



CSU Monterey Bay's 8th annual

SUMMER RESEARCH

Symposium

Friday, August 13, 2021

Undergraduate Research Opportunities Center



Welcome
Back Otters!

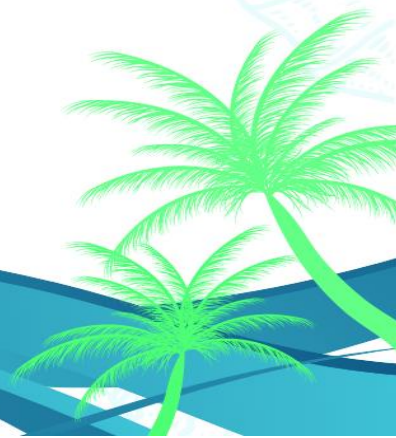


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Thank you for joining us for the eighth annual Monterey Bay Summer Research Symposium.

This event will celebrate the summer research and scholarly activity conducted by over 50 students from the Undergraduate Research Opportunity Center (UROC). Students will present on 8-10 weeks of faculty mentored summer research ranging from topics like human communications, marine science, psychology, biology, and health and human services, just to name several of the many more disciplines represented today.

We would also like to thank and acknowledge our colleagues from across the Monterey Bay region who served as mentors to our students. Through their efforts, our students have a deeper understanding of the research process, strong connections to the professional community, and newfound confidence in their abilities.

THANK YOU TO ALL OUR PROGRAM PARTNERS



SAN DIEGO STATE UNIVERSITY



The Undergraduate Research Opportunities Center

The **Undergraduate Research Opportunities Center (UROC)** at California State University, Monterey Bay is a cross-campus center that engages students in undergraduate research and scholarship. These experiences develop students' leadership, innovation, and personal skills for success in graduate school and professional careers.

Mission -

UROC's mission is to build students' educational ownership, intellectual vibrancy, and scholarly identity. We achieve this through mentored undergraduate research; rigorous, authentic, and calibrated scholarly activities; and the development of intellectual, personal, and social capital.

Core Values -

UROC's programming is centered on a set of core values that capitalize and build upon the students' interests; support their development; challenge them to apply their knowledge in authentic settings; and empower them to develop a mature, confident, and resilient identity.

UROC Program Staff

Dr. John E. Banks
Director

Natasha Oehlman, M.A.
Writing & Professional Communication Associate

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Research Curriculum Associate

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STEM Postdoctoral Researcher

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Associate Director of Education Research

Dr. Jessica Bautista
Research Associate

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Outreach Specialist

Suzanne Ocegura
Administrative Analyst

Special Presentations

Special Presentations	Zoom Link	Date	Start Time	End Time
Leta Dawson	Visit UROC_CSUMB on Instagram Live to view all special Presentations!	Aug. 6	6:30 PM	6:30 PM
Wendy Feng		Aug. 9	11:00 AM	11:15 AM
Amelia Parker		Aug. 9	2:00 PM	2:15 PM
Jordan Velasco		Aug. 10	5:00 PM	5:15 PM
Mary Sullivan		Aug. 11	6:00 PM	6:15 PM

Event Schedule for Friday, August 13, 2021

Morning Sessions

Session Name	Zoom Link	Start Time	End Time
Session 1: Department of Biology & Chemistry	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	10:10 AM	11:40 AM
Session 2: Department of Computer Science; Department of Mathematics	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	10:10 AM	10:55 AM
Session 3: Psychology Department	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	10:10 AM	11:10 AM
Session 4: Department of Marine Science	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	10:10 AM	10:55 AM
Session 5: College of Business	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	10:10 AM	11:40 AM

Afternoon Sessions

Session Name	Zoom Link	Start Time	End Time
Session 6: Department of Biology & Chemistry	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	2:10 PM
Session 7: Department of Applied Environmental Science	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	2:25 PM
Session 8: Psychology Department	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	1:55 PM
Session 9: Department of Marine Science	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	2:25 PM
Session 10: Department of Cinematic Arts & Technology; Schools of Humanities & Communication; Social & Behavioral Studies; Global Studies; and World Language & Cultures	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	2:40 PM
Session 11: Department of Kinesiology; Department of Health, Human Services and Public Policy; STEM Education	https://csumb.zoom.us/join/H9SnRn4o7eY2jxpu4roq0X9u	1:10 PM	2:10 PM

Research Presentations

Special Presentations

Recovery of Black Abalone Populations in Monterey County

Are black abalone populations any closer to reaching the CA Fish and Wildlife criteria?

