

# CENTER FOR DIVERSE LEADERSHIP IN SCIENCE

2018 - 2019 Annual Report





# A MESSAGE FROM ARADHNA TRIPATI

A mentor, Pono Shim, pointed out to me that all of us share a set of basic needs: To have clean water to drink and air to breathe, to not be hungry and to have meaningful work, to live with peace and civility, to have respect and community and to thrive and struggle while being safe, and to know that our families will be too.

Our ability to meet these needs is being threatened. We are witnessing the lasting devastation of climate disruptions: water scarcity, pollution, and the loss of nature on people and communities. Catastrophic storms, floods and droughts, and more frequent and intense wildfires are occurring every month and overwhelming communities. People are being harmed from soil, water and air pollution from T’iists’óóz Ndeeshgizh to Maywood, Allensworth to Flint, and Lowndes County to Cancer Alley. We collectively face crises relating to the environment and sustainability, and these problems take from every human on the planet. No single group is going to muscle through the environmental and societal problems we face. Our shared challenge is to open up space for more people to be resources in the face of climate change and social inequality, so we can address these issues ethically, with inclusion and collaboration.

Right now, even Congress is diversifying faster than our environmental organizations and STEM fields. More than 80 percent of the green workforce is white and 70 percent is male, with little progress in racial diversity for the past 40 years. It is not because other students are not interested. It is because they are pushed out. Due to the dominant culture, individuals and communities deal with erasure and trauma, which is also expressed in STEM higher education settings. Nationally, most programs lose 60-80% of the people who go to college intending to study STEM. People who do graduate have debt burdens greater than at any time in our history. **We are losing the people who we need to be the doers of now and the future.**

**We are doing things differently to change how these scales are balanced.** By empowering people everyday and being in community, their environmental and scientific leadership surfaces. We are reclaiming the core values of education and practice, making them relational, human-centered, and integrative. The people I meet inspire me and show me that, although the barriers are longstanding and systemic, they can be overcome with our support, and that collectively, we can dismantle them.

This work is being done by and with people at a powerful time of their socialization in environments with some of the highest levels of diversity anyone finds in their lives. Our theory of change emphasizes reflective dialogue with peers and experts, collaboration, and collective responsibility. Our intergenerational interactions, in inclusive and diverse communities of practice, change the entire environment of learning.

Equity, cultural humility, and teamwork are integral to the environments we work in. By emphasizing equity as being integral to what makes us human, we reinforce that we are connected to others and responsible for supporting healthy systems. And when people feel supported and succeed against the odds, they gain confidence and realize they are valued at a fundamental level.

**A group of students and I have created this annual report to share with you the stories that sustain us and make us hopeful.** Stories of people showing up with their curiosity and compassion; of how people are finding educational counter-spaces that support respect, health, and innovation; of people discovering their resilience while overcoming barriers they encounter; and so much more. What they do with their energy and ambassadorship while in community with others is inspiring. It means that people can bring their intellect and share their different cultural and experiential perspectives in what they do. People are developing their confidence and engaging in activism while using science in service to society. What is most exciting is that what we model right now can represent starting points for those we work with. These are the change agents and networks we need for healthy communities, environments, and social systems in the 21st century.

We are deeply grateful for all that you do to help contribute to these efforts. We hope that, together, we can find ways to sustain this work for our shared future. Thank you for your support.

**Aradhna Tripathi**

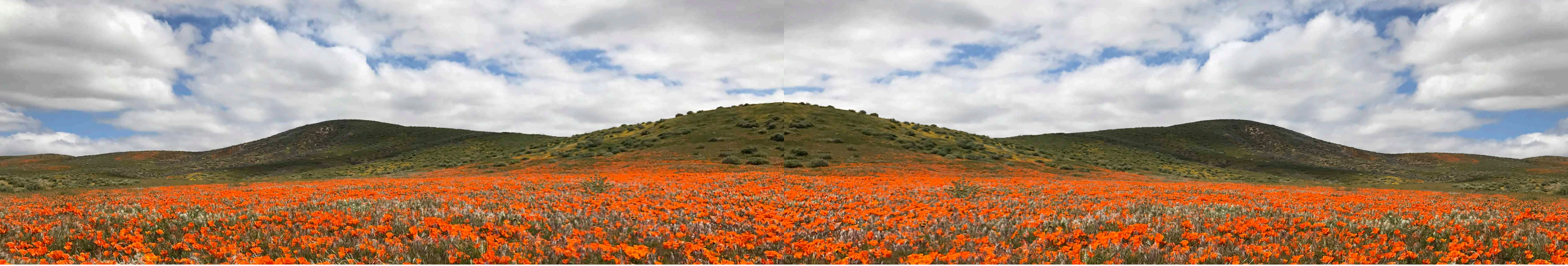
Founder and Director

**Professor,** Institute of the Environment and Sustainability,  
Department of Atmospheric and Oceanic Sciences,  
Department of Earth, Planetary, and Space Sciences,  
American Indian Studies Center, **UCLA**



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# ABOUT OUR CENTER

The Center for Diverse Leadership in Science (CDLS) was created due to a successful NSF-funded pilot program that was recognized with an award to Professor Aradhna Tripathi from President Obama and his White House Office of Science and Technology Policy. The goal of this pilot was to support a large, diverse, and inclusive community of scholars to develop the current and future generations of leadership in green science and empower them to improve institutional climates.

At UCLA, with support from across campus by students, postdocs, staff, and faculty and working in partnership with the Institute of the Environment and Sustainability; the Center for Education, Innovation, and Learning in the Sciences; the Higher Education Research Institute; and other organizations, we have been creating a model that can be used in higher education and beyond. We desire to broaden pathways into green science, and to nurture leaders who will collectively change the culture of academic institutions and other organizations they join.

Our structure uses scholarships, skills and leadership growth, mentoring, hands-on experience, and community partnerships to address recruitment, retention, and training needs.

We support young people, adults, and elders who are working together for change, in higher education, and outside of academia: groups that have been an engine for change throughout the history of our communities and the world.



**Our approach has several pillars,  
with early career and faculty fellows programs at the core.**

- We study STEAM and learn experientially by working in collaborative settings to solve real world problems and engage in activism. Our model includes research and community outreach “from K to gray” to promote environmental literacy. Our fellows grow and practice skills, prepare themselves for the future, and empower others.
- Our intergenerational interaction, in inclusive and diverse communities of practice, changes the entire environment of learning.
- We focus on translating values and learning into behaviors and practices. From early career fellows to faculty, we implement new practices in the classroom, the research lab, and in outreach. We are leaders in STEAM that respect identities, families, and communities.
- Our cohorts model diversity in higher education by including people at varied educational and career stages. These cohorts support social belonging and sharing their stories, including of scientific discovery, adversity, and resilience.
- We demonstrate that people who look like us and relate to our challenges make it to every educational stage and into the workforce. Our diverse mentors and role models show that there are always opportunities to lead. Leadership relies on continued learning, adapting practices, and working with others with confidence, humility, and wisdom.





# HIGHLIGHTS

**1**

We are the first center of our type in the nation.

**71**

Early Career Fellows supported from 26 majors/ programs from 15 educational institutions. 5 are high school students, 32 are undergraduates, 7 are recent graduates, 22 are graduate students, and 5 are postdoctoral scientists.

**17**

States and 4 countries are represented by CDLS early career fellows.

**25**

Faculty members working with our early career fellows, 9 of whom are also CDLS faculty fellows.

**1306**

People reached through service by our early career fellows.

**16**

Awards received/held in 2018-2019 by early career fellows and CDLS leadership.

**42%**

Of CDLS early career fellows are womxn of color, and 55% are womxn.

**68%**

Of CDLS early career fellows are people who are underrepresented minorities, and 69% are people of color.

**20%**

Identify as queer, and 1% as transgender.

**23**

Faculty Fellows in six different academic departments who committed to leadership in inclusion at UCLA.

**1**

Number of centers in the physical sciences at UCLA that are led by a womxn of color faculty member.

**1088**

People who learned about CDLS through outreach from our Director.

# HIGHLIGHTS



## RESEARCH AND OUTREACH SYMPOSIUM

The Research and Outreach Symposium was organized by CDLS early career fellows and Queers in STEM to create a forum for short, accessible research and outreach talks. 14 people gave talks! Ginny Isava, a 4th-year PhD candidate at Stanford University, gave a moving keynote on strategies and resources that helped her succeed in graduate school. The event concluded with a career path panel, where four womxn at different stages shared their journeys and gave advice.



## PROJECT SCIENTIST



We hosted an all-girls summer camp, and it was as awesome as it sounds. #STEMinism. This was done in partnership with Project Scientist, a non-profit designed to serve girls and their interest in science. With curiosity abound, thirty young scientists ages 4-12 visited us. They met 6 CDLS early career fellows who showed the young visitors that womxn of all backgrounds continue in science. We provided a laboratory tour, and led an all-womxn panel to answer all of their thoughtful questions about the work fellows are doing and what our education and careers entail.

## LEADERSHIP RETREAT

At the beginning of the last academic year, we held a 3-day retreat on “Emerging Leaders for the Emerging Future” hosted by the Environmental Leadership Program. This was an opportunity for 15 of our early career fellows to build new skills, knowledge, and community. The goal of the retreat was to provide guidance to help support and network early career leaders in environmental and social change. We are planning to hold this retreat again this year, along with a mental health and well-being retreat.



