortisol Concentrations as a Measurement of Chronic Stress
Conference: SRC 2020

Janelle Coleen Dela Cueva, Electrical Engineering
Mentor: Veronica Eliasson, PhD
Projects: (2019) Shear Dominated Crack Propagation; (2020) Blast interaction with structures
Conference: SRC 2019
Other Presentation: UC LEADS 2020 Symposium
Multidisciplinary Educational Approaches to Reducing Cancer was a National Cancer Institute-funded program through their Youth Enjoy Science initiative. This 2019-2020 program accepted 29 students and was run by Dr. Dr. Silvio Gutkind and Dr. Georgia Robins Sadler. Through classroom and laboratory activities, students learned about cancer, the development and exacerbation of cancer disparities associated with bio-behavioral factors, and possible resolutions to these disparities. Students also gained experience in conducting in-depth analysis of scientific literature and preparing an abstract and poster for national Conference.

UC San Diego Students participated in the Youth Enjoy Science Program
YES Students

Richard Burnett, Microbiology
Mentor: Georgia Robins Sadler, PhD
Project: Genetic Testing Disparities and Cancer Disparities
Conference: SRC 2020

Paola Cancino, Psychology
Mentor: Georgia Robins Sadler, PhD
Project: Improving Cancer Care with Better Diagnostic for Autism Spectrum Disorder
Conference: SRC 2020

Anthony Cirilo, Microbiology
Mentors: Georgia Robins Sadler, PhD; Suzi Hong, PhD
Project: Infantile Radioactive Diagnostic Testing as a Possible Indicator
Conference: SRC 2020

Andres Espinoza, Human Biology
Mentor: Georgia Robins Sadler, PhD
Project: Epigenetic abnormalities and their contribution to cancer outcomes among African Americans
Conference: SRC 2020

Esau Estrada, Cognitive Science (Neuroscience)
Mentor: Miguel Lopez-Ramirez, PhD
Project: Importance for using Kazakhs in Esophageal Squamous Cell Carcinoma

Eduardo Gonzalez, Public Health
Mentors: Pei-an (Betty) Shih, PhD; Georgia Robins Sadler, PhD; José Suárez MD, PhD
Project: Pesticide exposure: A risk factor for childhood leukemia among Hispanic Americans
Conference: SRC 2020

Dalia Koujah, Physiology and Neuroscience
Mentors: Maximiliano D'Angelo, PhD; Georgia Robins Sadler, PhD
Project: Exploring the Age-Related Role of NUP210 in ER+ Breast Cancer
Conference: SRC 2020

Juan Andrew Leal, Human Biology
Mentor: Georgia Robins Sadler, PhD
Project: Childhood Cancer Survivorship and Health Outcomes Among Minority Populations
Conference: SRC 2020
YES Students (cont.)

Nicole Lee, Biology
Mentors: Georgia Robins Sadler, PhD; Olivier Harismendy, PhD
Project: Ductal Carcinoma in Situ (DCIS): An overlooked risk factor for invasive breast cancer (BC) in African American Women (AAW)
Conference: SRC 2020

Joseph Morales
Mentors: Ithaar Derweesh, MD; Georgia Robins Sadler, PhD; Paula Aristizabal, MD
Project: Renal Cell Carcinoma: Factors Correlated with Lower Survival Rates Among Hispanic Americans; Sociodemographic and Contextual Factors Associated with Trust in Physicians among Hispanic Caregivers of Children with Newly-Diagnosed Cancer
Conferences: International Cancer Education Conference Poster Presentation 2019, SRC 2020

Andrea Padilla, Biology
Mentors: Georgia Robins Sadler, PhD; Veronica Cardenas, PhD
Project: Additional Barriers to End-of-Life Care among Hispanics with Advanced Cancer: Negative Connotations and Financial Limitations
Conference: SRC 2020

Ryan Park, Microbiology
Mentor: Jing Yang, PhD
Project: Tumor Micro-environment effects on Breast Cancer Development
Conference: SRC 2020

Hao Pham, Biochemistry/Chemistry
Mentors: Georgia Robins Sadler, PhD; Christina Jamison, PhD
Project: Promising Strategies to improve Prostate Cancer death rate among Native Americans and Alaska Natives
Conferences: International Cancer Education Conference 2019, SRC 2020
Naomi Pineda, Chemistry  
Mentor: Georgia Robins Sadler, PhD  
Project: Genetics may put Hispanic Americans at Higher Risk of Liver Cancer and Science may not be Able to Help due to Lack of Participation  
Conference: SRC 2020

Jocelyn Quiroz, Bioengineering  
Mentor: Georgia Robins Sadler, PhD  
Project: Cancer risk among victims of human trafficking  
Conference: SRC 2020

Mariah Romero, Sociology  
Mentor: Georgia Robins Sadler, PhD  
Project: Cervical Cancer Screening, Practices, and Barriers among the LGBTQ+ Community: A Literature Review  
Conference: SRC 2020

Sally Trinh, Biochemistry and Cell Biology  
Mentor: Georgia Robins Sadler, PhD  
Project: HPV oral cancer contributions and what we can do about it  
Conference: SRC 2020

Rowan Ustoy, Biology  
Mentors: Georgia Robins Sadler, PhD; Jason Sicklick, MD  
Project: The underrepresentation of HIV+ participants in cancer clinical trials and the barriers faced involving cancer treatment  
Conference: SRC 2020

Yilin Xu, Biochemistry/Chemistry  
Mentors: Georgia Robins Sadler, PhD; Angelique Richardson, MD, PhD  
Project: The survival disparities and BRCA mutations in breast cancer among women of African Ancestry  
Conference: SRC 2020

Ethan Yi Zhu, Biochemistry and Cell Biology  
Mentors: Maximiliano D’Angelo, PhD; Georgia Robins Sadler, PhD  
Project: Help Us Help You: How Racially and Ethnically Diverse Biobank Contributions Enable Stronger Basic Biology Research  
Conference: SRC 2020
In addition to the undergraduate research programs at UC San Diego listed above, at least 222 students participated in research through external programs and other internal opportunities such as honors projects, independent study, and as a volunteer.