Leta Dawson, *California State University, Monterey Bay & Hopkins Marine Station*

Faculty Mentor: Dr. Alison Haupt

Reframing Environmental Education to Include Asian Americans

Understanding why Asian Americans have been left out of the environmental movement and how do we center their experience?

Wendy Feng, *California State University, Monterey Bay*

Faculty Mentor: Dr. Phuong Nguyen

Exploring COVID-19 vaccine hesitancy in Seaside, CA, in the Black and Latinx communities.

Understanding causes of vaccine hesitancy in college-aged students to combat low rates of COVID-19 vaccinations

Amelia Parker, *California State University, Monterey Bay*

Faculty Mentor: Dr. Vanessa Lopez-Littleton

The Novel Application of Virtual Reality: Quantifying Patterns in the Distribution of Temperate Kelp Forest Fishes through VR and Traditional Underwater Visual Census

We've got the fish. Take a look around!

Jordan Velasco, *California State University, Monterey Bay & Moss Landing Marine Laboratories*

Faculty Mentor: Dr. James Lindholm

The Issue with Film School

The failure to educate our future storytellers how to critically and creatively analyze and expand on our society.

Mary Sullivan, *California State University, Monterey Bay*

Faculty Mentor: Dr. Chris Carpenter

Session 1: Department of Biology & Chemistry

Bioremediation of Pesticides: Applying Molecular Genomic Techniques to Uncover Efficient, Eco-Friendly Methods of Cleaning Agricultural Waste

How can we clean toxic agricultural waste at a fast pace and be environmentally safe?

Avalon Surratt, *California State University, Monterey Bay*

Faculty Mentor: Dr. Nathaniel Jue

Effect of Different Mesh Materials on the Harvesting of Fog Water

Spend wisely and harvest fog water.

Rimki Barua, *California State University, Monterey Bay*

Faculty Mentor: Dr. Daniel M. Fernandez.

Potential Biofuel Solutions Through the Isolation and Characterization of Novel Catalase Enzymes from Cow Rumen

Can cows bring the future of renewable energy?

Robert Hays, *California State University, Monterey Bay & Joint Genome Institute*

Faculty Mentor: Dr. Aparna Sreenivasan

Observing Beaked Whale Foraging Behavior with Acoustic Localization

What do whales do when no one is watching?

Alma M. Leon, *California State University, Monterey Bay, University of California, San Diego, & San Diego State University*

Faculty Mentor: Dr. Eric Snyder

Assessing the Sensitivity of Indigenous *Pythium* spp. from the Salinas Valley to the Fungicide Mefenoxam

Are local populations of *Pythium* spp. susceptible to commercial fungicides?

Cassandra Tice, *California State University, Monterey Bay & UC Cooperative Extension of Monterey County*

Faculty Mentor: Dr. Jose Pablo Dundore-Arias

Effects of Hypoxia on the Physiology of Juvenile Flatfishes

Will lowered oxygen levels contribute to flatfish species abundance?

Jade Betancourt, *California State University, Monterey Bay & Moss Landing Marine Laboratories*

Faculty Mentor: Dr. Cheryl Logan

Session 2: Department of Computer Science; Department of Mathematics

The Relationship between Computational Complexity and Energy Efficiency of Common Algorithms

We are going to save the world, by reducing the energy used by even the smallest of programs!

Daniel Jacoby, *California State University, Monterey Bay*

Faculty Mentor: Dr. Joshua Gross

Gauging Student Interest: Computer Science Interest Survey Results

What are students interested in Computer Science interested in?

Keyoni McNair, *California State University, Monterey Bay*

Faculty Mentor: Dr. Joshua Gross

EEG Data with Time vs Frequency Domains

An evaluation of EEG data in time vs frequency domains for the use of Brain-Computer Interface.

Michael Haidar, *California State University, Monterey Bay*

Faculty Mentor: Dr. Glenn Bruns

African American Students and their Mathematics College Preparatory Readiness

Are African American students prepared for college mathematics through high school preparatory courses?

Cobey L. Davis, *California State University, Monterey Bay*

Faculty Mentors: Dr. Vanessa Lopez-Littleton & Dr. Dennis Kombe

Session 3: Psychology Department

Cannabis Use and Perceptions Among College Students in California

Students find relief in using cannabis as a treatment or medication.