## CLIMATE REALITY PROJECT



Nine early career fellows had the opportunity to join thousands of professionals in Atlanta for Al Gore’s Climate Reality Leadership Corps activist training. The theme of this training was environmental justice. Over the course of three days, through presentations, panels, and workshops, the fellows discussed how to build inclusive networks and coalitions that will help combat the climate crisis and environmental injustice.

## MONTGOMERY AND LOWNDES COUNTY

We visited Montgomery and Lowndes Counties to learn from civil rights and environmental justice leader Catherine Flowers about the history of activism that continues to this day. In Montgomery, we experienced the Equal Justice Initiative’s Legacy Museum and National Memorial for Peace and Justice. Catherine then took us to different sites in Lowndes County, where we learned first-hand from residents about the local sanitation and housing issues that are being aggravated by both climate change and racism. She shared with us the scale of these issues in rural America, from Alabama to California and Florida, which has led her to establish a Center for Rural Enterprise and Economic Justice.





## CONFERENCES

Our fellows attended conferences where they gave presentations on their research and outreach programs, and participated in workshops. These meetings are an opportunity to learn more about work being done by the broader community and place oneself and work in a larger context. They are invaluable for networking with peers, potential advisors, and employers.



“Attending the AGU annual meeting was one of the most interesting undergraduate research experiences I’ve had to this day. Not only was I able to experience the scientific community in a more intimate environment, but I had the opportunity to explore my professional aspirations at a greater depth. I found the poster presentations to be one of the highlights of the conference as I was able to relate to other student researchers and see how they navigate the challenges that come with having a research project.”

**- NAARAI HERNANDEZ**

## OCEAN DISCOVERY INSTITUTE



The Ocean Discovery Institute (ODI) is a community-led non-profit in San Diego focused on STEM enrichment and youth development. Our partnership was initiated by a NOAA scientist, Catalina Martinez, who visited CDLS and hosted a faculty visit to ODI. At ODI’s recent visit to UCLA, our early career fellows led their students on lab tours and shared the process of applying to college and tips for success during undergrad. The CDLS early career fellows have now become step-ahead mentors to the high schoolers in ODI, and are planning a visit to their Living Lab this summer.

## GRADUATION



This year we celebrated the accomplishments and the successful graduations of 13 early career fellows! During the recent commencement weekend at UCLA, the Center for Diverse Leadership in Science hosted its annual Graduation BBQ at a local park for graduating fellows, their advisors, group members, peers, faculty fellows, alums, and families.

“Thinking back on my past two years, the ability to take classes from a wide range of STEM departments and the opportunity to engage in mentorship fostered by my group and CDLS, all provided me with a broad background in science and skills, which likely helped secure my first job working in hydrogeology!”

**- LAUREN SANTI**

## HOWARD UNIVERSITY

A recent visit to Washington DC brought together 7 faculty and students from Howard University with 6 CDLS members to discuss collaborative research opportunities and training programs. Thanks to the visit, one of the Howard University students we met, Naomi Adams, is now an incoming Ph.D. student at UCLA. We are actively working on planning ways to grow a Howard-UCLA partnership to support reciprocal visits, projects, and student opportunities.

## ROUNDTABLE AT TREEPEOPLE

TreePeople, an environmental nonprofit, hosted a community event for CDLS. The speakers were environmental and equity leaders in science, government, and media. They talked about “Why Diversity Matters” followed by roundtable discussions. Speakers included the Founder and President of TreePeople, Andy Lipkis; the organization’s CEO, Cindy Montañez; Alejandra Campoverdi, former aide to President Obama and a First 5 CA Commissioner; as well as Professor Tripathi and a CDLS staff member Ashley Kruythoff.





# EARLY CAREER FELLOWS: PAST FELLOWS



## MARIANNA LINZ

(she/her) is a climate scientist who was a postdoctoral researcher in the Department of Atmospheric and Oceanic Sciences at UCLA and recently joined the faculty at Harvard University. She is broadly interested in geophysical fluid dynamics and climate dynamics, and has researched on a wide range of topics from stratospheric dynamics to ocean eddies using models and data. She is the author of *Cool for You*, a science-informed children's book about climate change.



## JUAN LORA

(he/him) is an atmospheric scientist who was a postdoctoral researcher in the Department of Earth, Planetary, and Space Sciences at UCLA and has recently joined the faculty at Yale University. He is interested in interdisciplinary research including atmospheric dynamics, the water cycle on Earth in the past and present, paleoclimate, radiative transfer, and atmosphere-surface interactions. While at UCLA, he spearheaded the development of a new outreach program that brings rotating tanks of water into classrooms where kids can get their hands wet as an introduction to atmospheric motions and planetary climate.



## SAMANTHA PRASKIN

(she/her) felt lost and alone on campus when arriving for her undergraduate at UCLA, like a little fish in a big sea. The opportunity to join our pilot programs helped her find community, boost her confidence, and finish her degree. By talking to graduate students, postdocs, and faculty, she realized her ability to comprehend complicated science concepts, and she eventually taught incoming students and engaged in K-12 outreach, helping her realize that working with kids is her passion and motivating her to apply to teaching credential programs.



## SENA TAY

(she/her) is a student at Savannah State University in Georgia pursuing a second bachelor's degree in Marine Science. She is interested in physical oceanography and coastal ecology. In particular, she wants to study pollution in the oceans and have opportunities to participate in ocean exploration. Her father is from Togo and she grew up mostly in West Africa. Sena loves learning about people and cultures, and sharing her multicultural experiences. To her, a collaborative environment is one where everyone participates, is listened to and encouraged, and where people feel supported.



## ANGEL FULGENCIO

(he/him) was an undergraduate on academic probation when he attended a meeting of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) and learned about the pilot programs for CDLS. The chance to engage in research and reach out to youth and young adults aspiring to be scientists had an impact on his next steps. Angel recently graduated from Columbia University's School of Social Work. He interned at Bronx Community Solutions in their Adolescent Diversion Program and performed restorative justice practices at Rikers Island. When he engages in counseling sessions with adolescents and young adults, he focuses on using a strength-based approach. He takes the time to hear each person's story and learn their circumstances, because at a time when he felt that other doors had closed on him, a person allowed him to have a voice, and to participate in an opportunity that would otherwise be out of reach.



# EARLY CAREER FELLOWS: PRESENT FELLOWS



## SEAN WILSON

(he/him) is a graduate student in the Institute of the Environment and Sustainability who is interested in urban education and environmental justice. He graduated from Rensselaer Polytechnic Institute with a Bachelor of Science in Business Management. He is fascinated by how humans have come to value their relationship with the natural environment when they alter or transform public spaces and considers himself an urban socio-cultural ecologist. He wants to study how contemporary political responses to environmental issues discriminate against minority and low income communities and how these injustices are currently dealt with.



## IXCHAL GONZALEZ TRUJILLO

(she/her) is an undergraduate student at Santa Monica College double majoring in Geology and Marine Biology. She was a fellow of the Santa Monica College-UCLA Summer Research Scholars program and has continued as a CDLS Early Career Fellow. Ixchal is interested in studying biogenic calcification in the photic zone as well as marine sediments. She is active in a number of community engagement programs.



## JASPER MODHA

(they/them) is a 3rd-year undergraduate student at UCLA majoring in Geography/Environmental Studies, with a minor in Literature and the Environment. They currently work on a research project analyzing eDNA to study how planting seagrass can mitigate the effects of ocean acidification. They are a writer and editor with Climate Currents, and hope to support the production of diverse educational content.



## JOHN BILLINGSLEY

(he/him) recently graduated with his PhD in Chemical and Biochemical Engineering. Due to his identities, he is acutely aware of accessibility's role in the health of marginalized communities, so his doctoral work involved engineering microbes to produce pharmaceuticals. His work included making natural products with biological activities ranging from antimalarial to anticancer, with the goal of improving medical access as well as producing compounds in economically and environmentally sustainable ways. Ultimately, the goal of his research is to produce compounds – from pharmaceuticals to agrochemicals – in ways that are economically and environmentally sustainable, and improve medical access. He has also been active in Queers in STEM.



## DE'MARCUS ROBINSON

(he/him) is a graduate student in Atmospheric and Oceanic Sciences with a concentration in biological oceanography. His research examines biogeochemical cycles in regions of the ocean with little to no oxygen. By studying the microbes that affect these regions, he hopes to understand how climate change impacts microbes, how pollution affects organic matter and nutrient delivery, and how the culmination of these impacts oxygen levels and ocean health. He is active in outreach to low-income communities impacted by pollution. De'Marcus hopes to gain experience at NOAA, and ultimately to become a professor at a Historically Black College or University (HBCU) and inspire others to enter marine science.



# EARLY CAREER FELLOWS: FUTURE FELLOWS



## NAOMI ADAMS

(she/her) is a new Environmental Engineering Ph.D. student at UCLA. She graduated with a B.S. degree in Chemical Engineering from Howard University, and also has worked as a STEM high school teacher in a DC public school. She recognizes the importance of doing interdisciplinary research to address environmental racism in vulnerable communities. With her engineering background, she is interested in developing technological solutions for the public health of vulnerable communities caused by the surrounding environment while promoting self-reliance. She aims to provide useful tools for these communities that, when needed, can be used to respond, withstand, and recover from adverse situations. Naomi's lifelong goals are to fill the gap of environmental consciousness within the black community and to contribute to increasing diversity within the environmental sector.