**Neda AbuGharbiyeh**, Human Biology  
Mentor: Anjan Debnath, PhD  
Project: Search for Potential Drug Leads Against *Giardia lamblia* using a High-throughput Screening Assay

**Jocelyn Aguilar**, Psychology (Human Health)  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Azeez Aderounmu**, Structural Engineering  
Mentor: Veronica Eliasson, PhD  
Project: Dynamic Fracture of Carbon Fiber Laminates  
Conference: SRC 2019

**Jina Ahn**, Psychology (Development)  
*MESA (Modeling the Emergence of Shared Attention) Program*  
*MESA (Modeling the Emergence of Shared Attention) Program*  
Mentors: Gedeon Deák, PhD; Betina Karshaleva  
Project: The Relationship Between Infants’ Responsiveness and Maternal Speech  
Conference: Biennial International Conference on Infancy Studies 2020
Sifat Alam, Global Health  
Mentor: Paula Saravia, PhD  
Project: Global health impact of natural disasters

Fahad Alim, Psychology  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Manar Alkuzweny, Public Health  
Mentor: Sanjay Mehta, MD  
Project: Preparing for a COVID-19 surge  
Conference: OURS 2020 (View Presentation Here)


Salam Allahwerdy, Human Biology  
Mentor: Jiun Do, MD, PhD  
Project: Effects of Neural Stem Cells on Retinal Ganglion Cell Survival and Axonal Regeneration  
Conference: OURS 2020 (View Presentation Here)

Ubaldo Alvarenga, Psychology  
(Clinical)  
Mentor: Leslie Carver, PhD

Ashley Amaladhas, Global Health/ Psychology (Health)  
Mentor: Ellen Kozelka  
Project: Birds and Bees: The Effects of Comprehensive Sexual Health Education on Adolescents  
Conference: OURS 2020 (View Presentation Here)

Award: Undergraduate Library Research Prize, 2nd place

Riddhi Ananth, Chemistry  
Mentor: Michael J. Sailor, PhD  
Project: Facile, bench-top stabilization of porous silicon nanostructures using heterocyclic silane grafting chemistry  
Conference: SRC 2019

Victoria Araiza, Global Health  
Mentor: Bonnie Kaiser, PhD  
Project: Barriers to Accessing Reproductive Health Care Services for Indigenous Women in the United States: A Call for Research and Action
AURE Students (cont.)

**Mina Balen**, Human Biology  
Mentor: Anjan Debnath, PhD  
Project: Drug discovery for Acanthamoeba keratitis

**Lawrence Balitaan**, Oceanic and Atmospheric Sciences  
*California Current Ecosystem Long Term Ecological Research, Research Experience for Undergraduates (CCE LTER REU)*  
Mentors: Art Miller, PhD; Nathali Cordero Quiros, MS  
Project: ENSO Physical-Biological Composites in ROMS-NEMURO Simulations of the California Current

**Veronica Barajas**, Human Developmental Sciences/Psychology  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Fernando Beltran Jr.**, Physiology and Neuroscience/Cogn and Behavioral Neuroscience  
Mentor: Sam Pfaff, PhD  
Project: Investigating the Role of Spinal Circuits in Motor Control  
Conference: SRC 2019

**Audrey Berardi**, Cogn and Behavioral Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Pushpita Bhattacharyya**, Cognitive Science (Neuroscience)  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Anna Blanchard**, Marine Biology  
Mentor: Martin Tresguerres, PhD  
Projects: (1) An Exploration of the Intracellular Biomineralization Model in the Pacific Oyster (Crassostrea gigas) (2) The Involvement of SLC Genes in Sodium Transport in Zebrafish (D. rerio) Under Acidic Conditions

**Ana Boisvert**, Cognitive Science  
Mentor: Sara Browne, MD  
Project: A Rapid Review of Methamphetamine Use Disorder Treatment and Adherence to Antiretroviral Medication in HIV+ Population  
Conference: SRC 2020
Thomas Brailey, Political Science (Data Analytics)
Mentor: Inbok Rhee, PhD
Project: Targeting the Core or Swing?: Campaign Strategy during the 2017 Kenyan Presidential Election
Conference: SRC 2019

Brandon Bulger, Psychology
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Anne Cardenas, NanoEngineering
Mentor: Darren Lipomi, PhD
Project: Combining High Sensitivity and Dynamic Range: Wearable Thin-Film Composite Strain Sensors of Graphene, Ultrathin Palladium, and PEDOT:PSS
Award: 2020 NSF Graduate Research Fellowship Winner

Parker Carnahan, Bioengineering
Mentor: Ratnesh Lal, PhD
Project: Magnetic Nanoparticles for Diagnostics and Therapeutics

Hamish Carr Delgado, NanoEngineering
Mentor: Darren Lipomi, PhD
Project: Exploring the limit of human tactile perception
Conference: OURS 2020 (View Presentation Here)

Erica Chan, Public Health
UCSD/SDSU Partnership Scholars Program
Mentor: Kiyomi Tsuyuki, PhD
Project: Feminine Gender Norms and Syndemic Harmful Drinking, Sexual Violence, and STIs Among Black Women at Risk for HIV
Awards: Irwin Jacobs Award in Public Health Research from the Department of Family Medicine and Public Health (June 2019), Independent Study in Public Health Research Award (May 2020)

Annie Chen
Endocrine Society Summer Research Fellowship (2020)
Mentor: Varykina Thackray, PhD
Project: Optimizing dihydrotestosterone polycystic ovary mouse model, effect of increased fiber intake on PCOS metabolic and reproductive phenotypes
Emerson Chin, NanoEngineering
Mentor: Mickey Finn

Jeffrey Chiu, Microbiology
Mentor: Justin Shaffer, PhD
Project: Metagenome-assembled genomic insights into the gut microbiomes of animals

Yong Hoon Chung, Cogn and Behavioral Neuroscience
Mentor: John Serences, PhD
Project: Hidden Memory State Pinging: Sensory Driven or Feedback Driven?
Conference: SRC 2019

Jane Collier, Cognitive Science
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Maxine Covello, Psychology (Clinical)
Mentor: Adena Schachner, PhD
Project: Hearing water temperature: Characterizing the development of cross-modal auditory event perception
Conference: OURS 2020 (View Presentation Here)

Kenny Dao
Mentor: Willis Li, PhD
Project: Screen for heterochromatin-promoting drugs for cancer therapy

Abdul Dahman, Public Health
Mentor: Bonnie Kaiser, PhD
Project: Stigma of Former Offenders

Sydney Davey, Business Psychology
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Lourdes de Jesus, Psychology (Clinical)
Mentor: Angela Lowe
Project: Facial Feedback Hypothesis and Its Effect on Emotional Response
Conference: OURS 2020 (View Presentation Here)
AURE Students (cont.)

