2010 48th Annual Allerton Conference on Communication, Control, and Computing

(Allerton 2010)

Monticello, Illinois, USA
29 September – 1 October 2010

Pages 1-874

TABLE OF CONTENTS

WeA3 – Wireless   *Butternut*

WeA4 – Information Divergence and Stochastic Dynamical Systems – Part 1   *Pine*

    Organizer(s):   Todd Coleman, *University of Illinois at Urbana-Champaign*

                               Giacomo Como, *MIT*

                               Maxim Raginsky, *Duke University*

WeA5 – Detection and Estimation I – Part 1   *Lower Level*

WeA6 – Codes on Graphs – Part 1   *Visitor Center*
    Organizer(s):   Olgica Milenkovic, *University of Illinois at Urbana-Champaign*

WeB1 – Coding Techniques I – Part 2   *Library*

WeB2 – Design and Operation of
Power Grid and Energy Markets – Part 2   *Solarium*

Organizer(s):   Sean Meyn, *University of Illinois at Urbana-Champaign*
Uday Shanbhag, *University of Illinois at Urbana-Champaign*

WeB3 – Wireless Communication I   *Butternut*

WeB4 – Information Divergence and Stochastic Dynamical Systems – Part 2 *Pine*

Organizer(s): Todd Coleman, *University of Illinois at Urbana-Champaign*
Giacomo Como, *MIT*
Maxim Raginsky, *Duke University*

WeB5 – Detection and Estimation I – Part 2 *Lower Level*

WeB6 – Codes on Graphs – Part 2   *Visitor Center*
Organizer(s): Olgica Milenkovic, *University of Illinois at Urbana-Champaign*

WeC1 – Coding Theory   *Library*
Organizer(s): Olgica Milenkovic, *University of Illinois at Urbana-Champaign*
                    Navin Kashyap, *Queen's University*

WeC2 – Wireless Networks   *Solarium*

    Organizer(s):   Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
                         Pramod Viswanath, *University of Illinois at Urbana-Champaign*

WeC3 – Coding Techniques II   *Butternut*

WeC4 – Markov Chain Monte Carlo Detection *Pine*

Organizer(s): Rongrong Chen, *University of Utah*
Andrew Singer, *University of Illinois at Urbana-Champaign*

WeC5 – Wireless Systems *Lower Level*

Organizer(s): P.R. Kumar, *University of Illinois at Urbana-Champaign*
Piyush Gupta, *Bell Lab. Alcatel-Lucent*

WeC6 – Games and Distributed Control – Part 1   *Visitor Center*

WeD1 – Detection and Estimation II *Library*

WeD2 – Information Theory I *Solarium*

Organizer(s): Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
        Pramod Viswanath, *University of Illinois at Urbana-Champaign*

WeD3 – Stochastic Networks: Control and Performance Analysis   *Butternut*

Ciucu, Florin*   *Technical University of Berlin*
Hohlfeld, Oliver   *Technical University of Berlin*
Hui, Pan   *Technical University of Berlin*

Ouyang, Wenzhuo*   *Ohio State University*
Murugesan, Sugumar   *Ohio State University*
Eryilmaz, Atilla   *Ohio State University*
Shroff, Ness B.   *Ohio State University*

Kanizo, Yossi*   *Technion*
Hay, David   *Columbia University*
Keslassy, Isaac   *Technion*

Liu, Shihuan*   *Iowa State University*
Ekici, Eylem   *Ohio State University*
Ying, Lei   *Iowa State University*

Li, Bin*   *Ohio State University*
Eryilmaz, Atilla   *Ohio State University*

WeD4 – Statistical and Signal Processing   *Pine*

Chandrasekaran, Venkat*   *Massachusetts Institute of Technology*
Recht, Benjamin   *University of Wisconsin-Madison*
Parrilo, Pablo A.   *Massachusetts Institute of Technology*
Willsky, Alan S.   *Massachusetts Institute of Technology*

Balzano, Laura   *University of Wisconsin, Madison*
Nowak, Robert   *University of Wisconsin, Madison*
Recht, Benjamin*   *University of Wisconsin-Madison*

Tan, Vincent Y.F.*   *Massachusetts Institute of Technology*
Anandkumar, Animashree   *University of California Irvine*
Willsky, Alan S.   *Massachusetts Institute of Technology*