Melissa-Ann Lagunas, Courtney Crouse, & Claudia Rocha, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jennifer L. Lovell

Mental Health Education in Black Communities

Mental health education among Black youth is lacking, which results in the high statistics of poor mental health, and suicide rates. What does health education do to change these statistics? And what is the most effective way to implement these systems?

Brooklyn Greene, *California State University, Monterey Bay*

Faculty Mentor: Dr. Vanessa Lopez-Littleton

Examining Women's Empowerment in India: Takeaways from Conducting Research and Data Collection Abroad

A case study on conducting cross-cultural research in India.

Gagandeep Choongh, *California State University, Monterey Bay & University of Massachusetts, Boston*

Faculty Mentor: Dr. Jenny Lin

Decreased Physical Activity During the COVID-19 Pandemic Associates with Increased Stress, Anxiety and Impoverished Academic Performance in Undergraduate Students

This is your brain on exercise: a closer look at the impacts of stress, anxiety, and academic performance during the covid-19 pandemic.

Angel Diaz, *California State University, Monterey Bay*

Faculty Mentor: Dr. Zurine De Miguel

Exploring the Neural Processes of Perceptual Decision Making

How does our brain make decisions for us?

Spencer Winter, *California State University, Monterey Bay & University of California, Davis*

Faculty Mentor: Dr. Timothy Hanks

Session 4: Department of Marine Science

Sea Star Species along the Monterey Peninsula

Trillions of stars in the universe, but how many sea stars are in the ocean?

Paige J. Siegel, *California State University, Monterey Bay*

Faculty Mentor: Dr. Alison Haupt

Everyone's Harvest Research Team: Summer Progress

Health Education, Food Insecurity, Farmers Market, Social Safety Net, COVID-19

Stephanie Stephens, *California State University, Monterey Bay*

Faculty Mentor: Dr. Vanessa Lopez-Littleton

The Role of Symbiont Community on Galapagos Coral Thermal Tolerance

The symbionts on coral have a bigger role than you think.

Paulina Cadena, *California State University, Monterey Bay, Universidad San Francisco de Quito, & Moss Landing Marine Laboratories*

Faculty Mentor: Dr. Cheryl Logan

Rise of the Urchins: Monitoring Size Structure and Population Density Along the Monterey Peninsula Intertidal

How has size structure and population density of purple sea urchins changed over time at various intertidal sites?

Emily Vidusic & Kaitlin Rooney, *California State University, Monterey Bay*

Faculty Mentor: Dr. Alison Haupt

Session 5: College of Business

Espoused Organizational and Team Culture Values as Antecedents of Protection Motivation among IT Employees.

Impact of the dimensions of organizational culture and team culture on the cognitive ability of the employees to appraise threat and coping motivation associated with information security compliance.

Eduardo Aparicio, *California State University, Monterey Bay*

Faculty Mentor: Shwadhin Sharma

Enforcing the Screen Time and Technology Usage of Children: Evaluating the Impact of Parental Perception of Technology, Locus of Control and Children Daily Usage of Technology

How does the parental perception of technology and locus of control impact their view on enforcement of screen time and technology usage by their children?

Athena Lee, *California State University, Monterey Bay*

Faculty Mentor: Shwadhin Sharma

Zah-Rah Latour, *California State University, Monterey Bay*

Faculty Mentor: Dr. Vanessa Lopez-Littleton

Green Skepticism: Examining the Role of Social Media Influencers on Consumer Attitudes Toward Green Brands

Impact of social media influencers on green brands.

Erika Hernandez-Gonzalez, *California State University, Monterey Bay & Fontys University of Applied Science*

Faculty Mentor: Dr. Jenny Lin

Business for 2030: A content analysis of firm's statements on the UN Sustainable Development Goals (SDG)

Business Today: How are firms enacting sustainable development goals across countries?

Saray Garcia *California State University, Monterey Bay & Iowa State University*

Faculty Mentor: Dr. Ishva Minefe

The Empowering Role of Anti-Domestic Violence Messages: Evaluating the Effectiveness of Public Service Announcements and Social Media Platforms

How do the roles of traditional vs. modern media play in social issues like domestic violence?