Diana De La Toba, Human Biology
Mentor: Karl Wahlin, PhD
Project: Photoreceptor transdifferentiation by CRISPR-Cas9 as a tool for endogenous regeneration
Conference: OURS 2020 (View Presentation Here)

Caroline de-Ocampo, Global Health
Project: Mental Health Conditions Associated with Natural Disasters

Emma Deters, Biochemistry/Chemistry
Regents Scholars Research Initiative
Mentor: Alexis Komor, PhD
Project: Molecular Dynamic Simulation of TRM10

Paola Diaz, Theatre
Mentor: Robert Castro, MFA
Project: How to Be Uncomfortable All the Time
Conference: SRC 2019

Juan Diaz Delgado, Cognitive Science (Machine Learning and Neural Computation); Mathematics and Econ
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Nguyen Do, Human Biology
Mentor: Louise Laurent, MD, PhD
Project: Trophoblast Stem Cell Gene Reprogramming

Kelly Dong, Physiology and Neuroscience
Mentor: Christopher Coyne, MD
Project: Improving Cancer Pain Management in the ED: An EMR Solution
Conference: OURS 2020 (View Presentation Here)

Eric Duong, Bioengineering (Bioinformatics)
Mentor: Alexander Wenzel (Mesirov Lab)
Project: Evaluation of ssGSEA for scRNA Sequencing

Skye Edwards, Bioengineering (BioSystems)
Mentor: Joanna McKittrick, PhD
Project: Hierarchical Architecture in Jamming Technology for Soft Robotics
Conference: SRC 2019
Shin Ehara, Data Science  
Mentor: Michael Davidson, PhD  
Project: Political economy of China’s electricity market

Gabriel Espiritu, Psychology (Clinical)  
Mentor: Amy Lansing, PhD  
Project: Predictors of aggression among early-onset, persistent delinquent youth: Demographic considerations related to emotional intelligence, shame and guilt  
Conference: SRC 2019

Kenny Ferman, Cogn and Behavioral Neuroscience  
Mentor: Andrew Marin, MA

Filemoni Filemoni, Mathematics (Applied Science)  
Emerging Technologies Continuing Umbrella of Research (ET CURE)  
Mentor: Michael Bouvet, MD  
Project: Near Infrared Phototherapy Promotes Colon Cancer Cell Death in Vitro  
Conference: SRC 2019

Juliana Foley, Chemical Engineering  
Mentor: Darren Lipomi, PhD  
Project: Stretchable PEDOT:PSS

Samantha Fong, Mechanical Engineering  
Mentor: Joanna McKittrick, PhD  
Project: Project Lim(b)itless  
Conference: SRC 2019

Emily Frink, Human Biology  
Mentor: Edward Castillo, PhD  
Project: Influenza Reporting in the UCSD Health System  
Conference: OURS 2020 (View Presentation Here)

Simone Froley, Human Developmental Sciences  
Decision Making By Dyads  
Human Development Science Honors Program  
Mentor: Gedeon Deák, PhD  
Project: Learning in the social multi-armed bandit task: An exploration of joint action and reward-seeking behavior
AURE Students (cont.)

Francis Galang, Interdisc Computing and the Arts/Sociology
Mentor: Juan Pablo Pardo-Guerra, PhD
Project: “I know I’ll make it someday.” Aspiration and institutional logic within the digital music industries
Conference: OURS 2020 (View Presentation Here)

Amor Goetz, Biochemistry and Cell Biology
Mentor: Gary Vilke, MD
Project: Impact of Cardiology Studies on ED Length of Stay and Disposition
Conference: OURS 2020 (View Presentation Here)

Luis Garcia
Mentor: Joanna McKittrick, PhD
Project: Hierarchical Architecture in Jamming Technology for Soft Robotics
Conference: SRC 2019

Jennifer Gonzalez
San Diego Nanotechnology Infrastructure
Mentor: Daniela Valdez-Jasso, PhD
Project: Silicone Casting of Vasculature in Pulmonary Arterial Hypertension-Affected Rats
Conference: SRC 2019

Hobie Gementera, Biochemistry and Cell Biology
Mentor: Soumita Das, PhD

Gillian Grennan, Cogn and Behavioral Neuroscience
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Nebiyu Getahun, Physiology and Neuroscience
Mentor: Christian Dameff, MD
Project: Exploring Opinions Around Cybersecurity Informed Consent
Conference: OURS 2020 (View Presentation Here)

Xingyi (Stella) Gu, Economics
Mentor: Julie Cullen, PhD
Project: Empirical tests of conditional asset pricing models
Conference: OURS 2020 (View Presentation Here)
AURE Students (cont.)

Ryan Hajj, Cogn and Behavioral Neuroscience
Mentors: Robert Rissman, PhD; Shawn Firouzian, MS
Project: Drug Detection using Machine Learning
Conferences: SRC 2019, OURS 2020
(View Presentation Here)

Shervin Harirchian, Human Biology
Mentors: Joseph Valentine; Shannon Reilly, PhD

Erin Harryman, Molecular Biology
Mentor: Mary Corr, MD
Project: The roles of interferon regulatory factors in tactile allodynia in autoimmune arthritis
Conference: SRC 2019

Daniel Heredia, NanoEngineering
San Diego Nanotechnology Infrastructure
Mentor: Ping Liu, PhD
Project: Nb2O5 as High Performance Anode Materials for LIBs
Conference: SRC 2019

Jean Hong, Cognitive Science (Language and Culture)
Mentor: Sarah Creel, PhD
Project: Approximant production in 3 to 5 year old clear speech: Do categories converge or diverge?
Conferences: Scarborough Undergraduate Linguistics Conference 2020, UC San Diego Biomedical Engineering Society Lab Expo 2020

Bindhu Hosuru, Molecular and Cell Biology
Mentor: Matthew Daugherty, PhD
Project: An Evolutionary Perspective on Flaviviruses Proteases and their Host Targets

Guanwei Hu, Int’l Studies (Int’l Bus)
Mentor: Michael Davidson, PhD
Project: Chinese Electricity Markets: Political determinants of electricity market efficiency

Jennifer Huang, Human Biology
Biological Sciences Honors Program
Mentor: John Ravits, MD, PhD
Project: Sigma-1 Receptors in the Human Brainstem
Publication: Abstract in 2019-2020 Saltman Quarterly, Page 43 (View Abstract Here)
AURE Students (cont.)