## NALLELI COBO

(she/her) is a recent graduate of Alverno Heights Academy and begins as a freshman at Whittier College this fall. Until recently, she lived across from an AllenCo Energy oil drilling site, which negatively impacted her health. At the age of 9, she started experiencing nosebleeds and heart palpitations and was diagnosed with asthma, as were others in her community. They rose up and created the People Not Pozos campaign to close down the oil drilling site. This sparked her passion for environmental justice. Nalleli believes going to university will help her access the tools necessary to empower her community. Fighting for environmental justice has made her realize that she wants to make a career out of helping others find their voice and share their story with the world.



## 2018 - 2019 EARLY CAREER FELLOWS

Naomi Adams • Adeyemi Adebisi • Alexandria Arnold • Linda Arroyo  
Jesse Bateman • Dayanni Bhagwandin • John Billingsley • Christian Blair  
Brianna Boynton • Hayley Bricker • Jace Bricker • Kevin Cannon • Blanca Caraveo  
Valeree Catangay • Krystle Cobian • Nalleli Cobo • Paola Cobo • Ilian DeCorte  
Carlos Enriquez • Alfredo Estrada • Randy Flores • Emily Glaser • David Gonzalez  
Maxence Guillermic • Jessica Heckman • Limni Hernandez • Naarai Hernandez  
Mahala Herron-Rutland • Danielle Hoague • Greg Jesmok • Danielle Kalani  
Michael Kalwick • Anne Marie Kelley-Cosio • Lyna Kim • Marianna Linz • Melinda Liu  
Rico Lomarda • Jamie Lucarelli • Arlene Maradiaga • Ingrid Maradiaga • Ka'Ron Marshall  
Jasper Modha • Oscar Neyra • Nico Petruzelli • Christina Pham • Venezia Ramirez  
De'Marcus Robinson • Lauren Santi • Kirellos Sefein • Shayleen Singh  
Gefen Skolnick • Francisco Spaulding-Astudillo • Rae Spriggs • Mellisha Stokes  
Sena Tay • Ronald Thompson • Stephen Thompson • Joseph Trainer  
Ixchal Trujillo-Gonzalez • Lian Mae Tualla • Rob Ulrich • Deepshikha Upadhyay  
Dennise Valadez • Justin Valliere • Leonardo Vega • Bryant Villegas  
Kortni Washington • Leonard Washington • Tanner Waters • Anne White • Sean Wilson

## FACULTY ADVISORS

Stephen Abacado • Richard Ambrose • Kyle Cavanaugh • Gang Chen • Brian Cole  
Jessica Collett • Charles Corbett • Robert Eagle • Sylvia Hurtado • Jenny Jay  
Peter Kareiva • Jasper Kok • Liz Koslov • Jonathan Mitchell • Suzanne Paulson  
Pedro Ramirez • Yves Rubin • Phil Rundel • Pablo Saide • Jeff Share • Thomas Smith  
Yi Tang • Tina Treude • Aradhna Tripathi • Todd Yeates



# FACULTY FELLOWS

Faculty fellows take a leadership role in creating more inclusive environments at UCLA. They transform STEM teaching and mentoring through growing their awareness and adapting their practices, with the goal of improving recruitment and retention rates of students from diverse backgrounds into environmental science and other STEM fields.

Our Faculty fellows continue their professional development as inclusive teachers and mentors, while helping to form a CDLS community by participating in our events. We ask them to complete training to help produce the following deliverables:

- Revise and teach a class to promote active learning and/or to improve environmental literacy
- Create and implement a mentoring plan for their research group,
- Adapt their research group structure to be more collaborative and inclusive (e.g. team-based science, vertical and peer mentoring).



**Faculty fellows come from 9 UCLA departments:** Institute of the Environment and Sustainability (IoES), Chemistry & Biochemistry, Atmospheric & Oceanic Sciences (AOS), Geography, Civil & Environmental Engineering (CEE), Urban Planning, Ecology & Evolutionary Biology (EEB), Statistics, and Earth, Planetary, and Space Sciences (EPSS).



## 2018 - 2019 FACULTY FELLOWS

Alan Barreca • Daniele Bianchi • Jacob Bortnik • Justin Caram • Kyle Cavanaugh  
Robert Eagle • Jennifer Jay • Peter Karieva • Abby Kavner • Jasper Kok • Yung-Ya Lin  
Carolina Lithgow-Bertelloni • Jim McWilliams • Karen McKinnon • Jonathan Mitchell  
Stephanie Pincetl • Margot Quinlan • Deepak Rajagopal • Pablo Saide  
Benjamin Schwartz • Andrew Stewart • Tina Treude • Aradhna Tripathi





## FACULTY FELLOW: **PABLO SAIDE**

Pablo Saide was born in Santiago, Chile, where he lived until he went for his PhD in the University of Iowa in the US. In Chile he studied mechanical engineering and did his Master's thesis on air pollution modeling. He was a researcher in the National Center of Atmospheric Research in Boulder, Colorado. He is married to Paula who is a dentist and just finished her PhD in Dental Public Health. They recently welcomed baby Emma. Pablo just started as a joint assistant professor between AOS and IoES at UCLA.

His research includes studying ways to improve air quality forecasts, which are important for warning the population about air pollution events, and interactions of particles in the atmosphere with solar radiation and clouds, which play a crucial role on climate change projections.

Pablo believes diversity in science is important because the experiences of people with different backgrounds can complement each other to obtain a better outcomes. He is so excited to work in Los Angeles, one of the most ethnically and culturally diverse communities in the world. His efforts to increase diversity in environmental sciences include transitioning his research into forecasting institutions across the world.

## **TRAININGS OFFERED TO OUR FACULTY FELLOWS**

### **Center for Education Innovation and Learning in the Sciences**

Faculty Workshop on Best Practices in Teaching  
Active Learning for Inclusive Classrooms  
Tools for Peer Observations & Self-Assessment of Teaching  
Increasing Student Learning through Group Work  
Creating Equitable Learning Environments & Teaching Inclusively  
Summer Institute on Scientific Teaching  
Faculty Learning Program

### **Office of Instructional Development:**

Teaching at UCLA: A Symposium to Showcase Innovation & Inspire Excellence

### **Bruin X**

Confronting Bias  
Contributions to Equity and Inclusion

### **National Research Mentoring Network**

Advancing Mentoring Practices

### **Center for the Improvement of Mentored Experiences in Research**

Facilitating Entering Mentoring Workshop from the NSF INCLUDES Aspire Alliance

### **UCLA's Working Group on Advancing Opportunity for Individuals with Disabilities**

Disability Awareness Training

### **Center for the Integration of Research, Teaching and Learning**

How Can We Interrupt and Mitigate Implicit Bias When We Witness It?

### **Association of American Colleges and Universities**

Advancing Diversity and Inclusivity through Multilevel Strategic Leadership

### **Climate Reality Project**

Climate Reality Leadership Corps



# RESEARCH



## TANNER WATERS

(he/him) is a Ph.D. student in the Institute of the Environment and Sustainability whose work focuses on investigating local impacts of ocean acidification and evaluating current mitigation efforts. He examines how restored seagrass beds influence the local carbonate chemistry of seawater. He also examines how these beds alter community composition using environmental DNA as a monitoring tool to study fish, metazoan, and microbial species diversity. This research collaborates with the Bay Foundation, a local non-profit. Tanner's identity has been foundational in his research. As a gay, first generation college student, he had felt that there was a limit to what he could achieve. However, with the guidance and mentorship he received, he learned there is no ceiling to what he is capable of. This mindset influences his work and the research and outreach that he engages in. He is active in mentoring multiple students that he hopes to inspire and provide the tools needed to succeed in STEM.



## DANIELLE HOAGUE

(she/her) is an incoming Ph.D. student in the Environmental Science and Sustainability program and will be pursuing interdisciplinary research in environmental justice. Danielle recently graduated from UC Berkeley with her B.S. in Society and Environment with a focus on Justice and Sustainability. She will be part of collaborative research and outreach teams working on environmental justice. Her motivation stems from growing up in Altadena, in eyeshot of NASA's Jet Propulsion Laboratory, which dumped rocket fuel into the surrounding area in the 1950s and contaminated the area's groundwater. The rocket fuel contaminated the groundwater that supplied homes in the area, but the area wasn't declared a Superfund site until 2012. She plans to examine this region and other case studies as part of her graduate work. Danielle also wants to learn community organizing methods to tie theory and praxis together in this work. This research will also use upward mobility methods through education to teach K-12 students about environmental justice and community organizing.

# RESEARCH



## JESSICA HECKMAN

(she/her) is a Latinx marine scientist pursuing a PhD in Environment and Sustainability at UCLA. During her junior year of high school, Hurricane Sandy made landfall 15 minutes from her home. Her high school was too damaged to return to. This led to her becoming passionate about the social dimension of coastal resilience and marine education. Her research focuses on using resilience theory and the frontiers of coastal research to guide coastal resilience planning with an environmental justice lens. Coastal resilience is inherently interdisciplinary, and therefore, actively invites collaboration between marine scientists, policy makers, urban planners, and community groups. The potential impacts of Jessica's work are more comprehensive and inclusive coastal planning and better climate adaptation strategies, especially for communities that have been marginalized and face the imminent effects of climate change sooner and more severely.



