Tatiane Russo-Tait (MS Cell and Molecular Biology 2011) is the Northern California Ocean Sciences Bowl (aka Sea Lion Bowl) Regional Coordinator. Each year, the Sea Lion Bowl brings together talented high school students from 16 schools across northern California. This year that number was increased when eight additional junior-varsity teams were added to accommodate the increasing interest by schools.

The one-day event test students’ knowledge of marine sciences through timed competitions with multiple choice or short-answer questions from the fields of Biology, Environmental Science, Geology, Geography, Chemical and Physical Oceanography and from topics on the contributions of the ocean including national and international economics, history, policy and culture. Winning teams from 25 regional competitions compete in the National Ocean Sciences Bowl.

Tati’s favorite part of the event is working with students and the over 100 volunteers who come from SF State’s Romberg Tiburon Center and College of Science and Engineering, UC Berkeley, UC Davis, Monterey Bay Aquarium and other marine science institutions during the months leading up to the competition. “The student scrimmages and volunteer trainings provide an opportunity for interaction, and is a great way to inspire, support and nurture the next generation of ocean science students and researchers.”

Tati is also the Program Director of the Science Supplemental Instruction (SI) Program at the Center for Science and Mathematics Education (CSME). The SI Program offers companion workshops to introductory level science courses. In these courses, instructors create a collaborative learning community focused on group discussion and problem solving with the goal of supporting student learning and enhancing student success in the main lecture course.

Tati discovered she enjoyed teaching while a graduate student in SF State’s “CIRM Bridges to Stem Cell Research” program. After participating in a “Stem Cell Awareness Day” event where she spoke to high school students, she enrolled in Dr. Kimberly Tanner’s “Science Teaching for Scientists” course, and later was selected to participate in the Science Education Partnership & Assessment Laboratory (SEPAL)’s “Community College Biology Faculty Enhancement through Scientific Teaching” (CCB FEST) program where she received additional pedagogical training, curriculum building practice and teaching experience. This Spring Tati taught “The Science and Politics of Stem Cell Biology” -- the first stem cell biology course for non-majors offered by SFSU.

“The education and training I received at SF State are invaluable to me,” said Tati. “The science education training from SEPAL provided me with a great skill set and many tools that I use every day to teach science courses, mentor undergraduate science students, train and support science instructors and run programs at the CSME.”

Editor’s note: To learn more about volunteering for the 2014 Sea Lion Bowl, visit: www.sealionbowl.org or email Tati at tati@sfsu.edu. Learn more about SEPAL’s CCB FEST program by visiting: http://sfsusepal.org/programs/ccb-fest/ To learn more about the CSME, visit: www.csmesf.org
Andrea Swei joined the Department of Biology as an Assistant Professor in the field of global health ecology in January. Before coming to SF State, she earned her Ph.D. in Ecology from UC Berkeley in 2009, and was a Ruth L. Kirschstein National Research Service Postdoctoral Fellow at UCSF’s Department of Laboratory Medicine where she investigated the pathogenicity of tick-borne pathogens. “I have been working in Lyme disease ecology for nearly 14 years, and am fascinated by the way that animal ecology, land use change and vector biology are connected.”

Dr. Swei describes the SF State’s Department of Biology faculty as “dynamic” and “collaborative” with “tons of great talent” and is looking forward to working with her new colleagues in the coming years. She will also be encouraging SF State students to develop an interest in disease ecology. “We need more trained students to deal with changing environmental conditions, and what it means for wildlife and human diseases.”

Kathryn Danielson wants to know what undergraduate science students understand about climate change and, in particular, its impact on the oceans. According to Kathryn, “There is a tacit assumption that undergraduate science students understand climate change, but there is little scientific evidence to support this assumption.”

“She earned an undergraduate degree in Integrative Biology and Environmental Studies from the University of Illinois, Urbana-Champaign in 2009, then moved to San Francisco, and began working as a teacher and naturalist at the Aquarium of the Bay on Pier 39 and taught at the Marine Science Institute in Redwood City. “After speaking with students and the public about the challenges facing our oceans,” said Kathryn, “I realized that I wanted to know more about what people thought about climate change, and how they use science to understand the environmental issues.”

She studies with Dr. Kimberly Tanner who directs SF State’s Science Education Partnership & Assessment Lab (SEPAL) which Kathryn describes as a “pioneering force in the field of discipline-based science education research.”

When asked to describe her research, she explained, “along with climate changes’ impacts of global warming, sea level rise, and melting ice, our worlds’ oceans are experiencing a drop in pH due to the absorption of anthropogenic (man-made) carbon dioxide from fossil fuel combustion. This process is known as ocean acidification, and it is expected to have profound biological and economic impacts. I want to know what conceptions and misconceptions of climate change and ocean acidification do undergraduate science students possess? How can these conceptions and misconceptions inform how we teach the science of climate change? With these findings, I hope to improve climate change education efforts, so our science students are better equipped to use the science they know to understand these processes.” Her poster “Investigating Advanced Undergraduate Science Students’ Conceptions & Misconceptions of Ocean Acidification” won first prize at the High CO2 meeting in Monterey earlier this year.

Kathryn will graduate in May with a M.S. in Marine Biology with a concentration in Science Education. She plans to pursue a Ph.D.

What do Science Students Really Understand about Climate Change?

We need to ensure that our students—our emerging experts—possess the skills necessary to effectively educate and communicate with different audiences.”

Introducing…

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