**Troy Hussain**, Physics (Biophysics)  
Mentor: Tyler Seibert, MD, PhD  
Project: Time course of dose-dependent hippocampal atrophy after radiation therapy  
Conference: Biomedical Engineering Society (BMES) Annual Meeting 2019

**Brendan Hwang**, Psychology  
Mentor: Caren Walker, PhD  
Project: Knowing When to Quit  
Conference: OURS 2020 (View Presentation Here)

**Lizbeth Ibarra**, Sociology (Social Inequality)  
Mentor: Frances Contreras, PhD  
Project: Food and Housing Insecurity: Assessing Basic Need Efforts and Understanding the Experiences of Underrepresented Undergraduate Students at UCSD  
Conference: SRC 2019

**Christyn Jackson**, Linguistics (Speech and Language Science)  
Mentor: Alison Wishard Guerra, PhD  
Project: Child-Parent Narratives and Parent Discipline Styles  
Conference: OURS 2020 (View Presentation Here)

**Michael Jaber**, Mathematics (Computer Science)  
Mentor: Russell Impagliazzo, PhD  
Project: The fine-grained complexity of mult-dimensional ordering properties

**Alvin Igna**, Mechanical Engineering  
Mentor: Veronica Eliasson, PhD  
Project: High-Velocity Fracture Mechanics of PMMA  
Conference: SRC 2019

**John Jun**, Computer Science (Bioinformatics)  
Mentor: Pablo Tamayo, PhD  
Project: WNT signaling driven by R-spondin 1 and LGR6 in high grade serous ovarian cancer (HGSOC)  
Conference: OURS 2020 (View Presentation Here)
AURE Students (cont.)

**Angela Kang**, Human Biology  
Mentor: Willis Li, PhD  
Project: Screen for heterochromatin-promoting drugs for cancer therapy  
(View Article Here)

**Matthew Klimper**, Cogn and Behavioral Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Firouzeh Khoobchehr**, Microbiology  
Biological Sciences Honors Program  
Mentor: Partha Ray, PhD  
Project: Characterization of an anti-KIT aptamer

**Caitlin Knight**, Psychology (Cognitive)  
Mentor: Teresa Lind, PhD  
Project: Emergent Life Events in Community Mental Health Settings: Relationship with Therapist Use of Evidence-based Practice Techniques  
Conference: OURS 2020 (View Presentation Here)

**Audrey Kim**  
Mentor: Bonne Kaiser, PhD  

**Vashti Knight**, General Biology  
National Institute of Health Initiative for Maximizing Student Development  
Mentor: Mark Lawson, PhD  
Project: GLUT1 and its Role in Gonadotrope Function  
Conference: SRC 2019

**Mahoko Kimura**, Ed Abrd Exch Prog  
Project: Salmon industry development and associated economic impacts in Northern Patagonia, Chile

**Aditi Krishnakumar**, Cognitive Science (Machine Learning and Neural Computation)  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health
AURE Students (cont.)

**Atharv Kulkarni**, Physiology and Neuroscience  
Mentor: Jyoti Mishra, PhD  
Projec: Brain Body Basis of Mental Health

**Shubham Kumar**, Electrical Engineering  
Mentors: Truong Nguyen, PhD; Sarah Graham, PhD  
Projects: (1) Fall risk assessment of the elderly based on video and other physiological features (2) Depth estimation analysis for a novel camera system

**Surya Kumaraguru**, Cognitive Science  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Daniel Kupor**, Chemical Engineering  
Mentor: Joanna McKittrick, PhD  
Project: Creating density-controlled wood-templated epoxy-silicon carbide composites for structural and impact resistant applications  
Conference: SRC 2019

**Leilani Kwe**, NanoEngineering  
*San Diego Nanotechnology Infrastructure*  
Mentor: Shaochen Chen, PhD  
Project: 3D Printing of Multi-Material Construction  
Conference: SRC 2019

**John Lauder**, Physiology and Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Cassidy Lee**, Biochemistry and Cell Biology  
Mentor: Derek Welsbie, MD, PhD  
Project: CRISPR Knockout of DLK/LZK as a Therapeutic Strategy to Improve RGC Survival  
Conference: OURS 2020 ([View Presentation Here](#))

**Doheon Lee**, Mechanical Engineering  
Mentor: Joanna McKittrick, PhD  
Project: Characterizing the Torsional Properties of the Heltical Macro-Porosity Structure of the Cholla Cacti  
Conference: SRC 2019
AURE Students (cont.)

**Alexandre Leonelli**, Physics
Mentor: Alexey Arefiev, PhD
Project: The effect of particles exiting the simulation domain in Particle In Cell (PIC) codes

**Lehan Li**, General Biology
Mentors: Brodie Ranzau, MS; (PI) Alexis Komor, PhD
Project: Evolution of an EdU-recognizing nuclease

**Zhixiong Li**, Bioengineering
Mentor: Joanna McKittrick, PhD
Project: Bioinspired Ceramic Monoliths from Freeze-Casting for Filtration Applications
Conference: SRC 2019

**Kenny Lin**, Bioengineering
Mentor: Jeff Omens, PhD
Project: Computing Vector Cardiograms from Patient data

**Yingxi Lin**, General Biology/Computer Science (Bioinformatics)
Mentor: Lukas Chavez Kuss, PhD (Mesirov and Chavez Labs)
Project: Role of p53 in Senescence

**Zhuoying Lin**, Chemistry
Mentor: Corrigan Craig
Project: Optimize Caffeine Extraction from Black Tea and Coffee
Conference: OURS 2020

**Weichong Ling**, Mathematics (Computer Science)
Mentor: Amarnath Gupta, PhD
Project: The Exploratory Analysis for Knowledge Graph Using Graph Entropy
Conference: OURS 2020 (View Presentation Here)

**Qing Liu**
Mentor: Jeffrey Esko, PhD
Project: Genome-wide Analysis of Heparan Sulfate Biosynthesis

**Yuxin Liu**
Mentors: Angela Lowe; Michael McCullough, PhD; Celeste Pilegard, PhD
Projects: (1) Effects of different note taking strategies on learning (2) How Empathic Concern and Social Evaluation affect Altruistic Behavior (3) Facial Feedback Hypothesis and Its Effect on Emotional Response
Conference: OURS 2020 (View Presentation Here [1], [2], [3])
AURE Students (cont.)

