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BioCONNECT

*SF State Biology Newsletter,
Spring/Summer 2022*



Mika Okimura

Happy summer everyone!
We hope you enjoy the latest version of the Biology department BIOCONNECT magazine. This issue focuses on the Dept of Biology's efforts to be anti-racist. Let us know how you like it. Join our online communities. Links below...



[LinkedIn](#), [Facebook](#),
[Instagram](#), [Twitter](#),
handle: **@SFStateBio**



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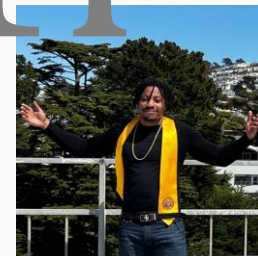
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Great Blue Heron Building its Nest

Letter from the Chair

Greetings SF State Biology Community Members!

We hope that this issue of BioCONNECT finds you safe and supported as we slowly, but surely, emerge from the long dark tunnel of the pandemic. In May, we were fortunate to be able to hold our first in person graduation ceremony since 2019. Our graduates are now entering a world in which they will serve their communities and beyond by working on big issues such as health disparities and climate change. Complex problems such as these require diverse teams to solve them. Because SF State has one of the most diverse student populations in the country, our students are poised to lead on the big challenges of our time.

As STEM disciplines are plagued by structural racism, the Department of Biology is working to empower persons typically excluded because of their ethnicity or race (PEERS) along with students with other axes of diversity. This issue of BioCONNECT focuses on the important work that we are doing to ensure that all students who walk into Hensill Hall have an equal chance of thriving in our Department. As scientists, we believe in data and are extremely proud of the fact that the Department has eliminated the equity gap between PEERS and non-PEERS in 6 year graduation rates. This is an accomplishment that is almost unheard of in STEM departments across the country. On top of that, we are exceedingly proud of our successes in hiring outstanding PEERS faculty and staff, who serve as tremendous role models for our students. The diversity of our faculty and staff is unparalleled in STEM departments across the country. All of this is the result of the hard work of students, faculty, and staff. I hope that you enjoy reading about our many efforts that support PEERS in this issue of BioCONNECT.

Although we are buoyed by our successes, the recent murders in Buffalo and ongoing anti-AAPI hate remind us that our work is not done. Please join us in working together to address institutional racism in our Department and our communities.

And, as always, please consider supporting us in our efforts by making a gift to the Department of Biology (see next page for instructions). All gifts large and small are most appreciated and allow us to keep supporting our students.

Best regards,

A handwritten signature in black ink, appearing to read 'Laura Burrus'.

Laura Burrus, Chair of Biology

Giving Back to Biology...

The Department of Biology is working hard to support all students in their endeavors to promote the health of living beings on this planet. To do this work, we need your support. Please think about giving \$50, \$200, or even \$1,000 to support your favorite cause! Funding priorities are describe below:

+GIVING WHERE THE NEED IS GREATEST

Unrestricted Gift | any amount

By giving in this way, you allow us the flexibility to respond to rapidly changing needs.

+PROMOTING STUDENT SUCCESS IN STEM DISCIPLINES

Fund Endowed BioLuminary Awards | up to \$25,000

Our data show that hands-on learning has an enormously positive impact on graduation rates and is critical for launching scientific careers. You could consider a gift towards an existing award. For example, to the newly established Association of Biology Students endowment or in memory of beloved faculty members, Jim Duncan Felipe-Andres Ramirez, Wabon

+CLIMATE LEADERSHIP Certificate in Climate Change Causes, Impacts, and Solutions |

up to \$10,000

Scholarships for First Cohort: Current use funds to off-set tuition costs for matriculated and non-matriculated students.

+HOW TO GIVE

By mail | Please make your check or money order payable to the University Corporation, San Francisco State and mail to:

Office of University Development
San Francisco State University
1600 Holloway Avenue, ADM 153
San Francisco, CA 94132

Please indicate your funding priority on the check! (eg, Biology Unrestricted Gift or ABS BioLuminary Award)

If you have any questions, please call 415-338-1042 or email at develop@sfsu.edu



Jessica Magaña and family celebrating with first generation graduate pride!

[Click here to make an online donation today](#)

Choose a gift amount

\$500	\$250	\$100	Other
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Did you know CASHNet charges the University 2.75% for credit/debit card processing fees? UCorp accounting service fees are 5%, waived for scholarship donations. Please consider adjusting your donation to cover these fees so more of it reaches your designation of choice.

