

Day	Time	Session
June 9	20:00	Welcome Reception
June 10	9:15-10:00	Keynote Talk 1 : “ Distributed consensus and averaging ”, <i>John N. Tsitsiklis</i>
	10:15-11:15	Invited Session 1: Networks and Security (organizer: J. Barros)
	11:15-11:30	Coffee break
	11:30-12:30	Invited Session 2: Capacity of Wireless Networks (organizer: M. Franceschetti)
	12:30-14:30	Lunch break
	14:30-15:30	Invited Session 3: Information Theory and Statistics in Networking (organizer: M. Madiman)
	15:45-17:05	Contributed Sessions 1: Room A: Channel Coding 1 Room B: Relay/Routing 1 Room C: Information/Computation/Statistics
	17:05-17:20	Coffee break
	17:20-18:20	Contributed Sessions 2: Room A: Channel Coding 2 Room B: Shannon Theory Room C: Communication Networks 1
June 11	9:15-10:00	Keynote Talk 2: “ Towards a Network Measurement Science ”, <i>Don Towsley</i>
	10:15-11:15	Invited Session 4: Network Coding (organizer: M. Medard)
	11:15-11:30	Coffee break
	11:30-12:30	Invited Session 5: Network Game Theory (organizer: A. Ozdaglar)
	12:30-14:30	Lunch break
	14:30-15:30	Invited Session 6: Coding and Information Theory in Life Sciences (organizer: O. Milenkovic)
	15:45-17:05	Contributed Sessions 3: Room A: Source Coding 1 Room B: Relay/Routing 2 Room C: Communication Networks 2
	20:00	Gala Dinner
June 12	9:15-10:00	Keynote Talk 3: Christos Papadimitriou
	10:15-11:15	Invited Session 7: MIMO Wireless Communications (organizer: Y. Steinberg)
	11:15-11:30	Coffee break
	11:30-12:30	Invited Session 8: Approaching the rate distortion function (organizer: S. Verdu)
	12:30-14:30	Lunch break
	14:30-15:30	Invited Session 9: Statistical Inference for Large Data Sets (organizer: M. Wainwright)
	15:45-17:05	Contributed Sessions 4: Room A: Source Coding 2 Room B: Network Coding 1 Room C: Cognitive Radio Networks
	17:20-18:20	Contributed Sessions 5:

		Room A: <i>Channel Capacity</i> Room B: <i>Network Coding 2</i> Room C: <i>Interference Networks</i>
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June 10 Wednesday

9:15-10:00:

Keynote Talk 1: “Distributed consensus and averaging”

John N. Tsitsiklis, Massachusetts Inst. of Technology, USA

10:15-11:15:

Invited session 1: *Networks and Security* (organizer: J. Barros)

“On Oblivious Transfer Capacity”

R. Ahlswede, Bielefeld Univ., Germany, I. Csiszar, Renyi Instit. of Math., Hungary

“Multiterminal Secrecy Generation”

I. Csiszar, Renyi Instit of Math., Hungary, P. Narayan, Univ. of Maryland, USA

“Trust and Reputation in Communication, Social and Biological Autonomic Networks”

J. S. Baras Univ. of Maryland, USA

11:30-12:30:

Invited session 2: *Capacity of Wireless Networks* (organizer: M. Franceschetti)

“Wireless Network Information Theory: A Brief Account Since 2000”

P.R. Kumar, Univ. of Illinois at Urbana Champaign, USA

“Wireless Network Error Correction”

S. Diggavi, EPFL, Switzerland

“The Transmission Capacity of Uncoordinate Wireless Access Networks”

S. Weber, Drexel Univ., USA

14:30-15:30:

Invited session 3: *Information Theory and Statistics in Networking* (organizer: M. Madiman)

“Clustering Phenomena in Message-Passing Schemes”

S. Tatikonda, Yale Univ., USA

“Harnessing Bursty Interference”

N. Khude, V. Prabhakaran, P. Viswanath, Univ. of Illinois at Urbana Champaign, USA

“Testing Goodness-of-fit via Rate Distortion”