Myriam Lopez, Mechanical Engineering
Mentor: Luz Chung, PhD
Project: Understanding the Needs of Underrepresented Minority Engineering Students in Developing Resources that Target Systematic and Cultural Disadvantages
Conference: OURS 2020 (View Presentation Here)

Mariela Lopez-Valencia, Cogn and Behavioral Neuroscience
Mentor: Olivia Osborn, PhD
Project: Models of antipsychotic-induced food intake and weight gain in mice
Conference: The Annual Biomedical Research Conference for Minority Students (ABRCMS) 2019

Xiang Lu, Mathematics (Applied)
Mentor: Won Bae, PhD
Project: Deep learning in Medical Image Registration
Conference: OURS 2020 (View Presentation Here)

Rachel Luu, Mechanical Engineering
Mentor: Marc Meyers, PhD
Project: Bioinspired Horse Hoof Model
Conference: SRC 2020

Julia Madura, Psychology (Clinical)
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Hannah Mahan, Cogn and Behavioral Neuroscience/Business Psychology
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Angela Mak, General Biology
Mentor: Adena Schachner, PhD
Project: Gesture Production & Theory of Mind
Conference: OURS 2020 (View Presentation Here)
Marigold Malinao, Chemical Engineering  
Mentor: Darren Lipomi, PhD  
Project: Liquid Crystal Elastomers for Haptic Feedback

Sophia McDaniel, Biochemistry and Cell Biology  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Sabeel Mansuri, Computer Science (Bioinformatics)  
Mentor: Niema Moshiri, PhD  
Project: What to do after AP CS? A case study on short technical modules for post-AP-exam high school students

Garrett Martin, Sociology (Law and Society)  
Mentor: Jeff Haydu, PhD  
Project: Mortality Salient Activism  
Conference: OURS 2020 (View Presentation Here)  
Award: Undergraduate Library Research Prize, 1st Place

Sarah Meng, Computer Science  
Department of Biomedical Informatics (DBMI) Summer Internship Program  
Mentor: Niema Moshiri, PhD  
Project (2020): An end-to-end profiling of standard viral phylogenetics workflows  
Conference: 2020 DBMI Internship Symposium

Joseph Martin  
Mentor: Joanna McKittrick, PhD  
Project: Project Lim(b)itless  
Conference: SRC 2019

Nicole Martindale, Computer Science  
Mentor: Robin Knight, PhD  
Project: Simulating and Classifying DNA sequences with ML
Huilai Miao, Data Science/Economics  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Charlene Miciano, Biology  
(Bioinformatics)  
Mentor: Shi Huang  
Project: ANEMONE: A Powerful Web Tool for Exploring Gene Regulatory Information  
Conference: OURS 2020 (View Presentation Here)

Priyanka Mishra, Mathematics  
(Computer Science)  
Mentors: Shi Huang; Daniel McDonald, PhD (Knight Lab)  
Project: Microbiome-based prediction of dietary intakes using machine learning techniques

Morgan Montoya, Cogn and Behavioral Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Xelestíal Moreno-Luz, Visual Arts (Media)  
Read Student Spotlight Here  
Mentor: Rubén Ortiz-Torres, MFA  
Project: LGBTQIA+ Latin American Communities  
Conference: CRASSH Fall 2019

Felipe Morfin Martinez, Communication  
Cultural Incubator Program  
Mentor: Briana Weisinger, MA  
Project: Refugee's Co-working Space  
Conference: SRC 2019

Oscar Munoz, Physiology and Neuroscience  
National Institute of Health Initiative for Maximizing Student Development  
Mentor: Mark Lawson, PhD  
Project: Translational Control of RNA Binding Proteins and its Effects on LH Synthesis, mRNA Stability, Translation, and Reproductive Function in Gonadotropes  
Conference: SRC 2019

Mohamed Musa, Structural Engineering  
Mentor: Nicolas Boechler, PhD  
Project: Mechanochem/Instability Track
Eric Ngo, Mathematics (Computer Science)  
McKittrick Group  
Mentor: Isaac Cabrera  
Project: Project Lim(b)itless  
Conference: SRC 2019

Titan Ngo, Computer Science  
Mentor: Niema Moshiri, PhD  
Project: Sepia (Simulation-Based Evaluation of Prioritization Algorithms)  
Conference: HIV Dynamics & Evolution Conference (View Poster Here)

Andrew Nguyen  
Mentor: José Suárez, MD, PhD  
Project: Associations of Acetylcholinesterase Inhibition Between Pesticide Spray Seasons with Depression and Anxiety Symptoms in Adolescents, and the Role of Sex and Adrenal Hormones on Gender Moderation  

Anphong Nguyen, Cogn and Behavioral Neuroscience  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Christopher Nguyen  
Mentor: Mary Corr, MD  
Project: Cell specific type I interferon receptor signaling is critical for arthritis in mice  
Conference: OURS 2020 (View Presentation Here)

Katelyn Nguyen, Microbiology  
Mentor: Matthew Daugherty, PhD  
Project: Inflammatory Activity of NLRP Proteins in Response to Viral Infection

Kevin Nguyen  
Mentor: Veronica Eliasson, PhD  
Project: Shock Wave Propagation  
Conference: SRC 2019
AURE Students (cont.)