Donation Frequency

ONE-TIME GIFT	SCHEDULED	RECURRING
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Designations*

The SF State Fund (For the greatest needs of the University) <input checked="" type="radio"/>	Athletics <input type="radio"/>
Division of Graduate Studies <input type="radio"/>	Division of Undergraduate Education <input type="radio"/>
College of Ethnic Studies <input type="radio"/>	College of Extended Learning <input type="radio"/>
College of Health & Social Sciences <input type="radio"/>	College of Liberal & Creative Arts <input type="radio"/>
College of Science & Engineering <input checked="" type="radio"/>	Graduate College of Education <input type="radio"/>
Lam Family College of Business <input type="radio"/>	Additional Giving Opportunities to Other Areas, Initiatives & Funds <input type="radio"/>

Gift Instructions

Additional Gift Instructions:

I would like to donate to the Department of Biology to support ... (indicate a specific program here)



Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

Written by Alejandro Vélez

SACNAS supports students from historically under-represented backgrounds to get involved in research!

The SF State SACNAS Chapter is a student-led academic organization that exemplifies the efforts to combat racism and promote diversity, equity, and inclusion at SF State.

With the goal to advance the academic, professional, and leadership qualities of SF State students, especially those from underrepresented backgrounds, the Chapter continually develops and offers

workshops for undergraduate and graduate students on how to

- i. find funding opportunities and apply for fellowships and scholarships,
- ii. find and apply to summer research programs,
- iii. navigate the process to apply to graduate school, and
- iv. apply for travel scholarships to attend national conferences.

The SACNAS chapter at SF State also has a very successful near-peer mentoring program designed to ensure that junior students, especially those who come from disadvantaged or underrepresented backgrounds, have a more senior student from a similar background to talk to, look up to, and rely on, as they learn to navigate college. Importantly, the Chapter's efforts to promote equity, diversity, and inclusion reach far beyond the undergraduate and graduate student level. The Chapter has established community outreach with local Bay Area elementary and high schools by providing lab tours at SF State, science nights, and college application workshops to inspire students to persist in STEM, a majority

of those coming from underrepresented backgrounds.

Furthermore, the SACNAS Chapter at SF State, together with BE-STEM and FEI (Fighting Educational Inequality), through letters and meetings with the upper administration at SF State, actively denounced and opposed the proposal to layoff grant-funded and non-grant-funded individuals during the COVID-19 pandemic, as it was against the University's goal to promote equity and social justice. These are only a few examples of the efforts to combat racism and promote equity, diversity, and inclusion in STEM by the SACNAS chapter at SF State.

Not surprisingly, the SF State SACNAS Chapter is nationally recognized and was awarded the SACNAS Outstanding Profession Development Award in 2020.

Shaping an Anti-Racist Biology Department



SACNAS Scholars in Spring 2022

The Student Enrichment Opportunities office (SEO: <https://seo.sfsu.edu/>) has a mission to prepare students from historically underserved ethnic and racial groups - along with students who identify as low income, first generation, and with disabilities - to complete BS degrees in STEM and move towards advanced degrees. This office was founded in 1988 by Dr. Frank Bayliss, and is now run by the current Director, Dr. Megumi Fuse. The SEO houses many of the privately funded STEM training grants in CoSE (e.g. Genentech Foundation, Beckman, Bristol Myers Squibb).



Megan Voss and Jordan Burnett getting hands on experience!

A main way that the SEO office has made an impact is through the development of a cohesive scientific community, with a strong identity of social justice. Collaborations with student groups including BE-STEM, SACNAS and WISE have helped SEO be effective in reaching community members. We have weekly professional development workshops,

where we have successfully encouraged universities from all over the country to visit and recruit our students. And we have created formal mental health webinars that have become mechanisms for discussion on mental health locally and nationally, and that have resulted in the creation of safe spaces on campus for open discussions on science, racism and mental health.

Shaping an Anti-Racist Biology Department

The SEO programs provide financial and academic support and stimulating research experiences. The training fellowships have been available to students since the 1990's, and through these funds, and over the last 15 years alone, more than 425 funded scholars have completed or are completing Ph.D. programs. Within the Department of Biology alone, we have seen an almost doubling of historically underserved students within the graduate program since the fellowships became available. One of the reasons we are successful is because we see and grow the student holistically, including their identities as scientists, with their own cultural identities and their own social justice goals.



