Summary of the *26th Southern California Control Workshop*

The 26th Southern California Control Workshop was held on April 11, 2014 at the University of California, Santa Barbara (UCSB).   Over 100 faculty and students from universities in the Southern California area attended the event.   Registration included 39 participants from UCSB, 18 participants from UC San Diego, 18 participants from UC Riverside, 10 participants from USC, 8 participants from UCLA, and 8 participants from Caltech, for a total of 101 registered participants.   Several addition students from these universities also attended but did not register. Hence, a reasonable estimate of the total attendance is 125 people.

The workshop included 13 talks, each 25 minutes in duration with 5 additional minutes for questions, presented by graduate students and post-doctoral students from the participating universities.   Topics included adaptive control, nonlinear output regulation, nonlinear observer design, control of infinite dimensional systems including PDEs and time-delay systems, the analysis of pattern formation, Markov chains, and distributed optimization, control based on dynamic programming, and estimation, control, and trajectory planning for land and ocean robots.

In addition to the talks, two 30-minute coffee breaks enabled the participants to network with other students and faculty and look for common research interests.   Another opportunity for interaction was provided by the 90-minute lunch period; the provided boxed lunches encouraged the participants to stay near the workshop location and discuss their work and plans.

The discussions during the question and answer sessions as well as during the breaks were very lively.   Overall, the workshop appears to have made a very positive impression on the students who participated.   In summary, the workshop was a tremendous success.   The organizers are grateful to the IEEE CSS Outreach Fund Committee for choosing to provide partial support for the workshop.

26th Southern California Control Workshop

Friday, April 11, 2014 | West Campus Conference Center, UCSB

8:30 – 9:00 am	Continental Breakfast (coffee, bagels, etc)

9:00-10:30am	Session 1	Chair: Andy Teel (UCSB)
9:00-9:30am	*Unfalsified Adaptive Control: Multi-objective Cost Detectable Cost Functions*	Kiran Sajjanshetty (USC)
9:30-10:00am	*Robust Design of Internal Models by Nonlinear Regression*	Francesco Forte (UCSB)
10:00-10:30am	*Nonlinear Observer Design with Applications in Neuroscience*	Michelle Chong (UCSB)

10:30 – 11:00 am	Coffee Break

11:00-12:30pm	Session 2	Chair: Florian Dörfler (UCLA)
11:00-11:30am	*Backstepping-Forwarding Control Design for Hyperbolic Systems with Fredholm Integrals*	Federico Bribiesca Argomedo (UCSD)
11:30-noon	*Noise-induced Turing Instability and Pattern Formation in Stochastic Reaction-Diffusion Systems*	Yutaka Hori (Caltech)
12:00-12:30pm	*Stability and Stabilization of Linear Systems with Time-varying Delays--a Small-gain Perspective*	Zing Jhu (UCR)

12:30-1:30 pm	Lunch Break (boxed lunches)

1:30-3:00pm	Session 3	Chair: Jie Chen (UCR)
1:30-2:00pm	*Markov Chains with Minimum First Passage Time*	Rush Patel (UCSB)
2:00-2:30pm	*Metastable Markov Chains Explained*	Oguz Saglam (UCSB)
2:30-3:00pm	*Regret Analysis for Distributed online Convex Optimization over Time-varying Weight-balanced Digraphs*	David Mateos-Núñez (UCSD)

3:00-3:30 pm	Coffee Break

3:30-5:30pm	Session 4	Chair: Mike Safonov (USC)
3:30-4:00pm	*Empirical Dynamic Programming*	Dileep Kalathil (USC)
4:00-4:30pm	*Stochastic Optimal Coordination of Small UAVs for Target Tracking using Regression-based Dynamic Programming*	Steven Quintero (UCSB)
4:30-5:00pm	*Coordinated Estimation and Control by Robotic Drifters in Ocean Internal Waves*	Mike Ouimet (UCSD)
5:00-5:30pm	*Trajectory Planning for Robosimian*	Brian Satzinger (UCSB)

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