Rebecca Nguyen, Int’l Studies (Political Science)
Mentor: Munseob Lee, PhD
Project: Medical Tourism in South Korea
Conference: OURS 2020 (View Presentation Here)

Sophie Nguyen, Biochemistry/Chemistry
Mentor: Ruben Abagyan, PhD

Thi Nguyen
Mentor: Kevin Lewis, PhD
Project: Come Together, Right Now (Over Tinder): How Online mediums Change the Dating Process
Conference: OURS 2020 (View Presentation Here)

Camille Nievez, Cognitive Science (Neuroscience)
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Shruti Nishith, Cogn and Behavioral Neuroscience
Mentor: Adena Schachner, PhD
Project: Digital Media Parent Questionnaire
Conference: OURS 2020

Ella Olgin, Cogn and Behavioral Neuroscience
Mentor: Javier Cepeda, PhD
Project: Preferences and Acceptability of Law Enforcement Initiated Referrals for People who Inject Drugs: A Mixed Methods Analysis

Lalin Ozyazgan, Ethnic Studies/Psychology (Clinical)
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health
Conference: Lewis L. Judd Young Investigators Symposium 2020

Shibangi Pal, Biochemistry and Cell Biology
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Yunchun Pan, Mathematics (Applied) California Current Ecosystem Long Term Ecological Research, Research Experience for Undergraduates (CCE LTER REU)
Mentors: Art Miller, PhD; Nathali Cordero Quiros, MS
Project: ENSO Physical-Biological Composites in ROMS-NEMURO Simulations of the California Current
AURE Students (cont.)

**Prasad Pankhuri**, Economics/Int’l Studies (Political Science)
*Culture Incubator Program*
Mentor: Briana Weisinger, MA
Project: Culture Incubator - Project Future Force
Conference: SRC 2019

**Maria Paula Parga Nina**, Computer Science
Mentor: Russell Impagliazzo, PhD
Project: The Fine-Grained Complexity of Multi-Dimensional Ordering Properties

**Allison Park**, Linguistics
Mentor: Will Styler, PhD
Project: The Linguistic Nature of Keysmashes
Conference: OURS 2020 ([View Presentation Here](#))

**Janki Patel**, Human Biology *Biological Sciences Honors Program*
Mentor: Matthew Banghart, PhD
Project: Molecular identification of neurons in the descending pain modulatory pathway that may contribute to opioid analgesia

**Krusha Patel**, Human Biology
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

**Swapnil Patil**, Computer Science
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

**Kathryn Pérez**, General Biology
Mentor: Gail Heyman, PhD
Project: Do Adolescents Misperceive Effort as Poor Learning?
Conference: OURS 2020 ([View Presentation Here](#))

**Patricio Perez-Dickson**, Chemistry
Mentor: Willis Li, PhD
Project: MicroRNAs as Cancer Biomarker

**Minh Pham**, Electrical Engineering
Mentor: Nikolay Atanasov, PhD
Project: Autonomous Quadrotor Robots
Conference: SRC 2020
AURE Students (cont.)

Sheila Pham
Mentor: Jack Silberman, PhD
Project: The Affordable SmartWheelchair
Conference: SRC 2019

Flavia Ponce, Psychology (Clinical)
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Kaitlyn Quach, Human Biology
Mentor: Mahadevan Rajasekaran, PhD
Project: The Human Microbiome and the Urinary Tract
Conference: OURS 2020 (View Presentation Here)

Yvonne Rangel, Biochemistry and Cell Biology
Project: Analyzing heavy metal content of plant tissues

Vesal Razavimaleki, Engineering Physics
IRIS-HEP Fellows Program (Jul-Sept 2020) (View IRIS-HEP Bio and Proposal Here)
Mentor: Javier Duarte, PhD
Project: Adapting GNN Particle Tracking for FPGAs with hls4ml

Linda Reyna, Cogn and Behavioral Neuroscience
Mentor: Hassiba Beldjoud, PhD (George Lab)
Project: The effect of the beta-adrenergic antagonist propranolol on saccharin self-administration and motivation
Conference: SRC 2019

Nathanael Rizo, Psychology (Clinical)
Mentor: Olivier George, PhD
Project: Genome-Wide Association Study of Cocaine Addiction: Analysis of Cohort Effect
Conference: SRC 2019

Ivette Roca Mercado, General Biology
Mentor: JoAnn Trejo, PhD
Project: The regulatory role of ARRDC3 in LPA-mediated activation of the Hippo Pathway in Breast Cancer Metastasis
Conference: SRC 2019
Mona Roshan, Biochemistry and Cell Biology
Mentor: Karl Wahlin, PhD
Project: The Directional Outgrowth of Retinal Ganglion Cells Using a 3D Printed Scaffold
Conference: OURS 2020 (View Presentation Here)

Siddhi Salunke, Global Health
Mentor: Saiba Varma, PhD
Project: The Illusion of Medical Neutrality in State Versus Civilian Conflicts
Conference: OURS 2020 (View Presentation Here)

Alexa Samaniego, Business Psych.
Leadership and Organization Change for Implementation (LOCI) Study
Mentor: Gregory A. Aarons, PhD
Project: The Impact of Team Consensus of Transformational Leadership on Psychological Safety Climate
Conference: SRC 2019

Maryana Saoor, Human Biology
Mentor: Gretchen Bandoli, PhD

Caleb Schimke, Biology
Mentor: Stanley Lo, PhD
Project: Assessment of the Validity and Reliability of Data Gathered by Undergraduate Students in Course-Based Undergraduate Research Experiences (CUREs)
Conference: SRC 2020

David Sharp
Mentor: Veronica Eliasson, PhD
Project: High-Velocity Fracture Mechanics of PMMA
Conference: SRC 2019

Prem Shelat, Computer Engineering
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health
AURE Students (cont.)