Student Enrichment Opportunities

Written by Megumi Fuse

Financial and academic support for historically underserved students

Amayrani Villegas working on subcloning



Building Infrastructure Leading to Diversity

Written by Leticia Márquez-Magaña



*Shaping an Anti-Racist
Biology Department*



The mission of SF BUILD is to enhance diversity of the biomedical research workforce by transforming classroom and research environment at SF State and UCSF into affirming and socially inclusive spaces. Successful transformation of these spaces allows students to safely represent social identities that are often threatened in math and science environments because of structural racism. These threatening environments cause equity gaps in student success, and disidentification with the domain of science. SF BUILD increases awareness of these issues and thus promotes anti-racist education in rising to the directive issued by Dr. Ibram X. Kendi.

by a psychosocial model developed by SF BUILD that validates the experiences and personal values of historically underrepresented groups in science to support their professional development as agents of change. They are also anchored in the institutional history and culture of SF State to increase access, representation, and success of all groups in higher education.

The only way to undo racism is to consistently identify it and describe it—and then dismantle it.”

–Dr. Ibram X. Kendi, How to Be an Antiracist (2019)

In keeping with Dr. Kendi's directive, the multi-pronged efforts of SF BUILD aim to enable minoritized students to share their perspectives for the benefit of scientific research and practice, thereby growing their science identity as recognized and valuable members of the scientific community. Overall, our institutional transformation efforts are grounded



Recently, we have seen worldwide protest in support of Black Lives Matter and as a society we are questioning the culture of our academic environment. We are recognizing that our academic institutions have been built on foundations of systemic inequality and racism.

This is especially true in Science, Technology, Engineering and Math (STEM) professions, as these fields have long struggled to promote equity and inclusion and have failed to take advantage of the diverse talent pool in our country. This failure can be traced back to our academic training environments in which Black students have reported being subject to implicit bias, micro and macro aggressions, and other emotional attacks causing them to question science as a career and leave the field. As we attempt to address the many issues surrounding the training of Black scientists, there have been few studies that have asked the question, “why do Black students leave science?” This was

the research topic that a former graduate student in the Biology Department at SFSU, Analisa Brown studied in her master’s thesis entitled “Investigating the Experiences of Black Students Studying Biology at a Diverse University”. She did focus groups interviewing Black Students in the Biology Department, asking them about their experiences at SFSU. One of the several recommendations based on her findings was to support the establishment of an Black student organization in the sciences.

In 2018, based on this research, we created the student organization Black Excellence in STEM (BE-STEM) at SFSU. BE-STEM started as a series of lunches having Black students connect with each other and discuss of what is supportive and non-supportive in STEM. Creating the space to name the issues, connecting with other Black students, and realizing, through these shared experiences, that

there are serious problems in our training environment. During these discussions, a central theme arose around a connection to the greater Black community and the ability to give back.

Many expressed feelings of isolation within the STEM training environment, being the only Black person in their classes and departments. BE-STEM has supported Black students by providing access to



other groups, Stanford Black Biosciences Organization or The Association of African American Scientist at UT Southwestern (TAAAS).

These efforts to support our Black Scientists is a step in the right direction, however what is needed is a National Organization for Black Empowerment in STEM. This has been extremely successful for LatinX and Indigenous scientist through the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), and there are national efforts to support black engineers and chemist through the National Society for Black Engineers and the National Organization for the Professional Advancement of Black Chemist and Chemical Engineers, respectively. Currently, there is no national black organization that encompasses all scientific fields. Ideally, BE-STEM could serve as a model for this national effort in Black STEM empowerment.

Shaping an Anti-Racist Biology Department

near-peer mentors and research opportunities. In addition, BE-STEM has sought to engage the younger STEM communities by partnering with George Washington Carver Elementary and the Carver Scholars Program, Bayview Science Fair, Dinner with a Scientist, Bret Harte Elementary Science Night, and panel discussions at June Jordan High School. We have also worked with programs within SFSU including the Metro Academy. Many of our original BE-STEM members have graduated from SFSU and currently attend PhD programs at top STEM institutions around the country. Based on their empowerment with BE-STEM, they have either started their own chapters establishing BE-STEM at UCSF, or joined and strengthened

Be the Change – BE-STEM

Written by Blake Riggs

Black students strengthen representation of Black scientists



*Lela Legesse,
President of BE-STEM*

Last summer, after the murders of Breonna Taylor and George Floyd, I received emails from Biology graduate students asking me to engage the Department in becoming actively anti-racist. Over virtual coffee, I listened to their stories about the experiences of Black students in STEM. As a Chair, I was all too familiar with the numbers and I understood that we were failing our Black students. However, hearing the students' stories reminded me that data never tell the whole stories, and we need to center students' stories in our JEDI work. This conversation led to a new BE-STEM (Black Excellence in STEM) initiative called Lifting Black Voices in STEM.

collaboration with Lea McGeever (Biology student) and CEETL leaders, Maggie Beers and Wei Ming Dariotis. With the students' permission, the recording of the panel is now being disseminated across campus so that their voices can be heard by faculty in all Departments.

