

UCSB MCNAIR SCHOLARS PROGRAM NEWSLETTER

SPRING/SUMMER 2022, VOL. 19



McNAIR



SCHOLARS PROGRAM UCSB

The UCSB McNair Scholars Program is supported by the U.S. Department of Education Ronald E. McNair Post-Baccalaureate Achievement Program, UCSB Office of the Executive Vice Chancellor and, deans of the College of Letters and Sciences. Additionally, our science, technology, engineering and mathematics (STEM) scholars are partially funded by Edison International.

NOTE FROM THE Faculty Director



Faculty Director
Miroslava Chávez-García, Ph.D.

The futurities of McNair

Welcome back everyone to Fall 2022! In this issue, I dedicate my brief remarks to “futurities” within and beyond the walls of the McNair Scholars Program. First, in Spring 2022, we graduated fifteen amazing seniors who have gone off to cultivate their careers in doctoral and master’s programs across the country. We are particularly proud of this cohort as they and their families endured the effects of the COVID19 pandemic and demands for remote instruction when the

heart of the program is community. Despite the challenges, we made up for lost ground in the spring with in-person seminars and the graduation celebration.

Second, It brings me great pleasure to announce that the UCSB McNair Scholars Program has received a Department of Education five-year, \$1.32 million grant to sustain the work of preparing first-generation, low-income, and underrepresented students to

successfully apply to graduate school. Along with generous campus support from the Offices of the Executive Vice Chancellor, Deans of Letters of Science, Graduate Deans, and Deans of Undergraduate Education, as well as many other entities on campus, McNair is on solid footing moving into the future. We continue to thank all the support we have on the UCSB campus community and beyond. To another five years of student-centered success!

Note from the Program Director



Program Director
Veronica L. Fematt, Ph.D.

I would like to report that this year we provided a fantastic and robust summer research program for 17 scholars. We also welcomed two new Graduate Mentors to our team - Adeel Hussaini, a doctoral student in Molecular, Cellular, and Developmental Biology, and Courtney Durdle, a doctoral student in the Psychological and Brain Sciences, both of whom helped guide and structure the program. The students in the summer research program attended weekly seminars, worked on their research projects, and attended professional development workshops. We also hosted eleven students as part of the Edison STEM Scholars Summer Research Program.

With the support from Summer Sessions and the EVC, McNair Scholars

were provided with summer housing in the Santa Ynez Apartments. Thanks to this generosity our students were able to experience the benefits of a living learning community, which enriches the student experience both academically and socially. Certainly, my first summer with the McNair Scholars Program was a busy one, but I had no greater reward than seeing how far our students had come from week one of the program to weeks seven and eight, when they presented their work at the McNair Summer Research Symposium and CSEP Poster Colloquium, respectively. We all agree they have come so far and we look forward to seeing how far they will go in pursuit of their goals.

Welcome New Juniors Class of 2024



Fatima Aguilar
Major: English and Pre-Sociology, Spanish minor
Mentor: Dr. Miya Barnett
Research Interests:
Mental Health Services and Latinx Students



Paulos Berhane
Major: Political Science, History minor
Mentor: Dr. Paul Spickard
Research Interests: Politics, Revolution, and Eritrean National Ethos



Monsi Lupian
Major: Linguistics Minor: Education
Mentor: Dr. Richard Durán
Research Interests: Multilingualism, Educational Linguistics, Dual Discourse Analysis, Cultural Historical Activity Theory (CHAT)



Lucero Torres Ojeda
Major: Environment Studies
Mentor: Dr. Debra Perrone
Research Interests: Water Quality & Sustainable Groundwater Management



Abby Welch
Major: Linguistics
Mentor: Dr. Jin Sook Le
Research Interests: Foreign Language Acquisition, Transnational Multimodal Literacies, Informal Education Methods

Class of 2022 Graduate Programs

Fifteen Graduating Seniors Launched their Careers in S'22



Denise Castro, MA,
UC Berkeley, Teacher
Preparation Program



Odalys Callejas, PhD,
Cornell U., Geological
Sciences



Jordyn Fuggins,
Peer Mentor, LEAF



Isaias Ghezze,
Center on Philanthropy
and Civil Society, Stanford
University



Andrea Hercules, MS,
UCSB, CCSP



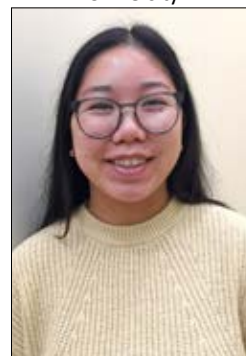
Emily López, PhD,
Cornell U., Applied Math