## DANIELLE KALANI

(she/her) is a 3rd year Ph.D. student in Archeology. Her research examines water rights in the Na Wai 'Eha region of Maui. Her dissertation considers how sugarcane plantations negatively impacted the hydrologic landscape in the past, particularly lo'i kalo (fresh water taro patches), and how Hawaiians changed their foodways so that they could continue living on and harvesting from their land. Further, it connects the past with the continued fight against water diversion in the present, considering the impact of both water diversion and climate change on the hydrologic landscape. Collaboration is at the center of Danielle's research. When she was developing her dissertation project, a primary goal was to help the local community by working with them from the outset, rather than starting with a research idea and bringing it to the community. She asked a number of questions and started to realize the negative impact of water diversion on the local community which is also connected to larger issues in Hawai'i, like food sovereignty and Hawaiian health. After reading more about local water activism and talking to people, Danielle started to develop her project in a way that could help with the fight for water. In the future, Danielle hopes to employ Hawaiian students (who are vastly underrepresented in archaeology) in her fieldwork since there are currently few field projects in Maui.



# RESEARCH



## RAE SPRIGGS

(she/her) recently earned her Environmental Health Sciences MPH from UCLA. As a CDLS Fellow, she researched Health Impact Assessments (HIA). These are evidence-based tools used to inform stakeholders and decision makers about the potential impacts of proposed policies and projects and identify ways to maximize the health benefits and minimize harm. She reviewed the 96 transportation-related HIAs conducted in the United States to evaluate how they operationalized health equity, a core principle of HIA. This research has been personally meaningful to her as a black woman from a low-income background. She grew up directly next to a major freeway in San Diego, and was diagnosed with asthma at the age of three. In undergrad, she learned that the natural and built environments have significant impacts on our physical health and well-being, and that knowledge has fueled her work since. She now works as a Strategy Specialist with CDLS helping to build, fund, and advance programs and partnerships related to environmental and climate justice.



## KRYSTLE COBIAN

(she/her) recently completed her Ph.D. in Education and will become an analyst in the Higher Education Research Institute. Seeing a STEM teacher experience racism is a factor that contributed to her research interests. Her research expertise includes underrepresented racial/ethnic minorities in STEM, STEM undergraduate education, campus sexual violence, and leadership development for womxn of color. Krystle works on evaluating and assessing the impact of CDLS programs, workshops, mentoring, and overall fellow engagement to support program development. Specifically, Krystle identifies and shares CDLS-related activities and strategies that improve fellows' science identity development, mentorship skills development, and career development with the green science community. This work also helps to inform faculty and administrators at other higher education institutions who are interested in creating similarly-structured centers.



# COMMUNITY ENGAGEMENT

Our early career fellows work together to promote inclusion of their communities by participating in, creating, and leading outreach programs. Community engagement encourages participation of people interested in equity and inclusion, including womxn, those from the global majority, persons with disabilities, LGBTQIA2S+, and other underrepresented groups in STEM. Promoting environmental literacy and sharing the joy of discovery also helps to foster a sense of belonging for our fellows.

We believe collaboration and service are core practices of science that need to be recognized and valued, and thus this is an integral part of our fellowship program. Participants grow their scientific identity and leadership capabilities while engaging communities that are personally meaningful to them, both within and beyond UCLA. By facilitating outreach, early career fellows convene with others to engage in teamwork and strategize how they can create inclusive environments and positively impact communities with their education and training being in service. They practice organizational and leadership skills including communication to different audiences, time-management, and ethical community outreach practices. Our fellows support each other's efforts as they work together. They invest their time and energy in ways that support the enrichment of others. Their accomplishments grow the foundation for inclusivity in STEM research, education, and society.





# K-12 OUTREACH

Focused on education, inclusion, and empowerment, CDLS fellows design immersive lesson plans and hands-on science experiments for K-12 students in California and other regions. Our K-12 outreach team serves as role models for the students they interact with. The outreach we do builds upon existing relationships, and is growing to include engaging with new schools and youth groups.



We have worked with Markham Middle School, Central High School, and St. Raphael Middle School, as well as Project Scientist, and other groups. From examining the role of different types of microbes in the environment through Winogradsky columns, to learning about the impacts of ocean acidification on marine life, our outreach fosters active learning and involves curriculum that supports Next Generation Science Standards.



# K-12 OUTREACH FELLOWS BEHIND THE PROGRAM



**Venezia Ramirez** (she/her) is a Chicana 3rd-year undergraduate student studying Environmental Science and is a K-12 outreach coordinator. She is involved in multiple collaborative research projects, including phytoremediation of contaminated soils and waters in East LA. Venezia hopes to enter government to make sustainability more inclusive of underrepresented communities and remove the environmental hazards disproportionately faced by communities of color.



**Lenny Washington III** (he/him) is a 2nd-year undergraduate student in Geography/Environmental Studies with a minor in Environmental Systems and Society and is a K-12 outreach coordinator. The intersection of sustainability and business also fascinates him, including life cycle analysis. Participation in community service throughout middle school and high school cultivated a passion for outreach, which he is fostering by participating in CDLS.



**Mellisha Stokes** (she/her) recently graduated from UCLA with her undergraduate degree in sociology. Her research examines the development of science identity, and the social environments that allow it to take shape. Mellisha believes that there is enormous potential in those from both the social sciences and the green sciences to work together to solve social and environmental issues. She is active in discussions on diversity, equity, and inclusion including K-12 outreach and Diversi-Tea.



# ENVIRONMENTAL JUSTICE & FIRST NATIONS

We created Environmental Justice and First Nations as a way to recognize and amplify the voices of Indigenous people. This program aims to recruit and retain Indigenous students in STEM fields, provide hands-on research opportunities for students at tribal institutions, support the learning of different Indigenous research frameworks and epistemologies, and recognize Indigenous leaders from different communities.

## CENTRAL HIGH SCHOOL



Central High is a low-resource school run by United American Indian Involvement, Inc. with students typically supervised by a Los Angeles Unified School District teacher. The school operates out of workbooks and students are primarily self-taught; therefore, these motivated and underserved students receive very little formal science education. During outreach to students at Central High, we have discussed work by First Nation activists and scientists working to address environmental justice issues facing Indigenous communities.

## NAVAJO TECHNICAL UNIVERSITY



A partnership with Navajo Technical University presents the opportunity to work with a passionate group of students in environmental science and other STEM fields. Our activities include reciprocal visits of students and faculty to introduce people to relevant scientific projects and advisors and collaborators. We provide information and research opportunities to undergraduate students at Navajo Technical University hoping to pursue graduate school, and help support their professional development. These interactions also foster the cultural awareness and retention of undergraduate and graduate students and faculty in STEM at both institutions.

## LEARNING ABOUT LEADERSHIP WITH COMMUNITY ELDERS

We work with storyteller and Native Hawaiian leader Pono Shim who reminds us of our relational connections. Pono considers his exposure to Hawai'i leadership philosophies as a child to be the backbone to his ideas, actions, and words. He is sought out as a teacher of leadership, though he claims not to teach leadership but rather shares how he lives his life, and what he has learned from his family. Our interactions have been deeply meaningful, and shape how we see ourselves, the work we do, and the ecosystems we are part of.

# ENVIRONMENTAL JUSTICE AND FIRST NATIONS FELLOWS BEHIND THE PROGRAM



**Alexandrea Arnold** (she/her) is a 2nd-year PhD student in the department of Atmospheric and Oceanic Sciences. She investigates how the dynamics of the atmosphere that govern hydroclimate in the southwestern United States have evolved through time. She recently was nominated for and awarded the University of California's President's Award for Outstanding Student Leadership from President Napolitano and Chancellor Block for her spearheading of the Environmental Justice and First Nations program.



**Lauren Santi** (she/her) recently graduated with a Master's degree in Geochemistry. Her research focused on reconstructions of past changes in climate and water in the southwest using multidisciplinary approaches. Lauren contributed to creating the CDLS program Environmental Justice and First Nations, which included taking students from NTU out into the field to gain research experience sampling and mapping ancient shorelines to study the impacts of climate change.