Niyonika Sheth, Computer Science  
Mentor: Joanna McKittrick, PhD  
Project: Project Lim(b)itless  
Conference: SRC 2019

Aman Shihora, Pharmacological Chemistry  
Mentor: Lalit Deshmukh, PhD  
Project: Assisting the study of the proline-rich domain of ALIX

Giuliana Sidhu, General Biology  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Meenakshi Singhal, Bioengineering: BioSystems  
Mentor: Prashant Mali, PhD  
Project: Development of a Vascularized Cardiac Patch to Identify Transcriptomic Differences Associated with the Maturation of Embryonic Stem Cell-Derived Cardiomyocytes  
Conference: SRC 2019

Kyle Skelil, NanoEngineering  
National Institute of Health Initiative for Maximizing Student Development  
Mentor: Tod Pascal, PhD  
Project: Molecular Dynamics Simulations of Binding Energy Between Single Strand DNA and Silver Nanoparticles  
Conference: SRC 2020

Bryce Smith  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

Joo-Ryun So, Psychology (Clinical)  
Mentor: Leslie Carver, PhD  
Project: Infant Perception Study

Tiffany Soebroto, NanoEngineering  
Mentor: Darren Lipomi, PhD  
Project: T-array Tattoo Sensor

Jining Song, Computer Science  
Mentor: Amarnath Gupta, PhD  
Project: Multi-model Indexing Data Structure and Query Design  
Conference: OURS 2020 (View Presentation Here)
Miranda Song, Bioengineering (Bioinformatics)
Mentor: Niema Moshiri, PhD
Project: SEPIA: Simulation-based Evaluation of Prioritization Algorithms
Conference: HIV Dynamics Conference 2020 (View Poster Here)

Anvitha Soordelu, Cogn and Behavioral Neuroscience
Mentor: Amy Lansing, PhD
Project: Examining the Adolescent Physical Health Consequences of Domestic Violence Exposure
Conference: OURS 2020 (View Presentation Here)

Anna Stuhlfire, Molecular Biology
Mentor: Matthew Hangauer, PhD
Project: Understanding Mutagenesis in Human Cancer

Ipek Su Talu, Psychology
Mentor: Andrew Marin, MA (Carver Lab)
Project: Infant Perception Study

Vani Taluja, Cogn and Behavioral Neuroscience
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Katherine Tang, Mechanical Engineering (Mechanics of Materials)
Mentor: Joanna McKittrick, PhD
Project: 3D printed models of the arrangement of components in two-phase composites
Conference: SRC 2019

James Taniguchi, Cognitive Science Honors Program
Mentor: Douglas Nitz, PhD
Project: Reconstruction of the Cognitive Map in Spatial, Temporal, and Geometrical Frameworks
Conference: SRC 2020
Other Presentation: Cognitive Science Honors Program Presentation

Alexandria Tran, Bioengineering (Bioinformatics)
Mentor: Julian Schroeder, PhD
Project: Bioinformatic analyses of whole genome sequences
Richelle Tran, Psychology
*Psychology Honors Program*
Mentor: Pamela K. Smith, PhD
Project: Examining the Effects of Language on Perceived Power and Competence
Other Presentations 2020 Senior Honors Presentation

Aaron Trando, Molecular Biology
Mentor: Jamie LaBuzetta, MD
Project: Proposing a Framework to Assess Outcomes of Neurological ICU Survivors
Conference: OURS 2020 ([View Presentation Here](#))

Rebecca Tsai
Mentor: Sandra Sanchez-Roige, PhD
Project: Cadm2

Michelle Tu, Human Biology
Mentor: Shigeki Miyamoto, PhD
Project: RhoA induces mitophagy through PINK1 stabilization to confer cardioprotection
Conference: Experimental Biology Conference 2020

Ashley Ugarteche, Cogn and Behavioral Neuroscience
Mentor: Jyoti Mishra, PhD
Project: Brain Body Basis of Mental Health

Armando Urbina, Chemical Engineering
*San Diego Nanotechnology Infrastructure*
Mentor: Darren Lipomi, PhD
Project: A study of metal-graphene and metal-hBN composite piezoresponse and morphology
Conference: SRC 2019

Swan Van, Biochemistry/Chemistry
Mentors: Elizabeth Komives, PhD
Alexis Komor, PhD
Project: Atomistic insights into the nucleic acid binding activity of the Trm10 enzyme
Conference: SRC 2020

Preethi Veeragandham, Human Biology
Mentor: Chao-Wei Hung Hung, PhD (Saltiel Lab)
AURE Students (cont.)

Barbara Ruth Velazquez, Public Health
Mentor: José Suárez, MD
Project: Dietary intervention to enhance the excretion of persistent organic pollutants using nuts and olestra
Conference: SRC 2019

Mai Vu
Mentor: Derek Welsbie, MD, PhD
Project: Evaluation of MAP Kinases Scaffold Protein in Ganglion Cell Death
Conference: OURS 2020 (View Presentation Here)

Jaxon Wagner, Microbiology
Mentor: Matthew Daugherty, PhD
Project: Evolution and antiviral specificity of IFIT genes

Avleen Walia, Psychology (Clinical)
Mentor: Ariel Lang, PhD
Project: The Relation Between Mood Symptoms and Cognition in Parkinson’s Disease: A Review of Literature
Conference: OURS 2020 (View Presentation Here)

Raechel Walker, Data Science
Mentors: Robin Knight, PhD; Daniel McDonald, PhD
Project: Characterizing Microbiota Using Neural Networks
Conference: OURS 2020 (View Presentation Here)

Howard Wang, Computer Science
Mentor: Won Bae, PhD
Project: Accelerating T2-mapping for Quantitative MRI using Machine Learning and Multi-threading
Conference: OURS 2020 (View Presentation Here)

Phoebe Wang, Biochemistry/Chemistry
Mentor: Richard Childers, MD
Project: No Urine, No Problem: How Urinalysis Impacts Antibiotic Prescription Rate in the Emergency Department
Conference: OURS 2020 (View Presentation Here)
AURE Students (cont.)

**Shanqing Wang**, Computer Science (Bioinformatics)  
Mentor: Lukas Chavez Kuss, PhD  
(Mesirov and Chavez Labs)  
Project: Detection of ecDNA in Cloud Genomics Databases

**Vania Wang**, Biochemistry and Cell Biology  
Mentor: William Kim, PhD  
Project: Utilizing the CRISPR/CasRx system to study EMT pathway of triple negative breast cancer cell lines

**Madeline Weerts**, Psychology  
Mentor: Caren Walker, PhD  
Project: Gestures and Analogical transfer: Investigating whether children who use gestures during explanation are more likely to be successful in solving analogous problems  
Conference: OURS 2020  
(View Presentation Here)

**Krystopher Weeton**, Computer Science  
Mentor: Miles Jones, PhD  
Project: Tetris, an Algorithmic Benchmark  
Conference: OURS 2020  
(View Presentation Here)

**Kylie Wells**, Pharmacological Chemistry  
Mentor: Michael Gilson, MD, PhD  
Project: Microtubule Stabilizing Ligand Replacement  
Conference: OURS 2020  
(View Presentation Here)

**Alexander Westra**, Structural Engineering  
Mentor: Veronica Eliasson, PhD  
Project: Blast wave interaction with structures: an application of exploding wire experiments  
AURE Students (cont.)