Yaxcha Mariles,
UC Santa Barbara



Gilbert Murillo,
UC Santa Barbara



Faye Nguyen, MS,
San Diego State University,
Statistics



Ryan Rising, PhD,
UC Irvine, Sociology



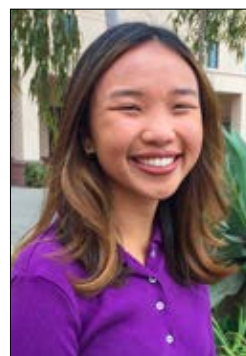
Jamileth Rodríguez,
Cottage Hospital, Santa
Barbara



Diana Sanchez, PhD,
UCSB, Chicana/o Studies



Abraham Soto,
Master's in Public Health,
UC Berkeley



Miranda Tran, MS,
Azusa Pacific,
Marriage & Family Therapy



Ajah Whitehead, MA,
UCLA, African Studies



Katia Larina

Edison Summer Research Program Highlights

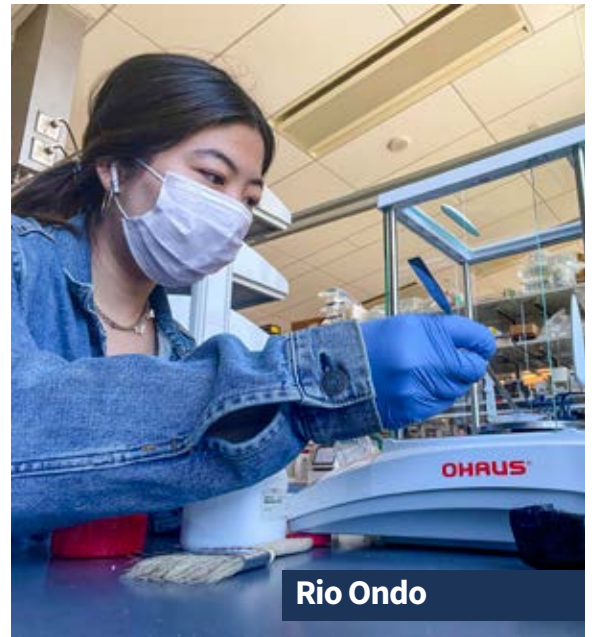
Eleven UCSB undergraduate students took part in the 2022 Edison Scholars Summer Program. Thanks to the continued generosity of Edison International, each scholar who participated received a \$4,000 stipend. Edison Scholars performed research for eight weeks in a wide range of STEM fields, including Applied Mathematics, Physics, Statistics & Data Science, Chemistry, and Electrical Engineering. The scholars worked closely with faculty and graduate student mentors to refine their research interests and obtain hands-on experience with the scientific method, including developing a research question, collecting and analyzing data, and creating a publication-worthy research paper.

Students who participated included Julissa Cesareo, whose research focused on performing magnetic and structural analyses of Heusler compounds, as well as Erin Lewis, whose project investigated the synthesis and characterization of high-nuclear cobalt ketimide complexes. Students were also able to gain access to cutting-edge technology and research scientists from around the world. One of our scholars, Katherine Larina, was able to travel to the European Organization for Nuclear Research, known as CERN, in Switzerland to assist in projects that utilize the world's largest and highest-energy particle collider.

Edison Continues Page 6



Erin Lewis



Rio Ondo



Gil Marc Sia



Zach Seitz

In addition to research, Edison Scholars sharpened their ability to communicate their scientific knowledge. Students gave poster presentations to their peers and practiced disseminating their research to people outside their field through an “elevator pitch.” Edison Scholars also attended graduate school application preparation and professional development workshops. The topics included graduate school opportunities and challenges, application essays, budgeting while in graduate school, and getting organized for fall graduate school applications.

We are very proud of the success and growth of this summer’s Edison Scholars and know that they too reaped the benefits of the program. “The Edison Summer Research Program has made

me more sure of my goals in attending graduate school,” noted Brandon Nguyen. “It has made me realize as a first-generation graduate school student that I am not alone. It has also provided me with the resources that I need to succeed.”

Nicholas Alexander, in turn, said, “The Edison Summer Research Program helped me explore graduate school options and engage in research like a graduate student. I now have a clearer image for my path in academia and what I want to do after graduating. I’ve additionally connected with some great resources” Finally, Jaden Chau, commented, “The Edison Summer Research Program has not only given me the resources to accomplish my first research project, but it also gave me insight and advice for graduate school.”