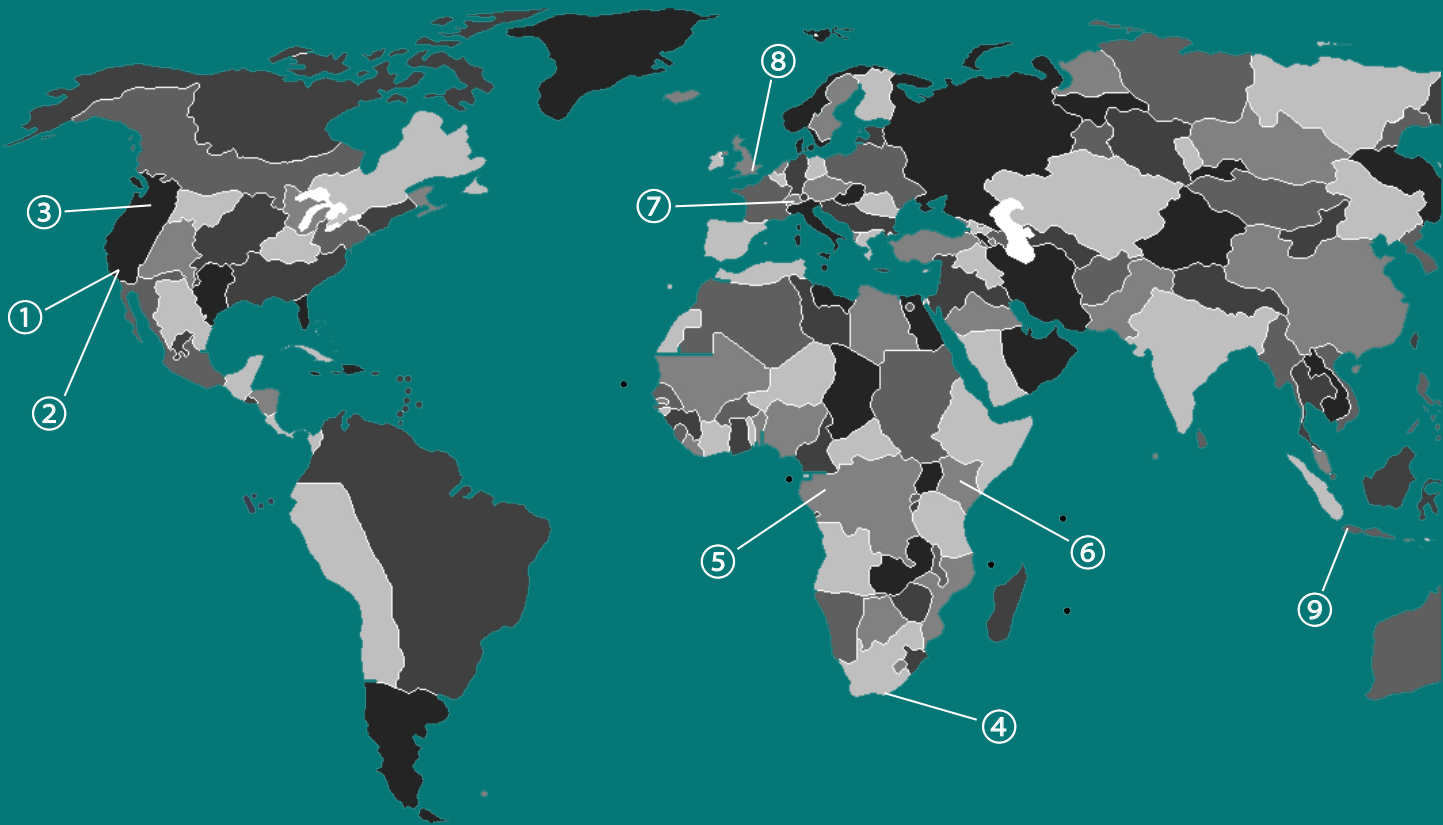


**Ilian DeCorte** (he/him) is a 2nd-year PhD student in the department of Atmospheric and Oceanic Sciences. He studies the geochemistry of shallow marine invertebrates, with a focus on corals, to understand how they are responding to ocean acidification. Ilian has been heavily involved in Environmental Justice and First Nations, including taking students from Navajo Technical University on a tour through UCLA's botanical garden. He is also a writer for Climate Currents.



# ENVIRONMENTAL SCIENCE WITHOUT BORDERS

Environmental Science Without Borders (ESWB) is an international peer-mentorship program where students and scientists from different countries learn from one another. ESWB was created by CDLS postdoctoral fellow **Adeyemi Adebiyi** who recognized that many people are interested in working in science, but may encounter barriers including a lack of infrastructure, skills, and connections. To help solve these problems, we survey people about their needs and host bi-monthly video conferences for participants around the world, including to learn about research design, funding, and teaching portfolios.



## PARTICIPATING INSTITUTIONS

- ① University of California, Los Angeles
- ② California State University, Northridge
- ③ Pacific Northwest National Laboratory
- ④ Nelson Mandela University
- ⑤ Congo Basin Institute, Cameroon
- ⑥ Meru University of Science and Technology, Kenya
- ⑦ Université Grenoble Alpes
- ⑧ UN Environment World Conservation Monitoring Center
- ⑨ Center for International Forestry Research



# ENVIRONMENTAL SCIENCE WITHOUT BORDERS FELLOWS BEHIND THE PROGRAM



**Adeyemi Adebiyi** (he/him) is a postdoctoral research scientist in the department of Atmospheric and Oceanic Sciences. Adeyemi’s research focuses on the impacts of aerosol particles (smoke and desert dust) on regional and global climate, through their interactions with radiation, clouds, and meteorology. The goal of his work is to more accurately represent the atmospheric dust particles and their impact on climate.



**Kevin Njabo** (he/him) is the UCLA faculty mentor for Environmental Science Without Borders and is the associate director and Africa director for the UCLA Center for Tropical Research. Kevin also holds a joint faculty position at both the UCLA Institute of the Environment and Sustainability as well as the Fielding School of Public Health. His research interests examine the link between biodiversity and human health.



**Deepshikha Uphadahay** (she/her) is a 1st-year graduate student at UCLA and a graduate ambassador for Environmental Science Without Borders. Her research studies the connection between landscape, climate, and evolutionary changes within East Africa using geochemistry. She collaborates with several independent researchers on both a national and international level, and is part of an international research project.



# ENVIRONMENTALISTS OF COLOR COLLECTIVE



A partner student-led organization, the Environmentalists of Color Collective (ECC), was created by a group of students at UCLA including two of our fellows. ECC was brought together as a means of challenging the white-dominated conventions of the contemporary environmental justice movement by co-creating a healing space to amplify and prioritize the narratives, experiences, and needs of black, Indigenous, and people of color environmentalists.

ECC hopes to expand the discourse past race and connect the intersections of class, gender, ability, nationality, and other backgrounds as it relates to environmental justice and sustainability. They provide a platform for other marginalized identities within the environmental justice movement by inviting local environmental advocates for speaking engagements, co-creating toolkits for other environmental groups, and attending/co-sponsoring other events that emphasize inclusion and equity within the environmental movement.

From these discussions, ECC strives to maintain dialogue on the ways in which environmental and climate justice intersect our daily lives: as students at a “public” university that becomes increasingly less public and more neoliberal over time; as occupiers of land that once belonged to Indigenous tribes whose names are often not acknowledged; and to shed light on corporate harms that disproportionately impact poor communities of color.

# ENVIRONMENTALISTS OF COLOR COLLECTIVE FELLOWS BEHIND THE PROGRAM



**Lian Mae Agriam Tualla** (she/they) is a 4th-year Environmental Science major with minors in Environmental Systems and Society as well as Digital Humanities. The intersection of sustainability, multimedia, and social equity interests her. As a founding member of the Environmentalists of Color Collective, she is working to make sustainability accessible and relatable to marginalized communities through environmental communications and advocacy.



**Valeree Catangay** (she/her) recently graduated from UCLA with a B.S. in Environmental Science and minor in Environmental Systems and Society and is a co-founder of the Environmentalists of Color Collective. Valeree grew up in Long Beach, California, where air pollution from the Los Angeles Ports and major freeways heavily impacts nearby communities. Valeree strives to amplify values of environmental justice and sustainability within corporate systems and will be working on Sustainability Initiatives at Dolby Laboratories post-graduation.

## REFRAMING ENVIRONMENTALISM



The Environmentalists of Color Collective has held an annual Climate Justice Forum over the past two years, and created a documentary “Reframing Environmentalism” that discusses the links between social and environmental justice, and the importance of including all voices in the conversation.



# QUEERS IN STEM

Our partner organization, Queers in STEM (QSTEM), was formed by CDLS graduate student, **Rob Ulrich**. As a biracial, gay man, he wanted to create a space for LGBTQ+ identifying people and other identity-based STEM organizations to build a community of support and encouragement within the cis-heteronormative environment that pervades STEM and beyond. QSTEM currently has about 200 members on UCLA's Campus and collaborates with other organizations in Southern California, Virginia, and Europe.



The events and programs QSTEM organizes and collaborates on address academic, professional development, and social needs. QSTEM regularly facilitates discussions revolving around the experiences and needs of LGBTQ+ identifying people in STEM. This past year they sent members to the National Organization of Gay and Lesbian Scientists and Technical Professionals Out-To-Innovate career summit.



## QUEERS IN STEM: FEATURED FELLOW

**Rob Ulrich** (he/him) a 2nd year biogeochemistry Ph.D. student whose research examines biomineralization, which is how living things make functional, mineralized structures. He is also the founding president of Queers in STEM, writing consultant, a NSF Graduate Research Fellow, and a CDLS Fellow. He is also a part of the CDLS early career leadership team, an organizer for International LGBTQ+ STEM Day, and an organizer for Reclaiming STEM, the first science communication and science policy workshop by and for underrepresented minorities in STEM. Rob recently received the UCLA Curtis Shepard LGBT Leadership award for his leadership and outreach to the LGBTQ+ community at UCLA and abroad, and under his leadership, Queers in STEM won the UCLA Organization of the Year award. Rob is also passionate about communicating his research and outreach, focusing on writing, social media posts, and videos. He has been invited onto the popular podcasts Science Sucks!, Her STEM Story, and Talk Nerdy; to give an American Geophysical Union (AGU) Centennial Webinar for LGBTQ+ STEM Day; to be a panelist on community organizing & activation at the National Organization of Gay & Lesbian Scientists and Technical Professionals' Out-to-Innovate summit and the Dr. Lucy Jones Center for Science and Society National Science Activation Symposium; and to interview for the AGU's science publication, Eos, as well as the American Chemical Society's Chemistry & Engineering News (or C&EN).

