

Graduate Students Recognized for Outreach and Service

Six UC San Diego doctoral candidates named to national Bouchet Graduate Honor Society, which supports students traditionally underrepresented in academia

Lydia Hernandez took an unconventional path to her graduate program in molecular biology. After earning her bachelor's degree in communication, she worked as a kayak instructor for seven years.

"That's how I got interested in science," she said. Out on the water every day, she started wondering about how tides and currents work. She learned how to navigate and read charts, and realized that she wanted to change her teaching direction from kayaking to environmental science. Hernandez went back to school, took one molecular biology class and fell in love.

Now a doctoral candidate in biological sciences at UC San Diego, Hernandez is studying embryonic heart development. She is also one of six UC San Diego graduate students to be accepted into the [Bouchet Graduate Honor Society](#) for 2014-2015. Named for the first African-American doctoral recipient in the United States, Edward Alexander Bouchet, the society seeks to develop a national network of preeminent scholars who exemplify academic excellence and foster environments that support students who are traditionally underrepresented in academia. UC San Diego was the first university on the West Coast to establish a chapter of the national organization.

"I didn't realize I could do science until I actually started doing science," said Hernandez, who serves as a graduate teaching mentor for instructional assistants in the Division of Biological Sciences. "Now, I want to help others overcome that kind of internal bias that they may not realize is there, and show them that they can surprise themselves—and the people around them—with what they can do."

The UC San Diego chapter of the Bouchet Society was established in 2008, with the first cohort inducted in 2009. At the campus level, the society provides an opportunity for students with similar outreach goals to network, learn from one another and collaborate.

"We are fortunate to have talented graduate students at UC San Diego who are committed to service and to enhancing our community," said Dean of the Graduate Division Kim E. Barrett. "The Bouchet Society is one way that we can recognize and support students who are typically underrepresented in

academia.”

Marty Flores, also a 2014-2015 Bouchet honoree, added, “I think it’s really important to foster a sense of community in graduate school. My family doesn’t understand the research I’m working on, and I think that’s a common experience as a grad student. Having a graduate community that is supportive and inclusive makes a big difference.”

The 2014-2015 UC San Diego Bouchet Graduate Honor Society members represent a range of research interests and backgrounds with a common goal to enhance community, diversity and inclusion in academia:

Elaine Denny, political science and international relations

Denny’s research interests include micro-foundations of political mobilization and conflict, norms diffusion, human behavior and human rights. Her dissertation examines why vulnerable populations are often less likely to be politically active than their wealthier or more secure counterparts—and what strategies may mitigate these effects. Prior to enrolling at UC San Diego, Denny worked at Amnesty International USA, as well as with nongovernmental organizations in the U.S., Latin America and Asia.



Elaine Denny

Yawo Ezunkpe, mechanical and aerospace engineering

Ezunkpe’s research interests include fluid mechanics and applied and computational mathematics. His dissertation focuses on stochastic analysis of fluid flows in domains whose rough surfaces are modeled as random fields. His work addresses some of the unresolved theoretical and practical questions concerning differential equations defined on random domains. It has significant impact on biological flows and could be extended to other areas where surface roughness affects fluid flows, such as environmental engineering and nanoscale devices.



Yawo Ezunkpe

Marty Flores, biological sciences

Flores is studying non-coding RNA as it relates to early B cell development. Using leading-edge sequencing and genome editing techniques, she is identifying novel long intergenic non-coding RNAs and determining their functions in developmental progression. Outside of the lab, Flores has served on various committees in the Division of Biological Sciences, including for admissions and recruitment. She also participates in science outreach efforts,



such as mentoring high school students through the Research Scholars Program and engaging adults in science with the Ruben H. Fleet Science Center.

Marty Flores

Lydia Hernandez, biological sciences

Hernandez uses the zebrafish model system to study cardiac morphogenesis and the molecular processes that regulate atrioventricular canal formation. Her dissertation investigates the role of Tmem2, a novel transmembrane protein, as a potential regulator of extracellular matrix in the context of heart development. Hernandez received an American Heart Association Pre-doctoral Fellowship for her research on Tmem2. In addition to her research, Hernandez serves as a graduate teaching mentor, training and guiding instructional assistants for the Division of Biological Sciences.



Lydia Hernandez

Don Johnson, chemistry and biochemistry

Johnson is working on developing methodologies for connecting data across multiple modalities. Specifically, he works on developing conductive epoxy resins for serial block face scanning electron microscopy (SBSEM), a novel electron microscopy technique aimed at collecting 3-dimensional images of a biological specimen. This technique commonly accompanies an array of other microscopy modalities, such as TEM, X-ray and light microscopy. In the long-term, SBSEM could play a central role in whole volume collection, specimen mapping and correlated microscopy.



Don Johnson

Yiheng Yvonne Wu, music

A composer and educator, Wu's instrumental music explores fragmented forms and spatiality, while her research investigates how composer György Ligeti created critical perspectives through his music. Her dissertation, a work for solo piano with a large chamber ensemble, explores ways the piano might transcend its percussive nature as its resonant body is extended across the stage by the surrounding instruments. In addition to her work, Wu has been committed to working with at-risk youth, including co-leading a multi-arts performance project with San Diego high school students and grant-writing for a nonprofit organization to help homeless teens.



Yiheng Yvonne Wu

The UC San Diego members will be formally inducted into the national organization at the 12th Annual Yale Bouchet Conference on Diversity and Graduate Education April 10 to 11. The conference provides an opportunity for graduate students to share their work, as well as network with other scholars from

across the nation who are committed to diversity in higher education.

Wu, a doctoral candidate in music composition, summed up the importance of this network: “Working toward having universities reflect the country's diversity and working to bring different voices to the table—and to have them be equally respected—are essential endeavors.”

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