In addition to sharing the recording of the LBVS webinar, Chairs and Directors pledged to a variety of actions, including organizing listening sessions in their own departments, working to increase positive representation of BIPOC in student assistants, staff, and faculty, as well as in the curriculum, creating safe spaces for BIPOC students, providing

Lifting Black Voices in STEM

Written by Laura Burrus

Courageously articulating the needs of Black STEM students...

This group of amazing, thoughtful, and wise students then recorded a panel session with the Chairs and Directors of the College of Science and Engineering (see box on right).

To elevate the Student voices even further, clips of the student voices from the webinar were used as the basis for workshops both in Biology and in the University-wide Chairs council (organized by 2 CoSE Chairs, Laura Burrus and Petra Dekens, in

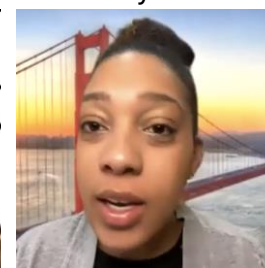
resources for all campus community members to do their own work around racism, and holding workshops to help their departments become actively anti-racist.

Workshops such as these are critically important as faculty, Chairs, and Directors need to hear the voices of our Black students, who are very real people with real experiences that cannot be reduced to data points on a graph.

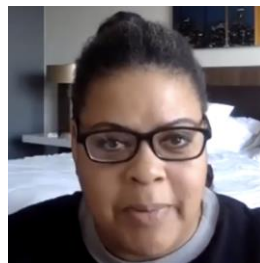
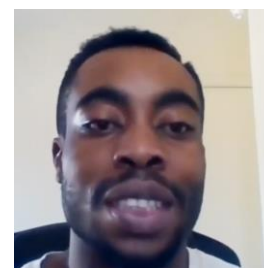
Natasha Crawford



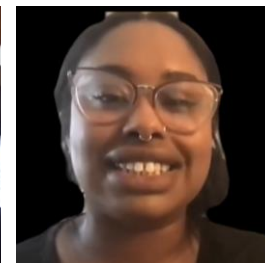
Whitney Holmes



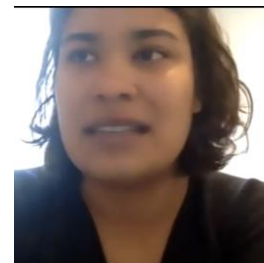
Madu Nzerem



Angela Lane



Imani Robinson



Claire Weeks-Young

Shaping an Anti-Racist Biology Department

To amplify their voices, Lifting Black Voices in STEM organized a webinar panel for Chairs and Directors of the College of Science & Engineering. During this webinar, Black students and alumni including Natasha Crawford, Whitney Holmes, Angela Lane, Madu Nzerem, Imani Robinson, and Claire Weeks-Young, shared their experiences as Black people in the community and at SF State. The panel was raw and powerful. Embedded within their stories, Chairs and Directors heard a call for us to:

1. Create safe learning environments in which Black students are seen and fully included. Instructors can set the tone in their classroom by reminding students of the value of diverse opinions and making space for all students to articulate their ideas (see recording at <https://youtu.be/7H2NJW236-s>)
2. Increase the number of Black students, staff, and faculty and include positive representations of Black people in the curriculum (https://youtu.be/Y2uaZIW2C_8)
3. Engage faculty and staff in doing their own work around anti-racism (<https://youtu.be/DdnjmF5ryyc>).

Darleen Franklin (she/her/"girl")



I identify as an SF State alumni (not once but twice), a Trinbagonian by birth (from the island of Trinidad where I was raised on the land of native Caribs & Arawaks), who is proud to be an American citizen & as an Afro Indo Caribbean in my SF State Community.

My voice is needed in STEM because I am a Black woman scientist and want to keep it real with my community, especially BIPOC (both on and off campus), and encourage all our students to use their voice, let them know they have an ally and to keep moving forward no matter what discrimination they have to face.

My Voice in STEM is needed because...

Fayeeza Shaikh (she/her/hers)



I identify as 1st-gen, immigrant student from India. I am majoring in Biology with Physiology concentration. I am also the President of Women in Science and Engineering Club (WISE) Student Chapter at SFSU.

My voice is needed in STEM because of being an immigrant, I never want to feel like I never belong in STEM. I want diversity and other communities to be a face of STEM, because the next generations need to know that we first-generation, immigrant students, person of color exist. With WISE, I am happy to build community of Female and diverse STEM Students to have a chance to network, social and professional events that help us shape a career in STEM.

