



11th Annual Coordinated Science Lab Student Conference, 2016

Final Report

The CSL Student Conference is a completely student run conference featuring invited talks by distinguished speakers from academia and industry, and exceptional students from CSL, University of Illinois at Urbana– Champaign, and other top universities. The 11th Annual CSL Student Conference (CSLSC) was held on the 18th and 19th of February, 2016, with an opening plenary on the 17th of February, 2016.

The main goal of the conference is to enable CSL students to present their work and interact with faculty, invited speakers, industry representatives, and invited students from other top schools. The conference engages students and faculty from various departments at the University of Illinois working on various topics in control, computing, communications, signal processing and electronics. The multidisciplinary nature of the conference is one that fosters collaboration between students working in different areas. The conference promotes research through an environment of learning, interaction and collaboration.

The flagship themes of this edition of the conference were Decision and Control, and Machine Learning. In addition to a day of the two-day conference dedicated to the various fields in decision and control theory ranging from Robotics and Networks to Game Theory and Data centers, many topics covered in the conference such as communications and networks, are relevant to students working in control theory.

The conference included an opening plenary talk, 4 keynote talks, and 4 invited student talks. Further, the conference served as platform for 15 student talks from CSL and affiliated departments of UIUC. The poster session included 25 compelling posters. The newly included graduate student job fair saw a footfall of nearly 200 students and 14 companies.

Major Achievements and New Initiatives

The conference has expanded and in the 11th edition embarked on brand new attempts at making it a more inclusive event by inviting students and researchers from various universities, industry and a variety of facets of the research community. As is the belief and goal of CSL, the conference promotes collaboration, healthy interaction and interdisciplinary research.

The 11th conference saw the participation of over 400 students (about triple the number of registrants in the previous year) and served a wide demographic of the research fraternity. The organizing committee believes that this is due to the new initiatives taken, which are summarized as follows:

- The opening plenary: In collaboration with Hadoop User-Group, the conference kicked off with a plenary talk by Dr. Andy Feng, VP Architecture at Yahoo! The talk was entitled “Large-Scale Machine Learning: Use Cases, Datasets and Technology”. The plenary talk provided insights on the control theory’s impact on learning. The talk witnessed an audience of more than 130 people.



- For the first time, the conference had a graduate student job fair, which saw a footfall of nearly 200 students and 14 companies. This served as an avenue for graduate students to interact with professionals from industry and seek possible career and internship opportunities. Companies that participated include –but not limited to- IBM Research, Google, Yahoo!, and Intel. Additionally, in collaboration with the Graduate College at the University of Illinois at Urbana-Champaign, the conference had proofreading session for student résumés and CVs.



- Awards: with the aim of motivating excellent students in CSL, the conference introduced best talk and best poster awards. The organizing committee planned with anonymous postdocs at CSL to serve as referees.



- In the media: the conference had local media coverage and an interview with the Smile Politely Magazine. The article can be found [here](#).

[Keynote Talks](#)

The conference included keynote talks by prominent researchers from industry and academia. The talks were on a wide range of topics catering to the variety of research areas in CSL and saw the attendance of an average of more than 70 students from all over the university.



1. **Prof. Adam Wierman** (Professor of Computing and Mathematical Sciences, the California Institute of Technology): “Data centers & Energy: Did we get it backwards?”
2. **Prof. Jessy Grizzle** (Professor of Electrical Engineering and Computer Science, University of Michigan – Ann Arbor): “Taking Bipedal Robots from Science Fiction to Science Fact”
3. **Dr. Michael Rubinstein** (Research Scientist, Google): “The Motion Microscope”
4. **Dr. Rajiv Maheswaran** (CEO and Co-Founder, Second Spectrum): “How Data Enables Machine Understanding of Sports”

[Invited Student Talks](#)

The 10th edition of the conference introduced the concept of inviting students from other universities to give talks. The idea was successful and the feedback was positive. Given this success, the 11th conference also had 4 invited students. The committee reached out to about 10 universities, received about 25 abstracts, and selected 4 PhD students to present at the conference. The invited students were:

1. **Dorsa Sadigh** (Electrical Engineering and Computer Sciences, University of California – Berkeley): “Learning and Safe Control for Human Cyber-Physical Systems”
2. **Federico Parietti** (Department of Mechanical Engineering, Massachusetts Institute of Technology): “Independent Control of Supernumerary Robotic Limbs for Human Augmentation”

3. **Pengtao Xie** (Machine Learning Department, Carnegie Mellon University): “Latent Variable Modeling with Diversity-Inducing Mutual Angular Regularization”
4. **Zhengyuan Zhou** (Department of Electrical Engineering, Stanford University): “Wireless Communications Games in Fixed and Random Environments”

The committee found that inviting students from other universities was fruitful, and one invited students participated in the interview with the Smile Politely Magazine (article can be found [here](#)) and said:

“Most conferences you go to, the lectures have maybe a thousand people in them. It’s impossible to get to the front and speak with the presenter in person. Here, there were maybe 100 people, maybe a little more. I was able to have meaningful interactions with the presenters and the attendees, and consistently received qualified feedback about my own research. That’s important to me because I’m trying to graduate right now, and it’s been really very helpful.”,
Federico Parietti.



Left to right: Sara Bahramianparchekoohi (Co-Chair), Emilio T. Jasso (Journalist), Khaled Alshehri (Co-Chair), and Federico Parietti (Invited Student)

UIUC Student Talks

The committee also invited abstracts from students of CSL and other departments of University of Illinois Urbana-Champaign and selected the best 15 submissions in topics ranging across the spectrum of research areas catering to CSL. A comprehensive list of the speakers, their abstracts can be found on our [website](#).

Poster Session

The conference also included a poster session, with 25 posters from different departments within the university. The details of the posters can be found on the [website](#).



Panel Discussion

A discussion with a panel comprised of Dr. Rajiv Maheswaran (Second Spectrum), Dr. Michael Rubinstein (Google), Prof. R Srikant, Prof. Olgica Milenkovic, and Prof. Grace Xingxin Gao (University of Illinois at Urbana – Champaign) was also conducted and served as an avenue for graduate students to engage in discussions on topics such as PhD life, emerging research topics, the quality and contribution of research in industry. It was a great success.



Thanks to IEEE Control Systems Society

The organizing committee believes that the continued generous support from IEEE CSS made it possible for the CSL Student Conference to grow and become a great success story demonstrating the capabilities and professionalism of graduate students who are members of IEEE CSS.