**“As the founding president of Queers in STEM (QSTEM) and a Center for Diverse Leadership in Science (CDLS) fellow, I have learned skills and lessons to apply to my activism. Identifying as biracial and queer is isolating, and that effect was compounded when I attended college at an institution in a small town in southwest Virginia. When I came to UCLA to begin my PhD, I was determined to create spaces where I and other LGBTQ+-identifying and underrepresented people in STEM could come together and form supportive and empowering networks and, most importantly, reinforce that we are not alone. I want to do everything in my power to mitigate that trauma for others.”**



# DIVERSI-TEA & COURAGEOUS COFFEE

Our institutions suffer from racism, sexual harassment, and income disparities. We recognize the need to discuss difficult and sensitive topics to address the dominant culture of our institutions that leads to racism, sexual harassment, and other forms of oppression. Diversi-Tea is a space for conversation where people discuss social science literature or news articles relating to inclusion. We share lived experiences and learn from each other in a supportive space.

To complement the conversations that occur during Diversi-Tea, we alternate meetings with a partner program, Courageous Coffee, that focuses on turning awareness into action. Whether preparing ballots for elections, letter-writing, or creating stress relief glitter bottles for mental health awareness, we collectively express our shared commitment to justice and social engagement.



## PAST TOPICS

- Stereotypes and the Threat They Pose in STEM
- African American Contributions to STEM
- Model Minority Myths
- Privilege and Allyship
- Imposter Syndrome
- Socioeconomic Privileges: Erasing the Disparity Gap
- DIY Stress Relievers: Mental Health Awareness Month
- Get Out the Vote: Midterm Elections
- Get Out the Vote: California Primaries

## UPCOMING TOPICS

- Homelessness in Students
- Neurodiversity in STEM
- Climate Change Denial
- Hearing Impaired in STEM
- Incarcerated Youth Event
- Volunteer Day



# DIVERSI-TEA & COURAGEOUS COFFEE FELLOWS BEHIND THE PROGRAM



**Ronald Thompson III** (he/him) is a 2nd-year undergraduate in Environmental Science with a concentration in Conservation Biology. He is an organizer for Diversi-Tea and the President of the Congo Basin Institute Club, focused on conservation in Cameroon. Ronnie was part of a team working at the UC Natural Reserve system studying community behavior and interactions between pollinators and flowering plants. A future goal of his is to develop and apply isotopic tools for use in studies of bird ecology and conservation.



**Anne Marie Kelley-Cosio** (she/her) is a happily married member of the LGBTQ community, and a fellow of CDLS. Annie earned an Associate of Science degree at El Camino College and transferred to UCLA where she earned a B.S. in Astrophysics & minor in Geology. Annie helps to curate Diversi-Tea and Courageous Coffee to work on outreach and diversity in STEM. She runs workshops for CDLS fellows on coding, and has previously been a community college tutor and teaching assistant.



**Jesse Bloom Bateman** (he/him) is an UPLIFT postdoctoral scholar at UCLA and a soil scientist and ecologist. Currently, he uses his background in terrestrial ecosystems to investigate climatic controls on biological communities. For this work, Jesse uses a combination of isotopic measurements, pollen records, and geomorphological studies. He is also interested in studying genetic diversity in land snails and links to their shell chemistry and architecture.



# CLIMATE CURRENTS

Climate Currents is a student-created publication featuring diverse perspectives of environmental science. Our team of writers, 9 early career fellows, give voice to those experiencing climate change and other environmental injustices firsthand. Our work features experiences of scientists working in environmental research and activists involved in stewardship. These articles also educate the public about environmental science and support scientific literacy.



Our series include “This Week in Climate,” a digest of climate change news; and “Journey Through Science,” which highlights people affiliated with CDLS and the unique, poignant journeys they traversed along their paths to becoming scientists. Upcoming series include “How Does Climate Change Impact You?”, which aims to humanize the effects of climate change. While climate change can seem far removed but, we all experience it at some level. Another upcoming series, the “Illuminated Science Series” discusses complex scientific concepts in digestible terms.

Read our work at [medium.com/@cdls.climatecurrents](https://medium.com/@cdls.climatecurrents)

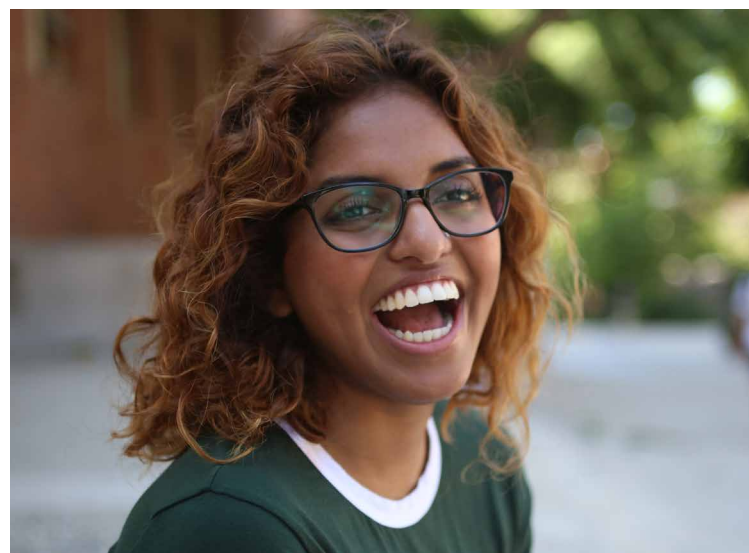
# CLIMATE CURRENTS FELLOWS BEHIND THE PROGRAM



**Hayley Bricker** (she/her) recently graduated from UCLA where she majored in Earth & Environmental Science and is a post-baccalaureate CDLS fellow and the editor-in-chief of Climate Currents. She researches the effects of climate change on temperature and precipitation patterns in central China, the American Midwest, and central Europe, and she hopes to expand this survey to other regions.



**Mahala Herron-Rutland** (she/her) is a 3rd-year student majoring in comparative literature with a minor in Environmental Science and a writer for Climate Currents. From Oakland, California, Mahala has always had an interest in environmental issues since she started a club in elementary school to fight global warming. Her research has looked at environmental change through time in Tibet. She also is focused on science communication and how environmental issues relate to music, with an emphasis on how to make environmental issues mainstream.



**Dayanni Bhadwandin** (she/her) is a 2nd-year PhD student in the Chemistry department and a writer for Climate Currents. Her research is relevant to solar cells and focuses on synthesizing materials for organic photovoltaic devices and supercapacitors. Dayanni takes part in Climate Currents because she feels that it is important to share her scientific knowledge with her community and want to give other people the chance to explore science in the same way that she has.





## CHI EPSILON PI

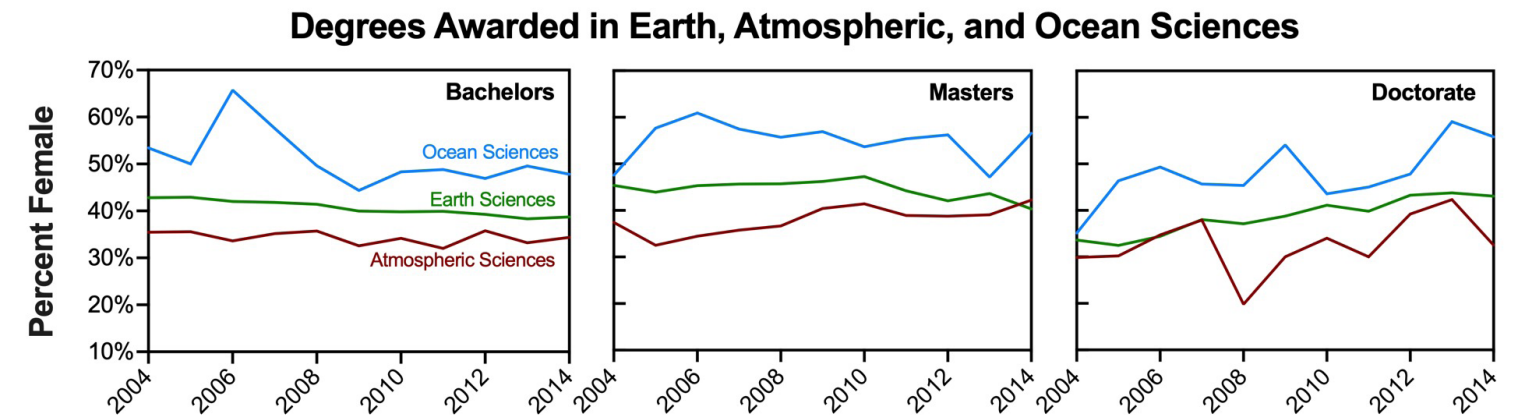
The goal of Chi Epsilon Pi (XEP) is to support graduate students in the Department of Atmospheric and Oceanic Science at UCLA. This includes social, academic, professional, service, and advocacy activities. It also includes involvement in outreach within the atmospheric and oceanic sciences and K-12 educational outreach within the greater Los Angeles community. CDLS fellows, **Ilian DeCorte** and **Alexandrea Arnold** have jointly served as outreach chairs for XEP over the last year and will continue in the upcoming academic year.

Annual outreach events attended by XEP include Exploring Your Universe, City of STEM, and the El Marino Science Fair. Members of XEP and CDLS have collaborated on outreach events, including the Children's Water Festival in Irvine.

In addition to our annual events, XEP will host a reading hour in the upcoming year featuring *Cool for You*, a children's book by past CDLS fellow, **Marianna Linz**, in local K-1 classrooms.