Jason Cantley, PhD (he/him/his)



I identify as a botanist with an unabashed passion for plant diversity. I also happen to be an openly queer individual, raised poor in rural America who then became the first in his family to go to college. A significant part of my identity is as an advocate for human diversity and social justice, which was shaped by several life-defining experiences such as attending Berea College, the first interracial and co-educational college in the South and living in the racially and culturally diverse states of Hawai'i and California.

As a Tenure-Track Assistant Professor in the Biology Department, I know that some aspects of my identity—such as my queerness or status as a first-generation student—allows students to see themselves in my position. I serve as a role model simply by being myself. But I also see my role as professor as a privileged opportunity to curate spaces that promote inclusivity and a sense of belonging for all STEM students, regardless of personal background. ***My voice is needed in STEM because through innovative and inclusive teaching/mentorship, I will help change who does science by inspiring a diverse generation of individuals who will be tackling an inherited set of challenging global issues with confidence that they will be an integral part of the solution for positive change.***

Shaping an Anti-Racist Biology Department





Dr. Rori Rohlfs

Biology Faculty Win Prestigious CAREER Grants from NSF

Written by Kanaga Rajan

Congratulations to Drs. Rohlfs and Vélez!!!

Variations in repeating sequences of DNA (aka tandem repeats) lead to some of the differences we see among individuals and may contribute to the rapid trait evolution observed between closely related species like chimpanzees and humans. Unfortunately, tandem repeats have been difficult to study, and although sequencing technology has advanced, tools to analyze the resulting data are still lacking.

Rohlfs' project aims to fix that by developing a statistical tool called TREVA (Tandem Repeat Evolutionary Variance Analysis).

Beyond the research, Rohlfs is excited about how this award will help her students. The tandem repeat research will be largely done by undergraduate and master's students. She plans to share their work in video abstracts that feature PEER and PEG (Persons Excluded because of Ethnicity or Race, and Persons Excluded because of Gender) researchers on the project. In addition, Rohlfs is designing a computational research summer program to teach novice undergraduates about computer programming and how to apply it to research.

In the Bay Area, there is a lot of human-generated noise pollution that affects local wildlife. Many studies have focused on how these environmental stressors can cause animals to change their vocalizations, but Vélez points out that communication is an activity that involves two animals.

"Nobody has really looked at the hearing side of the receivers," he explained. "How are they coping with this problem?"

To evaluate how noise pollution is affecting auditory processing, Vélez's project is focusing on Pacific Chorus frogs, which are widely found in the Bay Area. Along with comparing the behavioral differences of frogs across the Bay, he'll evaluate the anatomical and physiological modifications that underlie these observations. His project has proposed an integrative approach, studying animals

Celebrating Our Successes!!!



Dr. Alejandro Vélez



Dr. Robyn Crook named an Allen Distinguished Investigator

Written by Kanaga Rajan

Robyn Crook has been named an Allen Distinguished Investigator (ADI) by The Paul G. Allen Frontiers Group, a division of the [Allen Institute](#). Crook is slated to receive \$1.5 million over the next three years for innovative early-stage research. She is the first California State University (CSU) faculty member to win the award since its inception in 2010.

Using the ADI award, Crook wants to build new techniques that apply new technologies to establish a comprehensive map all of the neural connections (known as a connectome) in the octopus arm and

capture real-time data about how they sense and move in their environment. But at a school like San Francisco State, this funding will lead to more than just innovative research, added Crook. In addition to funding more undergraduate and graduate researchers in her lab, Crook's ADI award will support an educational citizen-science project for undergraduates. The connectome project will produce an immense amount of data that needs to be analyzed. Crook wants to use this as an opportunity to give University students a taste of real research.

Her plan is to have students help capture the shape of cephalopod neurons that are produced from imaging experiments. It is a perfect short-term project for an early-stage student because they don't need to come in with prior neuroscience knowledge or lab training. Crook hopes it will act as an easy entry point for students to engage in research and get them excited to pursue additional science and research opportunities.

*Celebrating Our
Successes!!!*



Dr. Robyn Crook



It is with great pleasure that I share with you the terrific news that Prof. Kathy Boyer has been appointed interim Executive Director of the Estuary & Ocean Science (EOS) Center. Dr. Boyer is uniquely qualified to take the reins at the EOS Center. She has a long and deep understanding of the center's needs and complexities. Dr. Boyer started her position there over 18 years ago as an assistant professor in the Department of Biology. Since then, she has built a strong and well-funded research program in coastal ecology, specializing in science-informed restoration aiming to increase the resiliency of estuarine



Dr. Katharyn Boyer

habitats and low-lying, vulnerable human communities. She has been the lead scientist on several multi-institution "living shorelines" projects, which incorporate habitat restoration into shoreline protection and investigate the role of aquatic species in carbon storage and amelioration of ocean acidification. She is actively involved in advancing science and informing policy related to these types of projects, including as an advisor on

the California Ocean Science Trust's Equitable Living Shorelines project.