Angelica May Amita, *California State University, Monterey Bay & Everygreen Valley High School*

Faculty Mentor: Dr. Jenny Lin

Session 6: Department of Biology & Chemistry

Evaluation of Anaerobic Soil Disinfestation and Pathogen Suppressive Microbial Inoculants for White Rot Management

How can we save garlic fields without harmful chemicals and pesticides?

Grace Hardy, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jose Pablo Dundore-Arias

Raising Covid-19 Awareness for Teens

I got the SHOT

Vicky Ordaz Garcia, *California State University, Monterey Bay & Northern Arizona University*

Faculty Mentor: Dr. Naomi Ruth Lee

Optimization of Laboratory Methods to Isolate and Characterize Soil *Streptomyces*

Digging for the answers: How soil microbiomes can influence crop health.

Morgan Raimondo, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jose Pablo Dundore-Arias

Evolutionary Processes that Drive Fur Color in *Chinchilla lanigera* and Other Rodents

How does the gene *mc1r* influence the *Chinchilla lanigera*'s fur color?

Chenelle Guevarra, *California State University, Monterey Bay*

Faculty Mentor: Dr. Liz Alter

Investigating Functional Redundancy Among PLK Receptor Kinases in the *Arabidopsis* Root

Digging into root growth.

Conor Rickard, *California State University, Monterey Bay & University of California, Riverside*

Faculty Mentor: Dr. Jaimie M. Van Norman

Session 7: Department of Applied Environmental Science

Patterns of Longtime Fog Variability at Fort Ord National Monument

A foggy future: how fog patterns affect Monterey's natural biome.

Summer Alinaeem, *California State University, Monterey Bay*

Faculty Mentor: Dr. Dan Fernandez

Indicator Species Composition Depends on River Salinity

What happens to freshwater bugs as salinity increases?

Alyssa Schaer, *California State University, Monterey Bay*

Faculty Mentor: Dr. John R. Olson

Revealing How Wildfires Can Affect River Sediments and Chemistry

Things are heating up: How wildfires affect watersheds.

Alexandra Yokomizo, *California State University, Monterey Bay*

Faculty Mentor: Dr. John R. Olson

The Relationship Between Climate Change Concerns and Women's Intention to Have Children

Climate change affects women and their desire to have children.

Monica B. Urias, *California State University, Monterey Bay & Regeneración Pajaro Valley Climate Action*

Faculty Mentor: Dr. Victoria Derr

The Influence of Salinity on Leaf-Litter Breakdown Rates in Tidal Streams

Aquatic microbes munching on fallen leaves in rivers connected to the ocean.

Gretchen Wichman, *California State University, Monterey Bay*

Faculty Mentor: Dr. John R. Olson

Are Small Water Systems Within Monterey County Really Safe to Drink?

Dirty drinking water? H 2 Oh Nooo!

Judah Young, *California State University, Monterey Bay & Monterey Bay Analytical Systems*

Faculty Mentor: Dr. Vanessa Lopez-Littleton & David Holland

Session 8: Psychology Department

Major and Minor Differences in Expression: How Perceived Emotions of Students are Influenced by Styles of Music and Backgrounds

Does music change the way students perceive and express their emotions?

Nevan Bell, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jennifer Lovell

Abolitionist Practices in Social Work

How do social workers draw on the genealogies of abolition to center liberatory practices within the carceral context of their field?

Jennifer Lopez, *California State University, Monterey Bay*

Faculty Mentor: Dr. Chrissy Hernandez

Monterey County LGBTQ+ Historical Archives and Special Collections: A Virtual Exhibit

Unearthing Monterey County's rich, and often untold, LGBTQ+ histories during the late 70's to the mid 90's.

Nikole Karis, *California State University, Monterey Bay*

Faculty Mentor: Dr. David A. Reichard

What Skills have you Developed? Psychology Undergrads' Understanding of Their Major Learning Outcomes

Psychology Undergrads - Are you ready for what comes after graduation?

Megan Dearie, Rodi Paul, & Paul Dommert, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jennifer Dyer-Seymour

Session 9: Department of Marine Science

Animal-Borne Video Analyses of Pursuit Strategies in White Sharks (*Carcharodon carcharias*)

How are visual cues perceived, responded to, and how does this interplay influence White shark predatory behavior?