McNair Summer Research Program Highlights

This summer, the McNair students worked hard and played hard. They worked hard on research activities ranging from lab and field work to library research and interviews. In the process, they both collaborated with faculty mentors and carried out their investigations independently with the support of Graduate Mentors, Adeel Hussaini and Courtney Durdle. All told, they produced some amazing findings related to projects focused on water quality in California's Central Valley, the history of Eritrean independence movements, and the impact of invasive algae on the ecosystem, among other topics.

To expand their research skills using the latest technology,

students attended an Introductory Data Analysis and Visualization in R Studio workshop hosted by the UCSB DREAM Lab. Students in STEM fields also took part in an intensive GRE workshop, organized and led by the graduate mentors. This session provided an overview of GRE content as well as some crucial tips in tackling the rigorous test, which many programs continue to require. In addition to enhancing their research skills, students attended weekly professional development workshops, providing them with the essential tips and tricks for applying to graduate school, demystifying the hidden curriculum, and developing relationships with potential faculty mentors.

Students also played hard

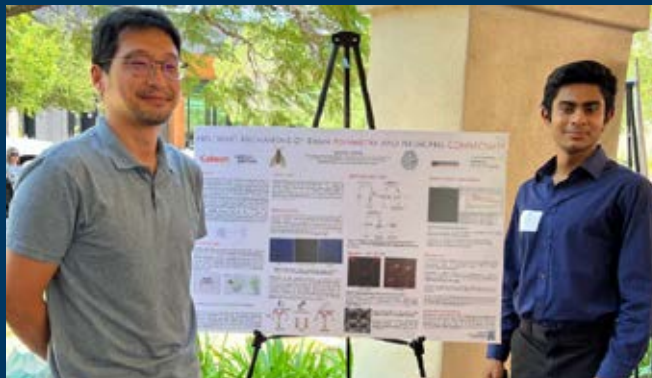
this summer, socializing with peers engaged in other summer research activities at UCSB. On two occasions, they met up with students from the UC-HBCU "Afro-Latinidades" program, led by Professor Ben Olguin in the English Department, and Graduate Mentor, Lexus Coffey. The students gathered at Goleta Beach for pizza and conversation and, later, at Zodo's Bowling Lanes where they bowled, ate pizza, and had the opportunity to relax and hang out away from campus.

Overall, the students' intense summer experience paid off when they presented their research at the concluding symposium. Though it was a bit unnerving, the students enjoyed the opportunity.

"I loved the symposium!" Abby Welch stated. "It was amazing to get to see all of the presentations and learn about all the research my fellow scholars are conducting. I also enjoyed getting to talk to different faculty mentors who gave me advice and feedback!" Marian Walker commented, "I appreciated being able to share my research [on "Restoring California's Native Coastal Scrublands"] in person in an environment that felt less intimidating than some of the other conferences." And, finally, Paulos Berhane, who researched the origins of Eritrean nationalism, wrote "I thoroughly enjoyed this summer program, and it helped me professionally in more ways than I can describe. Thank you!"

External Summer Research Programs Highlights

Participating in an external summer research program is an excellent opportunity for students not only to learn about the ins and outs of research and gain professional and personal development but also to establish networks with individuals—professors, graduate students, and peers—who can make an impact on their careers. In summer 2022, four McNair Scholars, Ezequiel Contreras Martinez, Arsalan Hashmi, Laura Rosero Rondon, and Carla Suarez Soto, took part in programs across the country, ranging from UC Irvine, Caltech, University of Chicago, to Harvard, respectively. All students expressed a sense of accomplishment and satisfaction in the new people and experiences they met along their journey. "I had an absolutely amazing time doing research this summer with Dr. [Marisa] Casillas at UChicago through the Leadership Alliance Early Identification Research Program," says Carla Suarez Soto. "My professor and



Granted a Chen Institute BrainWAVE Fellowship at Caltech, Arsalan Hashmi carried out neuroscience research studying the asymmetry in *Drosophila* brain research in the Carlos Lois Lab. Here he stands with one of his two graduate student mentors, Ting-Hao, from Caltech.



Ezequiel Contreras Martinez at UC Irvine's SURF Program. His research in physics entailed simulating planetary systems imager observations for terrestrial exoplanets.

everyone from my lab was super supportive throughout the whole process which helped me have a fruitful experience. For my project, I replicated a study carried out by my mentor, which found that English speaking children switch from using vocabulary specific to child directed language (e.g., doggy/bunny/mommy) to adult directed language vocabulary (e.g., dog/rabbit/mom) at about the age of 2.5 years old. However," Carla continued, "for my study I attempted to see if Spanish speaking children also make a similar switch from using CDL vocabulary in Spanish (e.g. perrito/mami/papi) to ADL vocabulary (e.g. perro/mamá/papá). The purpose of the research is to get a glimpse into when children begin to recognize and control their use of language register for different social contexts. I am truly grateful for the experience because it [not only] helped me grow as a researcher but also helped me feel a lot more prepared to apply to grad school."

