

Report on the Fourth Annual Science of Information Summer School

Brent T. Ladd, Director of Education, Center for Science of Information

The fourth annual Science of Information Summer School was held August 4-8, 2014 on the campus of University of California at San Diego. Organized by the Center for Science of Information (<http://soihub.org>), 118 students, postdocs, faculty, and professional staff took part in the school this year. A concurrent workshop for faculty and postdocs on teaching science of information courses brought faculty from across the nation who also attended the lectures at the school. The school provides a venue where doctoral and postdoctoral students can meet to learn from distinguished professors in information theory, and form friendships and collaborations. This year the school focused on the theme of information in neural systems and life sciences, supporting the life sciences thrust of the Center.



The school format included talks by distinguished scientists followed by student poster presentations. There were twelve featured speakers this year including: Todd Coleman, Robert Gray, Tatyana Sharpee, Pulkit Grover, Andrea Chiba, Asye Saygin, Shankar Subramaniam, David Kleinfeld, Ananth Grama, Tamara Berdyeva, Takaki Komiyama, and Zhying Wang representing seven universities and the Salk Institute.

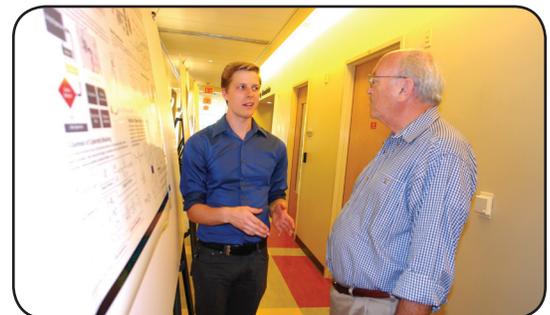


A dynamic panel session focused on mentoring and women in science took place on the first afternoon of the school titled “The Academic Family of Robert M. Gray: A panel discussion on the importance of mentoring.” The panel members were Robert Gray, Pamela Cosma, Seemeen Karimi, and Kanza Khan. Videos and slides of the lectures can be accessed from on the school page on Science of Information’s HUB via <http://soihub.org/summerschool>, as well as the Center’s YouTube Channel.



Two poster sessions took place during the school. There was a broad scope of topics presented, and many students commented that the interdisciplinary nature of the posters presented provided much insight and helpful discussions between fields. Many connections were made between the students and several mentioned possible future collaborations. Tours were conducted of Professor Coleman’s Neural

Interaction Lab in the BioEngineering Department. Students and faculty viewed first hand how the lab is bringing together the fields of information theory, neuroscience, materials and tissue engineering, and other life sciences to work on exciting solutions and products that will impact science and society.





We had perfect weather the entire week of the school. Built into the schedule were lunches and dinners that allowed ample time for students to network and discuss issues in their respective fields. The social program included dinners on the beach, with an outdoor cookout featuring authentic southern Cali tacos.

Many people helped make the 2014 school a success. Todd Coleman and Brent Ladd coordinated the program, faculty and student recruitment, Kelly Andronicos organized the faculty-student mentoring panel, Kiya Smith, Omar Vasquez, and Irene Jacobo coordinated meals, lodging, poster sessions, and many other logistics. Luke Redington and Mike Atwell conducted several onsite interviews with students and faculty. Mike Atwell video taped the lectures, took care of the web and print media duties, along with taking photographs during the school- a full school album available at <https://www.facebook.com/media/set/?set=a.685186181558904.1073741832.132095200201341&type=3> . Bob Brown and Melissa Coghill managed financials for the Center. Bob Brown, Wojtek Szpankowski, and Ananth Grama hosted the Center's advisory and industrial board members. Deepak Kumar, Brent Ladd, and Mark Ward organized the faculty teaching workshop. A big thank you to Todd Coleman and his lab for hosting the school at UCSD, along with Omar Vasquez, Irene Jacobo, and Carol Kling of the BioEngineering Department helping out onsite.

We close this report with feedback and representative quotes from attendees. In addition to gaining experience presenting their research, students report a 3.35/4 on obtaining useful feedback to their research from peers and faculty, and a 3.12/4 that they were able to start some level of professional connection with their peers for possible collaborations.

"I explained my work to different people from the center to get their insights on my work, and likewise I talked to other people about their research and made interesting connections. The quality of the talks presented at the summer school was very high, and were very inspirational. I worked with my collaborator in the center from different institution and we were able to make progress on our joint work."

"The summer school was a great experience in many ways. The lectures were very stimulating and spanned a wide range of unique research. The poster sessions were a great way to connect with researchers and learn about new concepts. The summer school also enabled me to meet with collaborators and discuss my research. During the course of the week, we determined several new exciting avenues related to my research. Additionally, the food, accommodations and location were wonderful."

"I am fulfilled after attending the summer school. I learned how to keep mentor-mentee relationship in a good shape. Also, I was impressed by how people combining biotechnology with information generated from a chip attached to human. During the poster section, I talked to about 7 people, most of them never involved in biological study. The experience is valuable for me to convey my research to people out from my field. I really appreciate the center provided me a chance to participate in the summer school."

"I thought it was wonderful to share my research with my colleagues. I also found it quite interesting to listen to work outside of my field. Although it was great to see the tie-in to Biology with the information theorists. Overall, I gained a better insight into information theory and what others in the center were doing with their research."

"One of the most important gains for me is beginning to understand what people are interested in the interdisciplinary area of information theory and neural science. In fact, I came with the intention to find the interface between network science, biology and neural science. After talking with different people and attending lectures, I think I got a bunch of ideas in this junction."



Center for Science of Information
A National Science Foundation
Science & Technology Center



<http://soihub.org>