## SOCIETY FOR WOMXN GEOSCIENTISTS

Society for Womxn Geoscientists (SWG), co-founded by CDLS fellow **Alexandrea Arnold**, aims to to promote and uplift womxn in the geophysical sciences by focusing on four main areas: outreach, community building, institutional reform, and career development.



Data from NSF Women, Minorities, and Persons with Disabilities in S&E 2014 Report

Despite being underrepresented in science, womxn have contributed significantly to the sum of human knowledge and trail-blazed the pathways for future scientists. Womxn may face barriers that discourage their pursuit of higher education, some of which are related to child care, sexual harassment, or gender norms. By tackling the underrepresentation in the geosciences through a multifaceted approach, from young and aspiring to career-level scientists, we hope to comprehensively address all the major barriers for womxn in the geosciences.

**Outreach:** SWG aims to provide mentorship and role models through programs of outreach at different educational levels.

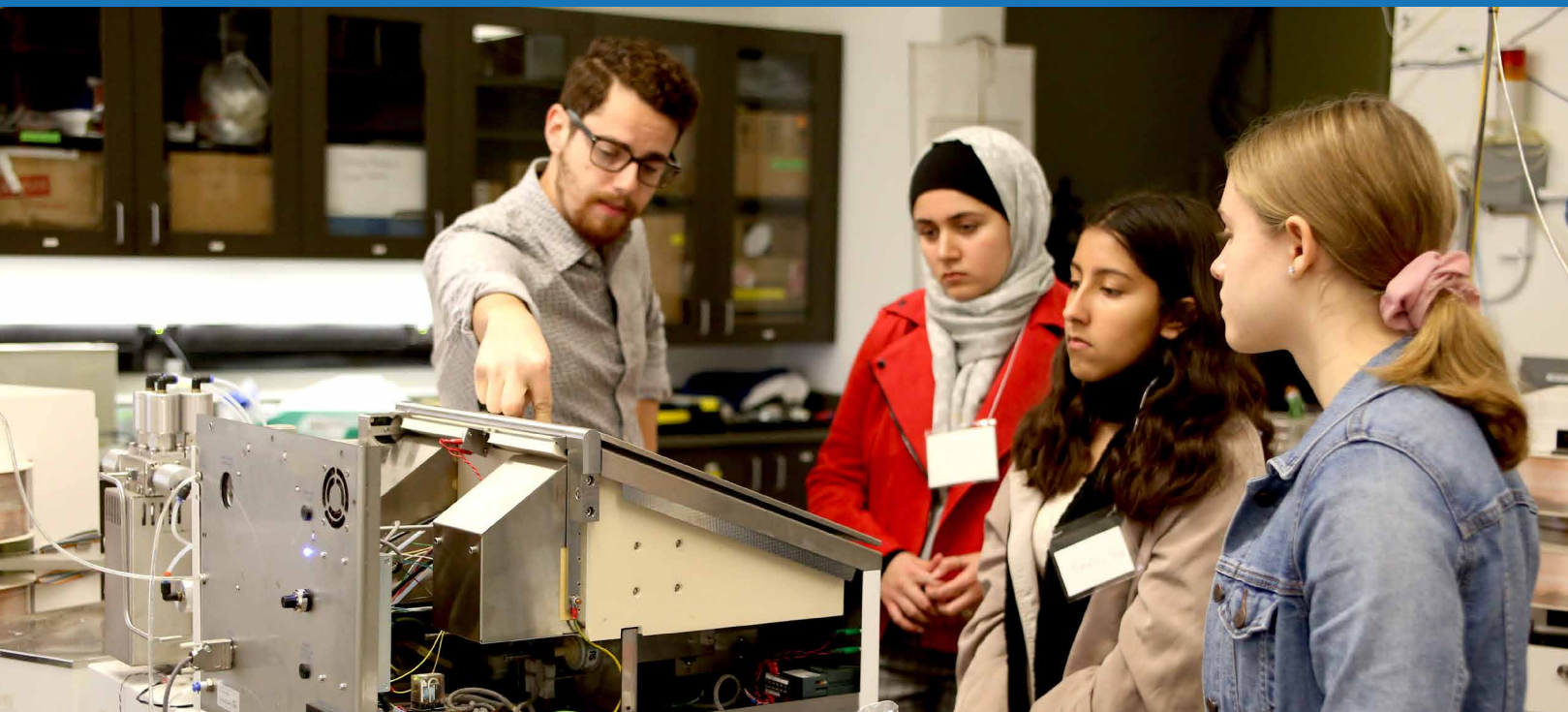
**Community building:** SWG aims to form a community within all geoscience departments at UCLA to increase sense of belonging within our field, provide peer mentorship, create dialogue regarding the issues womxn face in geosciences, and help to provide a platform for interdisciplinary collaboration.

**Institutional reform:** SWG will host departmental diversity trainings, increasing the number of womxn speakers at seminars, and providing a liaison that will communicate with departments for womxn to address their concerns.

**Career development:** Our goals for career development spans from grad-school application review, to CV building and interview skills.



# LABORATORY TOURS



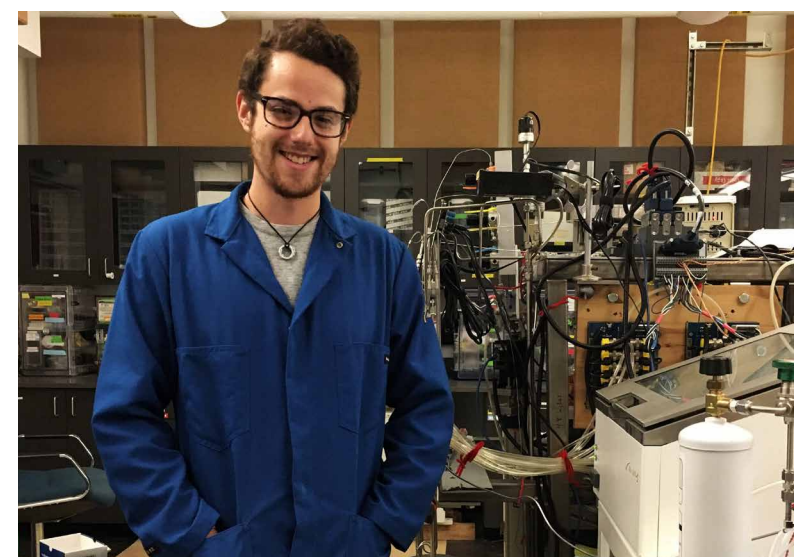
Our tours invite people to see environmental research at a major research institution. Visitors go on group or individual tours where they see the work that our research fellows are doing. These visitors are frequently from underrepresented groups, and during these tours they can meet our community of diverse scientists. This demystifies science, expands ideas about what a scientist looks like, and encourages people from all walks of life to pursue environmental science. We answer questions about our research and about our very diverse pathways to and through STEM.



# LABORATORY TOURS FELLOWS BEHIND THE PROGRAM



**Ingrid Maradiaga** (she/her) graduated from UCLA in 2017 with a B.S. in Environmental Science and a minor in Education. Ingrid is a CDLS Fellow and staff member. She is involved in research examining environmental controls on marine protists, and in education and assessment. She also is active in educational activities including lab tours and K-12 outreach. She is strong-willed and passionate about her convictions, especially on social justice issues and community empowerment.



**Randy Flores** (he/him) graduated from UCLA in 2018 with a B.S. in Geology. He was a community college transfer student and graduated valedictorian in his department. Randy is engaged in laboratory tours and also in community college outreach. His research includes working with a team studying how the chemistry of shells of marine planktonic organisms are linked to ocean temperature and pH.



**Christian Blair** (he/him) is a 4th-year undergraduate student majoring in Chemistry with a minor in Atmospheric and Oceanic Sciences. For his research, he works with a team that looks to improve paleoclimate proxies by studying their modern counterparts, which will help improve models for climate change. He hopes to one day take his passion for research and discovery to space as a NASA astronaut, exploring our corner of the galaxy to better understand our place in the universe, or to explore the furthest reaches of our own planet.





## FUTURE PROGRAMS

### ENVIRONMENTAL JUSTICE WORKING GROUP

Several early career fellows and faculty are working on environmental justice problems relating to soil, water, atmospheric pollution, and human health. This working group aims to build critical mass and connect people to work collaboratively on these efforts. We are planning Working Lunches for EJ where people can discuss their work and case studies, ask questions, talk to visiting speakers, review related literature and films, and provide input and support for each other's efforts. We will find ways to put this new knowledge into action in our communities.

### GIS FOR COMMUNITY HEALTH

A social justice non-profit in South Central Los Angeles, Esperanza Community Housing, with links to STAND-LA and Physicians for Social Responsibility, has asked us for support. Parents and kids would like us to teach them GIS by running workshops for them, so that they can collect data to document air pollution in their neighborhoods and push for policy change. As part of this program, we would provide training and assist in data collection and analysis as requested, and will be working with other partners including California State University, Northridge. Kendall Moore, an environmental justice filmmaker at the University of Rhode Island, would provide training on how to use film to translate and communicate findings, educate others, and push for policy change.