Mariah Daniel, *California State University, Monterey Bay & Oregon State University, Hatfield Marine Science Center*

Faculty Mentor: Dr. Taylor Chapple

Detecting the Effects of Rising Atmospheric Carbon Dioxide on Ocean Carbon Dioxide in the California Current System using Satellite Remote Sensing Observations

Will climate change doom phytoplankton? Or make it KA-BLOOM?!

Danielle Anderson, *California State University, Monterey Bay*

Faculty Mentor: Dr. Sherry Palacios

Fog Detection: Comparing Efficiencies of Methods

Is GOES imagery a sufficient method to detect fog?

Vaughn Compas, *California State University, Monterey Bay*

Faculty Mentor: Dr. Daniel Fernandez

Spatial and Demographic Differences of the Hawaiian Coral Species: *Porites lichen*

How does latitude affect coral populations?

Kaiku Kaholoaa, *California State University, Monterey Bay, Moss Landing Marine Laboratories, NOAA Inouye Regional Center, & Scripps Institution of Oceanography*

Faculty Mentor: Dr. Cheryl Logan

An Analysis of ROV External Lighting for 3D Modeling of Artificial Substrate

Maggie Seida, *California State University, Monterey Bay*

Faculty Mentor: Dr. Steve Moore

Endosymbiont Communities Affect Coral Thermal Tolerance in American Samoa

Pollution and the Symbiont Shuffle: The dance of coral thermotolerance.

Silvia Vasquez & Amalia Seigel, *California State University, Monterey Bay, Moss Landing Marine Laboratories, & NOAA Inouye Regional Center*

Faculty Mentor: Dr. Cheryl Logan

Session 10: Department of Cinematic Arts & Technology; Schools of Humanities & Communication; Social & Behavioral Sciences, Global Studies, and World Language & Cultures

Localization of History and Civics in Salinas Ethnic Studies Classrooms

Centering Community: Learning from and with the students & community of Salinas.

Korina McKinley & Lily Amador, *California State University, Monterey Bay*

Faculty Mentor: Dr. Chrissy Hernandez

Within the Blood Line: A Comparison of African American and Native American Educational Experiences

Changing Indigenous Narrative by shedding a light on forgotten history.

Darchelle Burnett, *California State University, Monterey Bay*

Faculty Mentors: Dr. Brian Corpening & Dr. Garrett George

Animation: A Credible Investment Education

Who taught you about the Stock Market?

Chase Paparotti, *California State University, Monterey Bay*

Faculty Mentor: Dr. Jennifer Kuan

Kelly Christensen, *California State University, Monterey Bay*

Faculty Mentor: Dr. Dustin Wright

The Effects of Training and Language Learning Background on Japanese Sound Recognition by English Native Speakers

How can we enhance English speakers' skills to distinguish unique Japanese sounds?

Hana Jacinto, *California State University, Monterey Bay*

“I want to get off”; Hookup Motives Among LGBTQ+ Young Adults

What motivates Queer and Trans Young to Adults hookup? Does it relate with heterosexual hookup research?

Ulises Duenaz, *California State University, Monterey Bay*

Faculty Mentor:

Session 11: Department of Kinesiology; Department of Health, Human Services and Public Policy; STEM Education

Reproductive Health Challenges: The Barriers to Access and/or Obtain an Abortion

Your body, your choice, barriers and access to care.

Paula R. Beltran, *California State University, Monterey Bay*

Faculty Mentor: Stephanie M. McMurtrie

Erasing Anti-Black Racism: Critical Consciousness for Equity and Advocates

Raising awareness on anti-Black racism, bias, organized culture, and micro aggression.

Jennifer Berberian, *California State University, Monterey Bay*

Faculty Mentor: Dr. Vanessa Lopez-Littleton

Innovations and Iterations in Middle School Life Science Curriculum

Better living through limiting screen time in STEM education.

Viviana Vigil, *California State University, Monterey Bay & SEEDS4STEM*

Faculty Mentor: Dr. Corin Slown

The Cost of STEM Education: How Much Should We Be Spending?

Exploring the costs of hands-on learning.

Kenneth Tran, *California State University, Monterey Bay & SEEDS4STEM*

Faculty Mentor: Dr. Corin Slown

Variables that Could Lead the CSUMB Makerspace to New Opportunities

The Benefits of Library-Based Makerspaces in Identity Formation in Higher Education

Eric DeSoto, *California State University, Monterey Bay*

Faculty Mentor(s): Dr. Corin Slown

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McNair
Scholars Program



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