Dr. Boyer's teaching has centered on applying basic ecological understanding and scientific methodology to conservation and management problems, especially in response and adaptation to climate change. She has been actively involved in developing undergraduate and graduate programs that aim at immersing SF State students in marine ecology and conservation problems and solutions.

Celebrating Our Successes!!!

Dr. Boyer earned a BS in Zoology at the University of Maryland, College Park, an MS in Biology/Ecology at San Diego State, and a PhD in Biology/Ecology at UCLA. She is a fellow of the California Academy of Sciences and received the 2021 Coastal and Estuarine Research Federation William A. Niering Outstanding Educator Award as well as the 2021 San Francisco State University Distinguished Faculty Award for Excellence in Teaching. She aims to grow the educational and research initiatives at EOS as well as strengthen ties across university programs.

Please join us in welcoming Dr. Boyer to this new role!!!



Dr. Kathy Boyer appointed as Interim Director of the Estuary and Ocean Science Center

Written by Dr. Carmen Domingo, COSE Dean



Dr. Katharyn Boyer in the field with students

Congratulations Dr. Boyer!

BioLuminary Awards



Jen Pagel

Jen Pagel is entering her final year of undergraduate studies majoring in Biology, Concentration in Botany at San Francisco State University. She has enthusiasm for exploring the unique biodiversity that western North America holds and a big soft spot for the native, rare, and endangered plants of California. Her professional goal is to pursue a career in field botany where she can actively contribute to conservation of sensitive species. This summer she is looking forward to continuing work to digitize the vascular plant collection in the Harry D. Thiers Herbarium and contributing to ongoing research in the Cantley Lab on multiple different plant lineages including population genetics of the endangered Bay Area endemic Suisun thistle (*Cirsium hydrophilum* var. *hydrophilum*).

*Faculty, Staff,
Alumni, and
Student News*



Eric Coyle

My major is Integrative Biology and my research focuses on the impacts of multiple environmental stressors on the physiology of aquatic organisms. I am interested in environmental and conservation physiology and how organisms respond to interacting changes occurring around them. Outside of research I enjoy physical activities like boxing and lifting, yoga and meditation, literature, and languages.



Daniel Hogan

My name is Daniel R. Hogan. Through SFSU I received my bachelor's degree in Ecology. While the pandemic for me started near the end of my degree, I was adamant about pursuing research despite this and discovered my passion for bioinformatics and microbial ecology. Continuing in the de la Torre lab I am currently pursuing my master's in Cell and Molecular biology. My research entails the community level microecology of hot springs and I work closely with others in the archaea lab. After working as a GTA I began to discover a love for teaching and sharing my knowledge with others. It's from this, and the inspiration of the amazing professors here at SFSU, that I want to pursue a career as a PI and professor. When not in lab, I can usually be found enjoying the geekiness of renaissance fairs and comic conventions, and I am so very happy the world is opening back up again!

Hello, my name is Christopher Scippio. I am a graduating senior in the class of 2022. My studies at SF State included a B.S. major in Cell and Molecular Biology with a minor in Chemistry. I also have an A.A.S. in Applied Health Science from the University of the Air Force.

While serving as a medic in the military, I encountered a patient with a brain tumor that caused much suffering to her and her family. At the time, Duke University was conducting experimental treatment with the poliovirus and brain tumors. I helped get this patient into the program, she got better, and this experience changed my life.

I understood the power of medicine and applied science, and this experience culminated in a deep passion and respect for science and medicine. I had a great circle of physicians, nurses, and medics from the Air Force, but San Francisco State introduced me to great professors, mentors, and experiences that allowed me to grow exponentially.



Christopher during his time at the University of the Air Force

Faculty, Staff, Alumni, and Student News

My professors, especially Dr. Teaster Baird and Dr. Blake Riggs, at State challenged me and always made me feel like they cared and believed in my ability to become a physician. The level of support from the faculty gave me the final piece I needed to commit and believe in myself fully, and I was recently accepted into the UC Davis School of Medicine's Class of 2026.

My time at State has been enriched by the students, environment, and activities. I was given the opportunity to serve on the College of Science and Engineering's Anti Racism Task Force, where we made policy changes that will affect future generations of students. I volunteered as a mentor in the near-peer mentor program to guide incoming underrepresented students in STEM. This experience allowed me to use all my previous anxiety and worries about being an underrepresented student in STEM positively and change the experience for incoming students.