Farewell to Graduate Mentors



Christopher Morales

I have been the Writing Specialist for the McNair Scholars Program since 2019. During that time, I guided McNair scholars through the processes of research, writing, and applying for graduate school. At the heart of my work was helping students to recognize and articulate their research ideas, career goals, and personal merit. As a first-generation and underrepresented scholar who did not have the benefit of membership in the McNair Scholars Program, I went through school believing that I had to hide my background from my professors and colleagues. Working for the McNair Scholars Program helped me to acknowledge

not only my students but also myself and my place in academia. As I often tell our scholars: “The things I say to you are the things I’m learning to believe about myself.” I am humbled by the determination and abilities of the scholars I have been so gratuitously fortunate to work with.

I completed my Ph.D. in the Department of Religious Studies in September 2022. My dissertation, “The Ethics and Politics of Friendship in Ralph Waldo Emerson and Friedrich Nietzsche,” critiques modern capitalist notions of individualism and freedom as grounded in choice, consumption, and ownership, arguing instead

for an idea of freedom and individualism based in loving solicitude and commitment to others. I will continue my academic career at Augustana College, where I am Bergendoff Fellow in Religion. My current research focuses on the work of Hannah Arendt and the religious and economic trends that have shaped American fascism.

I owe an uncountable debt to the students, staff, and professors at the McNair Scholars Program. It is my sincerest hope that current and future scholars will dream big, realize their worth, and become who they are.



Iliana Flores

I have been fortunate to pursue higher education with the help and support from incredible resources such as the McNair Scholars Program. As a Mexican American, first-generation, low-income, college student, being a part of the McNair Scholars Program as an undergraduate student and working with mentors taught me the research skills I needed to pursue a PhD. When situations in my life at times got increasingly difficult early on as a student, the friends, staff, and program directors in McNair sustained me through those moments. I was constantly reminded by the individuals who believed in the mission and vision of McNair that I could succeed and that I belonged in academic spaces even when I believed or was made to believe otherwise. Because I was given the opportu-

nity to join a program that helped individuals like me develop into a researcher, I knew I wanted to be in a similar position one day to help students, and I was. As a graduate mentor for the UCSB’s McNair Scholars Program, working with students filled with passion, curiosity, a heart for research, and a dedication to advance our society with their research skills, has been one of the greatest highlights of my academic career. I am always in awe of students’ fortitude and ability to overcome obstacles in pursuit of their personal and professional aspirations. I am thankful that I got to be in a mentoring position where I witnessed their academic development and journey to graduate school.

Currently, I am in my last year of the PhD program

in Counseling, Clinical, and School Psychology at UCSB with a specialization in counseling. I am a clinical resident at the University of Texas, Health Science Center at San Antonio. My first rotation includes working at a psychiatric state hospital and providing bilingual (English-Spanish) individual and group services to individuals in recovery. Undoubtedly, I learn about my patients as much as they learn from me. As for the future, my goal is to continue providing bilingual services to populations in need and to assume a faculty position where I can work closely with students and provide research guidance and mentoring. In other words, I hope to continue to help carry on Ronald E. MacNair’s legacy!

McNair

Publications and Awards

Collin Lejano:

Working with Devon Christman, Collin submitted papers on the development of a quantum information science computer game to the journals Special Interest Group on Computer Science Education (SIGCSE) and National Association for Research in Science Teaching (NARST). He plans to attend the American Association of Physics Teachers (AAPT) Summer 2023 conference where he will present further findings on the quantum computer game.

Madeleine Pacheco:

Madeleine will attend the Western Society of Naturalists, an ecology conference in Oxnard, California, which will be held on November 11-13, 2022. She was awarded a SACNAS Career Pathways grant of \$1000 to support conference costs. She also received the Wenger Prize for Undergraduate Research, with \$2000 in research support from Environmental Studies.

Mackenzie Taradalsky:

Mackenzie was the recipient of the Burleigh Taylor Wilkins Award for Excellence in Philosophy for 2021-2022 from the UCSB Department of Philosophy.

Marian Walker:

Marian was invited to be a panelist for the Mantell Symposium on Environmental Justice and Conservation Innovation on November 3, 2022, at UCSB's Bren School of Environmental Science and Management. She and Bren MESM student, Sarah Lam, will present their findings from a summer research project on kelp forest recovery, California Native Tribal engagement, and interrelated policy frameworks for The Nature Conservancy as a part of Bren's Environmental Diversity Leaders Internship.

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