



FALL 2020 | ISS. 5

# AS THE LEAVES TURN

OFFICIAL NEWSLETTER OF RIDGE 2 REEF



## Fall Quarter in Review

In Fall 2020, our trainees, faculty, and staff continued remote learning for our first-year communications class under Professor Steve Allison.

We are grateful to our students and teachers, who have all exemplified the UCI spirit.



“UCI has probably the world’s best group of researchers in the field of microbial ecology and climate change.”

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**STEVEN ALLISON, PhD**

Professor,  
Ecology & Evolutionary Biology

# Quarter Highlights

**POLICY ELEVATOR PITCH COMPETITION**

Early Career Researchers from Science Policy & Advocacy for STEM Scientists certificate program will pitch & campaign for issues relevant to scientists & society

**Policy Competition Contestants**

**Judges**

**POLICY PITCH**

**Contestants:**

- Paige Greenwood: STEM education
- Anna Andronicos: Cancer research
- Komal Syed: Childcare reimbursement
- Elena Musteata: Extinction Prevention Act
- Ravindra P-Nettimi: Funding scientific societies
- Jameel Mohammad: Postdoctoral training
- Chhavi Sharma: Women health
- Emily McIntyre: Precautionary food labeling
- Karthik Yarlagadda: Food & dietary supplements regulation
- Ale Villegas: STEM literacy by diversity, equity & inclusion
- Pawan Upadhyay: Mobile health clinics

**Judges:**

- Chanel Matney, PhD: Program Officer, NASEM
- Arlis Reynolds: City Council Member, Costa Mesa, CA
- Gary McDowell, PhD: CEO, Lightholler LLC
- Matt Hanson, PhD: Director-New Ventures, UCI Beall Applied Innovation

**Event Details:** Nov 9 (Mon) 3pm(PST)/6PM (EST) <https://tinyurl.com/SciPolUCIrvine>

Open to all policy enthusiasts & concerned citizens

Got questions? Please contact, Harinder.Singh@uci.edu, outreach@sciencepolicyjournal.org

## Science Policy & Advocacy Certificate Program for STEM Scientists

University of California, Irvine's Public Policy Prep (P3) program unveiled an online course in science policy and advocacy for STEM scientists (PhD students & postdocs) with a focus on learning basic skills and concepts, as well as identifying concrete ways to transition into careers in these areas.

To showcase the value of science communication for STEM scientists in promoting effective policy change, this course was organized in conjunction with The Journal of Science Policy and Governance (JSPG) and UCI's Ridge to Reef program. Similarly, the Union of Concerned Scientists (UCS) provided strategies for effective communication by which STEM scientists can engage in public policy and advocacy. Overall, the course incorporated lectures on various topics in science policy and advocacy, workshops for developing communication skills, and peer-to-peer learning opportunities to sharpen skills in these fields.

Learn more here: <https://gps.bio.uci.edu/science-policy-and-advocacy-for-stem-scientists/>



# Third Annual Environmental Research Symposium

Our Environmental Research Poster Symposium was held on Zoom this year on December 9th. 22 students across seven breakout rooms presented on unique topics. View the program below to learn more about our students' research efforts this year.

## ENVIRONMENTAL RESEARCH POSTER SYMPOSIUM

Wednesday, December 9th 2020 | 9:00-11:00 AM

### Breakout Group 1

**Ecological Engineering and Water Sustainability** | *Meng Zhao, Geruo A, Isabella Velicogna*

**The Effects of Drought and Nitrogen Addition on Below and Aboveground Carbon Pools in Mediterranean Invasive Grasslands and Coastal Sage Scrub** | *Nicole Fiore, Michael Goulden*

**Metagenomic Analysis Reveals Global Patterns of Ocean Nutrient Limitation** | *Lucas Ustick, Alyse Larkin, Catherine Garcia, et al.*