I participated in SF Build's Aspiring Physicians Program, where Dr. Tomas Magana and Kelechi Uwaezuoke helped prepare me for the MCAT and medical school interviews and taught me how to tell my story in a way that explains my life journey concisely and impactful.

If I could give any advice to a new student. I would say to them, you belong here, the people around you are here to help, and they love doing it. It's okay not to know what you're doing, and it's okay



Alumni Accomplishments...Headed to Medical School

*Christopher Scippio
B.S., Cell and Molecular Biology 2022*

to get help. Make the most out of this time because it doesn't last forever. In the words of my basic training instructor, "the days that you don't feel like doing something are the days when you have to remind yourself why

you started." Keep this in mind, and you'll be successful.

I leave the University in your capable hands.



*Faculty, Staff,
Alumni, and
Student News*

Alumni Accomplishments ... Promoted at Caltrans

Justin Reyes, BS Marine Biology and Limnology, 2015

I'm currently an Acting Branch Chief in the Environment Program and Project Management Unit at the District 4 Caltrans Office where I oversee, facilitate and support staff in processing Certificates of Environmental Compliance (CEC) for Caltrans construction projects pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act

(NEPA).

After graduating from SFSU, I earned an M.S. in Environmental Management, 2018 from the University of San Francisco. I chose this work because I want to ensure that potential anthropogenic impacts caused by Bay Area construction projects are avoided, mitigated, and compliant with California state and Federal



environmental regulations for the benefit of the natural world and to local Bay Area residents. For example, I want to avoid, mitigate and compensate for environmental impacts to special status species {e.g. Delta smelt, *Hypomesus transpacificus*} as identified in the California State and Federal Endangered Species Act.

I chose SFSU for the cultural atmosphere in addition to learning more about the ecological functions of the San Francisco estuary that sustain the local economy.

Sarah Cohen, Kathy Boyer, Frances Wilkerson, Wim Kimmerer, and Kimberly Tanner had a profound impact in my pursuit of higher education with regards to scientific

research, environmental conservation, and policy. Specifically, their support and guidance molded my critical thinking skills in applying scientific research principles to better inform adaptive management practices for California. My time taking marine biology related classes at the Estuary & Ocean Science Center was certainly the highlight of my undergraduate career.

In my spare time, I play weekend gigs with my two bands, MKC (ska/punk/reggae/funk) and Scary Scare (rock/punk). You can access both bands' music in all streaming platforms.

Alumni Accomplishments

Alumni doing great things!!!

Bridget Hansen, BS Microbiology, 2016

SFSU BS Biology Alumnus, HHMI EXROP Research Fellow Alumnus, and SEPAL-affiliated student, Bridget Hansen, finished her PhD at University of California, Berkeley last year. For her doctoral work, she studied the ecological role of natural products, i.e. antibiotics, within microbiomes. She is now a Scientist at Pivot Bio, a biotechnology company in the East Bay. Pivot is transforming the way that fertilizer is produced and used by farmers around the world.

Faculty, Staff, Alumni, and Student News

Holly Caintic, BS Physiology, 2019

My name is Holly Caintic and I graduated with a Bachelors in Biology with a minor in Philosophy of Medicine in 2019. I was offered an opportunity a month before graduating to work for the Dermatology Center of San Francisco. My experience as one of the lead medical assistants has entailed with getting hands-on experience in patient care. I was trained by the Medical Doctor and Physician Assistants with assisting in surgical procedures and patient medical examinations. I was recently given an opportunity for a position to work for California Skin Institute. My experience with California Skin Institute so far has given me the opportunity to assist with a diversity of medical procedures, cosmetic procedures and be a part of assisting with Mohs micrographic surgery to treat skin cancers. I am so grateful and humbled for these opportunities to continue to learn in the field of science.

Lorenzo Mena, MS Cell and Molecular Biology, 2022

I had no idea what I wanted to study when I first started at San Francisco State University (SFSU). I was pulled toward theater, fashion, criminal justice, and more. However, after several turns, I ended up obtaining a B.S. in Biology with a concentration in Microbiology. During this time, I developed a passion for research, and advanced diversity, equity, and inclusion (DEI) within STEM.

Currently, I am finishing up my M.S. in Cell and Molecular Biology in Dr. Erica Sanchez's lab. The Sanchez Lab looks at certain molecular components of a cancer-causing virus known as Kaposi's Sarcoma Herpesvirus.