### STEM AND JUSTICE CAMP

During our visit to Lowndes County, Alabama, civil rights and environmental justice leader Catherine Flowers talked to us about how clay-rich soils and rising water tables during storms stress septic system infrastructure. This leads to standing sewage outside of homes of many African-American families. She and Stephanie Wallace, a local STEM teacher, expressed a need to develop local STEM leaders, and asked for support with the development of a summer camp to foster youth and young adult empowerment and education with hands-on, interactive environmental and social justice training. This camp will provide hands-on science education for middle and high school students focused on watershed science and soil science, and wastewater treatment technologies integrated with education on the social and environmental justice roots of their region, in concert with local institutions. This camp will serve as a model for what can be used in other regions. We would also like to create camps that are relevant to rural and urban communities in California.

### CLIMATE RESILIENCE FELLOWS

In 2018, there were 14 natural disasters that cumulatively cost our country \$91 billion, and since 1980, 241 events that cost more than \$1.6 trillion. The real costs were even greater as these disasters cost many people their health, homes, and jobs. Given skewed social vulnerabilities to climate change impacts, communities must be supported to develop resilience plans tailored to their own needs, and policies need to be emplaced to ensure that communities of color and low-income communities benefit from the social and economic opportunities of addressing climate change. In both of these areas, representation is critical. A climate resilience fellows program would support the training of students from underserved communities to be emergent leaders to help generate ethical solutions. Climate resilience fellows would serve as ambassadors and work with partners to collaboratively develop resilience plans and provide information about short- and long-term climate and disaster preparedness. They would organize meet-ups in local public spaces and facilitate discussions around topics of community concern. Topics of concern might include climate change, air and water pollution, food and water resources, energy infrastructure, and ways to prepare for natural disasters, adapt to environmental changes, and build resilience.

### INCLUSIVE PATHWAYS TO THE GREEN NEW DEAL

To help realize the Green New Deal at a local and national level with equity, we would like to launch a new program that grows pathways into the workforce with our early career fellows and non-academic partners. This is in alignment with the diverse interests of our early career fellows who want to have opportunities to explore possible careers in the green nonprofit, business, and government sectors. Our program has three synergistic elements that together, simultaneously train and nurture potential future employees while helping to support inclusivity in existing workers.

### GROWING OUR MENTORSHIP PROGRAM

We plan to grow our early career mentoring program. This includes vertical and peer mentorship elements, and opportunities to request non-academic or specialist mentors, as well as written resources for different types of needs. Vertical mentoring provides mentees with step-ahead and senior mentors, and offers spaces where they can become comfortable with different power dynamics and receive different forms of support. Peer mentors allow mentees to grow and learn with someone in a similar career and research stage as themselves. Mentoring resources include specialized mentors, written and online materials, and quarterly events, relating to research, diversity in STEM, data analysis, writing, and presentations. We also plan to provide examples of how mentoring maps and agreements can be utilized in mentoring relationships.

### INCLUSIVE SUSTAINABILITY AT UCLA

CDLS early career fellows are forming a partnership with UCLA Sustainability. Our mission is to draw on strengths at both organizations to create a campus sustainability group that was created by, and structured for, identities that have been historically underrepresented, through the active inclusion of people with various backgrounds and identities from the outset. The themes of our work will include water, energy, waste management, transportation, and dining. The goal of this diversity- and inclusion-centered sustainability group is to: 1) Work towards the objectives of UCLA Sustainability while leveraging the privilege and resources it has as an institutional organization to uplift minority voices and work, 2) Foster sustainability-focused professional development and skills training, 3) Create a space that actively reflects on how to work towards improving diversity, equity and inclusion in the environmental movement, and 4) Create a coalition of diverse identities and views.





## WE WOULD LIKE TO ACKNOWLEDGE:

### **CDLS**

Advisory Board  
Early Career Leadership Team  
Faculty Leadership  
Staff

### **Partners at UCLA**

American Indian Studies Center  
Center for Education, Innovation, and Learning in the Sciences  
Department of Atmospheric and Oceanic Sciences  
Department of Earth, Planetary, and Space Sciences  
Division of Physical Sciences  
Graduate Division  
Institute for Environment and Sustainability  
Undergraduate Research Center  
Vice Chancellor for Environment and Sustainability  
Vice Chancellor for Research

### **Our Funders**



## WE WOULD LIKE TO ACKNOWLEDGE:

### External Partners:

ASPIRE

California State University, Los Angeles

California State University, Northridge

Center for Rural Enterprise and Environmental Justice

Congo Basin Institute

Environmental Leadership Program

Esperanza Community Housing and Healthy Homes Project and Stand LA  
ESRI

Howard University

Institute for Climate and Peace, Hawaii

Kayne Scholars Program

National Science Foundation

Navajo Technical University

Nelson Mandela University

National Oceanic and Atmospheric Administration

Ocean Discovery Institute

Pono Shim

Rock Creek Strategies

Silicon Valley Community Foundation

### Colleagues at:

Barnard College

California Institute of Technology

Center for International Forestry Research in Indonesia

Conservation International

East Los Angeles Community College

El Segundo High School

Girl Scouts

Meru University of Sciences & Technology, Kenya

North Hollywood High School

Pacific Northwest National Laboratory

Project Scientist

Santa Monica College

Savannah State University

Spelman College

St. Raphael Middle School

United American Indian Involvement Inc.

United Nations Environment World Conservation Monitoring Center

Université Grenoble Alpes

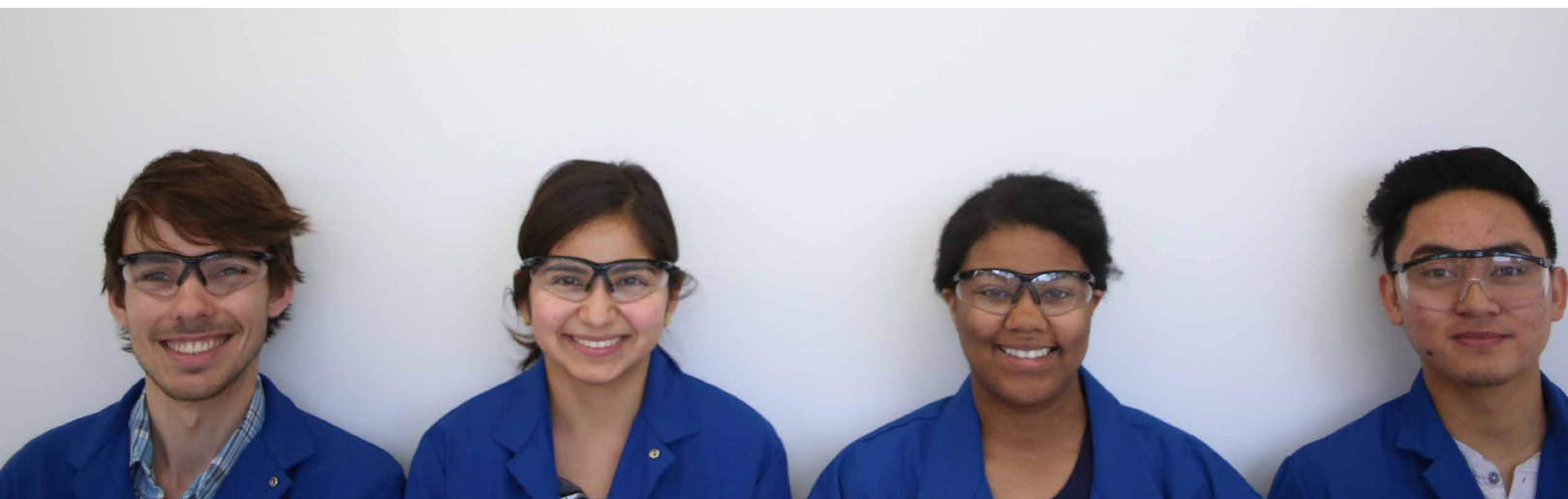
University of Texas, Austin

Yurok Nation





# OUR VISION FOR THE FUTURE



**Thanks to your support**, over the past year, we have been able to advance our mission of increasing the diversity of innovative environmental problem solvers and leaders the world needs.

We have been training innovators making contributions in conservation, environmental engineering, public health, data science, green energy, ocean acidification, water, air pollution, and more.

Our fellows have been addressing environmental, technological, and social challenges while activating communities of people to do the same.

We hope that you will join us in the year ahead, by **sharing our commitment** to environmental equity and social awareness, and translating **values into action**.

## WITH YOUR SUPPORT, WE WILL:

**Continue** our work empowering people as agents of change. We currently have less than half our budget of the previous academic year to support all that we do at the center.

Achieve **sustainability** with an endowment that supports a basic number of fellows.

**Grow** so we can support 150 students as change agents at UCLA. We would be able to support new areas as diverse as regenerative agriculture, plastics, material science, science communication, law, policy, business, and economics.

**Scale** our program to serve many more students from our local and national partners: Community colleges, CSU campuses, HBCUs, tribal institutions, and HSIs. This would allow for the creation of a consortium of nationwide pioneers who foster social and economic opportunities and heal the planet.

Achieve a **global network** with resources dedicated to partners in island nations, African nations, and North and Central American nations.

Nurture **non-academic partnerships** with organizations in business, non-profit, and government sectors to support a variety of career pathways in green STEM.

Tell our **stories** by working with filmmakers and writers to heal, connect, share, and inspire.

Through **leadership** recognition and development, support new programs that will elevate and bring together a community of navigators and peaceseekers, so we move towards a more just and communal society.

**To join us in our mission and to realize this vision, please contact Aradhna Tripathi at [atripati@g.ucla.edu](mailto:atripati@g.ucla.edu)**