Choi, Myung Jin*   *Massachusetts Institute of Technology*
Tan, Vincent Y.F.   *Massachusetts Institute of Technology*
Anandkumar, Animashree   *University of California Irvine*
Willsky, Alan S.   *Massachusetts Institute of Technology*

WeD5 – Source Coding   *Lower Level*

WeD6 – Games and Distributed Control – Part 2   *Visitor Center*

ThA1 – New Results in Decentralized and Distributed Decision Making – Part 1 *Library*
Organizer(s): Nuno Martins, *University of Maryland*
Prashant Mehta, *University of Illinois at Urbana-Champaign*

ThA2 – Information Theory II *Solarium*
Organizer(s): Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
Pramod Viswanath, *University of Illinois at Urbana-Champaign*

ThA3 – Capacity Computation   *Butternut*

ThA4 – Information Theory and Cooperative Communication – Part 1   *Pine*

ThA5 – Networks, Games and Performance Analysis I – Part 1 *Lower Level*

Organizer(s): R. Srikant, *University of Illinois at Urbana-Champaign*
Bruce Hajek, *University of Illinois at Urbana-Champaign*

ThA6 – Group Testing   *Visitor Center*
Organizer(s):   Olgica Milenkovic, *University of Illinois at Urbana-Champaign*

A Survey of Recent Results on Group Testing with Inhibitors .... **n/a**
De Bonis, Annalisa*   *Universita degli Studi di Salerno*

Quantitative Group Testing: Designs, Algorithms, and Biological Applications .... **n/a**
Gilbert, Anna*   *University of Michigan*

Frameproof Codes and Compressive Sensing **985**
Colbourn, Charles J.*   *Arizona State University*
Horsley, Daniel   *Arizona State University*
Syrotiuk, Violet R.   *Arizona State University*

Derandomization and Group Testing **991**
Cheraghchi, Mahdi*   *EPFL*

Note on Noisy Group Testing: Asymptotic Bounds and Belief Propagation Reconstruction **998**
Sejdinovic, Dino*   *University of Bristol*
Johnson, Oliver   *University of Bristol*

ThB1 – New Results in Decentralized and
Distributed Decision Making – Part 2   *Library*
Organizer(s):   Nuno Martins, *University of Maryland*
Prashant Mehta, *University of Illinois at Urbana-Champaign*

**On the Stabilization of LTI Decentralized Configurations under
Quadratically Invariant Sparsity Constraints** **1004**
Sabău, Şerban*   *University of Maryland*
Martins, Nuno C.   *University of Maryland*

LQG Control Approach to Gaussian Broadcast Channels with Feedback **1011**
Ardestanizadeh, Ehsan   *University of California, San Diego*
Minero, Paolo*   *University of California, San Diego*
Franceschetti, Massimo   *University of California, San Diego*

Designing Node and Edge Weights of a Graph to Meet Laplacian Eigenvalue Constraints **1016**
Shafi, S. Yusef*   *University of California, Berkeley*
Arcak, Murat   *University of California, Berkeley*
El Ghaoui, Laurent   *University of California, Berkeley*

Linearly Coupled Communication Games **1024**
Su, Yi*   *University of California Los Angeles*
van der Schaar, Mihaela   *University of California Los Angeles*

ThB2 – Information Theory III   *Solarium*

Organizer(s):   Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
Pramod Viswanath, *University of Illinois at Urbana-Champaign*

ThB3 – Communication Theory   *Butternut*

ThB4 – Information Theory and Cooperative Communication – Part 2   *Pine*

ThB5 – Networks, Games and Performance Analysis I – Part 2   *Lower Level*

    Organizer(s):   R. Srikant, *University of Illinois at Urbana-Champaign*
                                    Bruce Hajek, *University of Illinois at Urbana-Champaign*

ThB6 – Distribution Estimation and Statistics *Visitor Center*

Organizer(s): Olgica Milenkovic, *University of Illinois at Urbana-Champaign*
Alon Orlitsky, *University of California, San Diego*
Narayana Prasad Santhanam, *University of Hawaii*

ThC1 – Dynamic Learning in Games and Networks *Library*

Organizer(s): Angelia Nedich, *University of Illinois at Urbana-Champaign*

ThC2 – Wireless Communication II — *Solarium*

Organizer(s): Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
Pramod Viswanath, *University of Illinois at Urbana-Champaign*

ThC3 – Security — *Butternut*

Organizer(s): Negar Kiyavash, *University of Illinois at Urbana-Champaign*
Yingbin Liang, *Syracuse University*