I am excited to share that I will be starting my Ph.D. in Molecular Biology at the University of Utah this coming fall. I want to obtain a Ph.D. to continue to do research. I would love to study Neglected Tropical Diseases as they affect many people globally and are not very well studied. I am also very interested in becoming a professor as I have a passion for equitable and inclusive teaching. My interest in becoming a professor is due to having been exposed to such passionate educators here at SFSU.



Bridget Hansen



Holly Caintic



Lorenzo Mena



Giving Back with Jobs for Biology Students...

*Curtis Wallis Director,
Western Laboratory FSIS*

Alumnus reconnects to offer opportunity

My name is Curtis Wallis and I attended San Francisco State University in the 1990's and again in the early 2000s. I first graduated with an undergraduate degree in Biochemistry and then followed that up with a Master's degree in Public Health. During my undergraduate years, I spent much of my time in the science buildings and have fond memories of both Hensill and Thornton Hall.

After graduation I applied for a position as a chemist at a local food safety laboratory operated by the United States Department of Agriculture, Food Safety and Inspection Service (FSIS).

Little did I know that I was at the beginning of an amazing professional journey. Working with FSIS impressed me with how important food safety is to our entire way of life.

In September 2018, I was hired as the director of the same laboratory that had hired me as a bench analyst at the start of my career.

As the director at the lab, I wanted to support my alma mater and recently met with the biology and chemistry departments.

Our Microbiology Branch is filled with the latest technology and equipment that can be used to identify pathogens in food which supports the mission of the agency to protect the American people from illness. We hire microbiologists at all education levels throughout the year and hope that you will consider joining our team in Albany, CA. If you are interested, please send me a copy of your resume and we will reach out to you when a position is available. You can also

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check USAJobs.com for opportunities with the Federal Government. Through my education at San Francisco State University, I've been able to have a wonderful, fulfilling and successful career as a Federal employee. We hope that you check us out and decide to become a part of the team!

The Department of Biology will be sharing job opportunities from the Curtis's unit of FSIS in the weekly email newsletter to current students. Positions may also be found at USAJobs.gov

New Arrival to Team Biology!

Hello, my name is Mika (ME-kuh) and I am the new undergraduate specialist. What I interpret this to mean is that it is my job to help students in moving forward in their academic journey. I strongly support the mission of the Department of Biology to



Frida and Mika at Fort Funston

welcome all to the field, in particular those who have been historically underrepresented in science.

I don't think there is such a thing as a stupid question. I understand that you can be very smart and still fail a class. I understand that so many SF State students are responsible for their academic success in addition to their family, financial, and personal responsibilities. I do not hold judgement, and am here (at biology@sfsu.edu) at the ready in case there's anything I can do to help students reach their goals.



Each year, the Association for the Sciences of Limnology and Oceanography presents the A.C. Redfield Lifetime Achievement Award to honor an aquatic scientist for major, long-term achievements in the fields of limnology and oceanography. The recipient of the 2022 Redfield Award is Dr. Edward J. Carpenter, for his critical contributions that clarified the important role of open ocean nitrogen fixation in driving the ecology of the ocean and global biogeochemistry. The award will be presented to Dr.

SF State Biology Faculty are rocking it!

Carpenter at the 2022 Joint Aquatic Sciences Meeting in Grand Rapids, MI, USA. Over the course of his career, Dr. Carpenter has made numerous seminal contributions to the field of biological oceanography. He is perhaps most well-known for his transformational research on open-

ocean nitrogen fixation by the cyanobacterium *Trichodesmium*, though his work spans a breathtaking range of topics including diatom physiology, cyanobacterial-diatom symbioses, marine plastic pollution, Antarctic bacteria, Amazon River outflow in the Equatorial Atlantic Ocean, diazotrophy in Costa Rican lowland tropical rainforests, coccolithophores and ocean acidification, and water chlorination.

Dr. Carpenter served a rotation as a Program Officer with NSF's Antarctic Biology and Medicine Program and contributes to the editorial boards of numerous journals.

ASLO President, Roxane Maranger says, "Dr. Carpenter's accomplishments and contributions to the field cannot be understated: from transformational work on N fixation and phytoplankton dynamics at multiple scales, to pioneering work on marine plastics. Letters spoke of his

deep knowledge, infectious curiosity, and generosity. ASLO is delighted that Ed is the winner of this year's AC Redfield Lifetime Achievement Award. Like Redfield, the impact of Dr. Carpenter's broad range of contributions to aquatic science will continue to be felt for years to come."

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You can easily import your profile from LinkedIn and get started!

Stay in touch!

Congratulations to the Classes of 2020, 2021, and 2022!!!



Our Reason for Being...



Faculty, Staff, Alumni, and Student News

