

BY JOY KU, PhD

BCATS: Not Your Usual Biomedical Computation Conference

Outwardly, the Biomedical Computation at Stanford (BCATS) conference resembles other academic conferences: Researchers converge to hear about the latest developments in their field and to exchange ideas with colleagues. But behind the scenes at BCATS, you find an unusual situation—students, and not faculty, are the ones in charge.

For the last eight years, students have organized this annual conference where Stanford University students and post-doctoral fellows share their latest research in the field of biomedical computation. The quality and breadth of the research represented at BCATS draw hundreds of individuals from across the campus and the community. And the latest BCATS, held on October 27, 2007, at Stanford University was no exception.

Leighton Read, MD, a partner in the life sciences group at Alloy Ventures, says, “BCATS is one of the highest quality one-day conferences I can think of and it’s because it’s student-run.” Alloy Ventures, a venture capitalist firm, has supported BCATS every year since its inception in 2000. It’s not just the quality that attracts sponsors, though. BCATS “touches on everything we do,” emphasizes Read.

Scott Delp, PhD, a professor of bioengineering and mechanical engineering at Stanford University and one of the principal investigators of Simbios, another organization that sponsors BCATS, agrees. “Simbios is one slice of biocomputation at Stanford,” Delp points out, “but BCATS is the whole pie. I think it’s really important not to lose that breadth.”

This year BCATS had ten student speakers and 51 poster presenters. And the research topics spanned the field: prediction of cancer genotypes from imaging data;

automatic generation of machine-readable summaries of biomedical literature; blood velocity detection with a new ultrasound transducer; simulation of bone growth in tennis players.

Though working on seemingly unrelated problems, the students share a general interest in biomedical computation. And BCATS brings them together to discover their commonalities. For example, **Karen Sachs, PhD**, a post-doctoral student at Stanford and this year’s winner of the BCATS Best Talk Award, is a computational biologist who works in immunology. “The types of interactions I have with computational biologists are very different from those I have with immunologists and that’s very valuable to me,” she says.



For the student organizers—**Annie Chiang, PhD**, **Yael Garten**, **Jen Hicks**, **Marc Schaub**, and **Marina Sirota**—the conference was valuable in ways they hadn’t anticipated. They learned firsthand about the peer review process and managed a large budget. They also became much more familiar with the biomedical computational research going on at Stanford.

And then there’s that euphoric feeling that comes from creating something that has impact. Chiang says there is a “sense of pride to have brought forth all these interactions and collaborations.” □

WANT TO FIND OUT MORE ABOUT BCATS?

The BCATS website (<http://bcats.stanford.edu>) lists abstracts and information from all previous BCATS conferences, and provides information about next year’s event. If you are interested in helping next year, e-mail the organizers at bcats-2007-organizers@lists.stanford.edu.

BCATS WINNERS

Five individuals received the Outstanding Poster Award this year: **Gilwoo Choi** (abdominal aortic 3D deformations); **Rebecca Taylor** (bone growth modeling in tennis players); **Gennadiy Chuyeshov** (stereo imagery for guidewire localization during endovascular interventions); **Melinda J. Cromie** (effects of posterior cruciate ligament removal in total knee arthroplasty); **Aaron S. Wang** (image-based models of blood flow in the human upper extremity arteries).

You can check out their posters, along with Karen Sachs’ award-winning presentation on “Learning Signaling Pathway Structures from Single Cell Measurements of Network Subsets,” at <http://biomedicalcomputationreview.org/4/1/posters.html>.



Simbios is a National Center for Biomedical Computing located at Stanford University.