ThC4 – Communications   *Pine*

ThC5 – Networks, Games and Performance Analysis II – Part 1   *Lower Level*
    Organizer(s):   R. Srikant, *University of Illinois at Urbana-Champaign*
                             Bruce Hajek, *University of Illinois at Urbana-Champaign*

ThC6 – Information Theory   *Visitor Center*

ThD1 – Dynamic Programming and Learning   *Library*

    Organizer(s):   Enlu Zhou, *University of Illinois at Urbana-Champaign*
                              Shie Mannor, *Technion, Israel*

ThD2 – Information Theory IV   *Solarium*

Organizer(s):   Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
Pramod Viswanath, *University of Illinois at Urbana-Champaign*

ThD3 – Communication Techniques   *Butternut*

ThD4 – Wireless Networks and Inference   *Pine*

ThD5 – Networks, Games and Performance Analysis II – Part 2   *Lower Level*
    Organizer(s):   R. Srikant, *University of Illinois at Urbana-Champaign*
                        Bruce Hajek, *University of Illinois at Urbana-Champaign*

ThD6 – Network Coding   *Visitor Center*

FrPP – Plenary Talk   *Library*

FrA1 – Networked Systems
   Organizer(s):   P.R. Kumar, *University of Illinois at Urbana-Champaign*
                       Piyush Gupta, *Bell Lab. Alcatel-Lucent*

Qian, Dajun*   *Arizona State University*
Zhang, Junshan   *Arizona State University*
Pataguppe Suryanarayan Bhat, Chandrashekhar Thejaswi   *Arizona State University*

Chen, Yuxin   *Stanford University*
Sanghavi, Sujay*   *University of Texas at Austin*

Baryshnikov, Yuliy*   *Bell Laboratories*

Reddy, Akula Aneesh   *University of Texas at Austin*
Banerjee, Siddhartha   *University of Texas at Austin*
Gopalan, Aditya   *University of Texas at Austin*
Shakkottai, Sanjay*   *University of Texas at Austin*
Ying, Lei   *Iowa State University*

FrA2 – Signal Processing/Sensor Networks   *Solarium*
Organizer(s):   Venugopal Veeravalli, *University of Illinois at Urbana-Champaign*
Pramod Viswanath, *University of Illinois at Urbana-Champaign*

Karumbu, Premkumar   *Indian Institute of Science*
Venkata K., Prasanthi M.   *Indian Institute of Science*
Kumar, Anurag*   *Indian Institute of Science*

Nazer, Bobak*   *University of Wisconsin, Madison*
Nowak, Robert D.   *University of Wisconsin, Madison*

Paschalidis, Ioannis Ch.*   *Boston University*
Lai, Wei   *Columbia Management*
Huang, Fuzhuo   *Boston University*

Kreidl, O. Patrick   *Massachusetts Institute of Technology*
Tsitsiklis, John N.   *Massachusetts Institute of Technology*
Zoumpoulis, Spyros I.*   *Massachusetts Institute of Technology*

Chandrasekaran, Venkat*   *Massachusetts Institute of Technology*
Parrilo, Pablo A.   *Massachusetts Institute of Technology*
Willsky, Alan S.   *Massachusetts Institute of Technology*

FrA3 – Engineering Reliable and Trustworthy
Cyber-Physical Electric Power Systems   *Butternut*

Organizer(s):   Alejandro Dominguez-Garcia, *University of Illinois at Urbana-Champaign*
William Sanders, *University of Illinois at Urbana-Champaign*

FrA4 – Multi-Agent and Cooperative Control   *Pine*

Organizer(s):   Nikhil Chapra, *University of Maryland*
Todd Coleman, *University of Illinois at Urbana-Champaign*
Prashant Mehta, *University of Illinois at Urbana-Champaign*

FrA5 – Stochastic Analysis of Complex Systems   *Lower Level*
Organizer(s): Alessandro Pinto, *United Technology Research Center*
Amit Surana, *United Technology Research Center*
Sean Meyn, *University of Illinois at Urbana-Champaign*

FrA6 – Compressive Sensing and Low-Rank Matrix Completion   *Visitor Center*
Organizer(s): Olgica Milenkovic, *University of Illinois at Urbana-Champaign*
Wei Dai, *University of Illinois at Urbana-Champaign*

Author Index