Jack Whiteley, Physiology and Neuroscience  
Mentor: Carol Marchetto, PhD  
Project: Potassium Chloride-Dependent Activation of Immediate Early Genes in an Induced Neuron model  
Conference: OURS 2020 ([View Presentation Here])  
Award: Undergraduate Research Library Prize, 2nd Place

Andrea Widanta, Human Biology  
Mentor: Edward Castillo, PhD  
Project: Impact of Geriatric Emergency Medicine Interventions on Throughput and Readmissions of Senior Patients  
Conference: OURS 2020 ([View Presentation Here])

Katherine Wong, Human Biology  
Mentor: Chengbiao Wu, PhD

Weiguang Wu, Oceanic and Atmospheric Sciences  
Woods Hole Oceanographic Institution Summer Student Fellowship, 2019  
Mentors: Sarah Gille, PhD; Bia Villas Bôas, PhD  
Projects: (UC San Diego) Sea Surface Temperature Response to Alongshore Winds Off the California Coast, (WHOI) Directional Wavenumber Spectrum of Ocean Internal Waves

Qinghui Xia, Computer Engineering  
Mentor: Won Bae, PhD  
Project: Accelerating T2-mapping for Quantitative MRI using Machine Learning and Multi-threading.  
Conference: OURS 2020 ([View Presentation Here])

Jiangnan Xu, Computer Science (Bioinformatics)  
Mentor: Anjan Debnath, PhD  
Project: Drug discovery for parasitic diseases

Mingzhi Xu, Biochemistry/Chemistry  
Mentor: Joseph Simpson, PhD  
Project: Enhancing the low expression of proline rich proteins  
Conference: SRC 2019
AURE Students (cont.)

**Zoey Jialu Xu**, Mathematics and Econ/ Political Science (Int’l Relations)  
Mentor: Michael Davidson, PhD  
Project: Political determinants of electricity market efficiency

**Vivian Yan**, Psychology (Cognitive)  
Mentor: Angela Lowe  
Project: Facial Feedback Hypothesis and Its Effect on Emotional Response  
Conference: OURS 2020 ([View Presentation Here](#))

**Xueying Yang**, Sum Ses International Student  
Leichtag Biomedical Research  
Neuroscience Department  
Mentor: Xu Chen, PhD  
Project: Modulating PNKP activity as a therapeutic strategy in SCA3 and Alzheimer's disease models  
Conference: SRC 2019

**Goutham Yegappan**, Mathematics (Computer Science)  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Colin Young**, Computer Science  
Mentor: Niema Moshiri, PhD  
Project: An end-to-end profiling of standard viral phylogenetics workflows

**Justin Yu**, Biochemistry and Cell Biology/Business Psychology  
Biological Sciences Honors Program  
Mentor: Shigeki Miyamoto, PhD  
Project: The role of NEK7 in regulation of autophagy in cardiomyocytes  
Publication: Abstract in 2019-2020 Saltman Quarterly, Vol 17, Page 49 ([View Abstract Here](#))

**Mariam Zafar-Khan**, Global Health/ Psychology (Health)  
Mentor: Jyoti Mishra, PhD  
Project: Brain Body Basis of Mental Health

**Lingzhi Zheng**, Mechanical Engineering  
Mentor: Veronica Eliasson, PhD  
Project: Shock Wave Focusing Phenomenon  
Conferences: SRC 2019, American Physical Society annual Division of Fluid Dynamics meeting 2019
AURE Students (cont.)

**Sherry Zheng**, Molecular Biology/Music
Mentor: Andrew Chisholm, PhD
Project: Why should we care about a worm and its skin?
Conference: OURS 2020 ([View Presentation Here](#))
Award: 2020 NSF Graduate Research Fellowship Winner

**Jenny Zhu**, Physiology and Neuroscience/Economics
Mentor: Caren Walker, PhD
Project: Counterfactual Reasoning and Belief Revision
Conference: OURS 2020 ([View Presentation Here](#))
Undergraduate Research Mentors
To the 489 mentors below ... THANK YOU!
Undergraduate research is thriving at UC San Diego because of your dedication and mentorship to the students.

Anthropology
Thomas Csordas, PhD
Jade d'Alpoim Guedes, PhD
Joseph Hankins, PhD
Bonnie Kaiser, PhD
Dredge Byung'chu Kang, PhD
Ellen Kozelka
Thomas Levy, PhD
Carol Marchetto, PhD
Amy Non, PhD
Nancy Grey Postero, PhD
Paula Saravia, PhD
Saiba Varma, PhD
Rihan Yeh, PhD

Biological Sciences
Eric Allen, PhD
Matthew Banghart, PhD
Carlisle Bascom, PhD
Eric Bennett, PhD
Lakshmi Chilikuri, PhD
Andrew Chisholm, PhD
Matthew Daugherty, PhD
Rachel Dutton, PhD
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Michael J. Sailor, PhD
Joseph Simpson, PhD
Susan Taylor, PhD
Ted Wang
Jerry Yang, PhD
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Cognitive Science
Andrea Chiba, PhD
Sarah Creel, PhD
Virginia de Sa, PhD
Gedeon Deák, PhD
Steven Dow, PhD
Shannon Ellis, PhD
Betina Karshaleva
Stephen Macneil, PhD
Douglas Nitz, PhD
Ryan Place, PhD
Lara Rangel, PhD
Federico Rossano, PhD
Zhuowen Tu, PhD
Bradley Voytek, PhD
Drew Walker, PhD
Haijun Xia, PhD
Angela Yu, PhD

Communication
Zachary Osborn

Critical Gender Studies
Karen Shelby, PhD

Economics
Titan Alon, PhD
Prashant Bharadwaj, PhD
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Nanome, Inc.
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