### Breakout Group 2

**Improving Plant Reactive Gas Emissions with Rapid Sampling Technique** | *Jesus Campos*

**Variation in Pond Ecosystems Across an Elevational Gradient in the Eastern Sierra Nevada Mountains** | *Christine Bonadonna, Celia Symons, and Emma Moffett*

**Integration of In-Situ and Remotely Sensed Data for Post-Fire Flood Risk Modeling** | *Ariane Jong, Jochen Schubert, Tirtha Banerjee, Brett Sanders*

### Breakout Group 3

**Representing an Institution on Social Media** | *Ashton Bandy*

**Why's the Water Gone?: Global Water Exploitation through Economic Growth** | *Joshua Cafferty*

**Coral Disease Patterns in the Mesoamerican Reef** | *Sam Weber, Joleah Lamb, Raechel Littman, et al.*

### Breakout Group 4

**Combining Smoke and Dust to Discover New Colored Particles** | *Katherine Hopstock, Sergey Nizkorodov*

**A Comparison of Beach Water and San Quality Along Urban Coastal Oceans** | *Alexis Guerra, Ashley Green, Sunny Jiang*

**Sewage Tracking and Sampling Optimization of SARS-CoV-2** | *Ashley Green*

### Breakout Group 5

**Investigation of the Fatmeter for Application in Juvenile pallid Sturgeon (*Scaphirhynchus albus*)** | *Matea Djokic, Joshua Heishman, Kevin Kappenman, et al.*

**How Do Students Who Participate in a Community Based PBL Project View Themselves in Their Environment and Community?** | *Jonathan Montoya*

**Is My Street Flooding?** | *Annika Hjelmstad*

### Breakout Group 6

**Photochemistry in Brown Carbon Aerosols** | *Avery Dalton*

**Urban Marine Greening with Seagrass Reduces Human Bacterial Pathogens in Seafood** | *Phoebe Dawkins, Evan Fiorenza, J Gaeckle, et al.*

**Protein Thermal Stability in the Intertidal Mussel, *Mytilus Californianus*** | *Grace Chan, Kwasi Connor*

### Breakout Group 7

**Following Forever Chemicals to Orange County Groundwater** | *Esther Cookson, Russell Detwiler*

**Physiological Limitations Could Help Explain Distribution of *Yucca brevifolia* and *Hesperoyucca whipplei* in the Mojave Desert, CA** | *Amber Jolly, Joseph Zailaa, Ugbad Farah, et al.*

**Which Calibration Is the Best When Using the MG/CA Paleotemperature Proxy?** | *Maria Fennell*

**Remote sensing of beaches: using satellite and airborne platforms to characterize a century of change in Orange County, California** | *Daniel Kahl, Napoleon Elizondo-Gudiño, Jochen Schubert, Brett F. Sanders*



Ridge 2 Reef

An NSF Research Traineeship in Ecosystem Management and Environmental Change

## Trainee Excellence: Ariane Jong in *Voice of OC*

Ariane Jong is a Ph.D. student in Civil & Environmental Engineering at UC Irvine. When she is not studying the impact of wildfire on flood risk in southern California, she volunteers with the Citizens' Climate Lobby and the Climate Reality Project.

You can read her full article here: <https://voiceofoc.org/2020/12/jong-where-theres-smoke-theres-flooding/>.



### **Jong: Where There's Smoke There's... Flooding?**

The recent wildfires in Orange County serve as a wake-up call: local action on climate change is urgently needed. As large wildfires become increasingly commo...

Over the last three decades, the frequency and severity of large wildfires have been increasing in California and the western U.S. as a whole (Westerling et al., 2006). Local efforts to develop resilience to wildfires and floods are urgently needed. Ariane's research supports emergency planning for post-fire flooding and debris flows by developing more accurate models of post-fire erosion and flood risk in southern California and sharing the results with local flood control agencies.

These flood control agencies can use the modeling results to design flood control infrastructure that is better equipped to handle the increased sediment loads from burned mountain canyons or adjust how frequently the infrastructure is maintained. These actions represent strategies to adapt to increasing post-fire flood risk, but more can be done to mitigate risk as well.