P. Harremoes, CWI, Netherlands

15:45-17:05:

Contributed sessions 1:

- **Room A: *Channel Coding 1***

“Coding Efficiency and Reliability in Probe-based Storage Devices”

M. Varsamou, T. Antonakopoulos, Univ. of Patras, Greece

“Constructing Optimal Whole-Bit Recycling Codes”

D. Dubé, V. Beaudoin, Univ. Laval, Canada

“On the Random Coding Exponent of Nonlinear Gaussian Channels”

K. Xenoulis, N. Kalouptsidis, Univ. of Athens, Greece

“Secret Bits Through Queues”

B. Dunn, M. Bloch, J. N. Laneman, Univ. of Notre Dame, USA

- **Room B: Relay/Routing 1**

“Instantaneous Forwarding Strategies for Relay Channels with Known Interference”

M. Nasiri Khormuji, M. Skoglund, Royal Inst. of Techn, Sweden

“Relaying Simultaneous Multicast Messages”

D. Gunduz, Princeton Univ, USA, O. Simeone, N.J. Inst. of Tech., USA, A. Goldsmith, Stanford Univ, USA, H. V. Poor, Princeton Univ, USA, S. Shamai, The Technion, Israel

“Multirelay Channel with Non-Ergodic Link Failures”

O. Simeone, N.J. Inst. of Tech, USA, O. Somekh, Princeton Univ., USA, E. Erkip, Polytech Inst. of NYU, USA, H. V. Poor, Princeton Univ, USA, S. Shamai, The Technion, Israel

“Capacity Region of the Deterministic Multi-pair bi-directional Relay Network”

A. Avestimehr, A. Khajehnejad, Caltech, USA, A. Sezgin, Univ of California Irvine, USA, B. Hassibi, Caltech, USA

- **Room C: Information/Computation/Statistics**

“Statistical SVMs for Robust Detection, Supervised Learning, and Universal Classification”

D. Huang, J. Unnikrishnan, S. Meyn, V. Veeravalli, Univ of Illinois Urbana Champaign, USA, A. Surana, United Techn. Research Center, USA

“Estimating the Residual Waiting Time for Binary Stationary Time Series”

G. Morvai, MTA-BME Stochastics Research Group, Hungary, B. Weiss, Hebrew Univ. of Jerusalem, Israel

“An MSE-tunable Linear Estimator with Conditional Dominance over Least-squares Estimation”

V. Prabhu, Indian Inst. of Techn, Madras, India, D. Toumpakaris, Univ. of Patras, Greece

“Distributed Symmetric Function Computation over Communication Networks”

N. Karamchandani, R. Appuswamy, M. Franceschetti, Univ. of California San Diego, USA

17:20-18:20:

Contributed sessions 2:

- **Room A: Channel Coding 2**

“Limited Feedback for Multicarrier Block Fading Channels: A Rate Distortion Approach”
M. Agarwal, D. Guo, M. Honig, Northwestern Univ., USA

“On LDPC Codes over Symmetric Channels”
H. Saeedi, H. Pishro-Nik, Univ. of Massachusetts Amherst, USA

“Efficient Iterative Sphere Detectors Based On the Schnorr-Euchner Enumeration”
M. Samuel, M. Fitz, Univ. of California L.A., USA

- **Room B: Shannon Theory**

“On Minimization of Multivariate Entropy Functional”
I. Csiszar, Renyi Inst, Hungarian Academy of Science, Hungary, F. Matus, Academy of Sciences of the Czech Republic, Czech Republic

“A Simple Memoryless Proof of the Capacity of the Exponential Server Timing Channel”
T. Coleman, Univ. of Illinois, USA

“A Model for Pricing Data Bundles Based on Minimax Risks for Estimation of a Location Parameter”
M. Madiman, A. Barron, Yale Univ., USA, A. Kagan, T. Yu, Univ. of Maryland, USA

- **Room C: Communication Networks I**

“A Cross-layer View of Wireless Multicasting under Uncertainty”
A. Pantelidou, A. Ephremides, Univ. of Maryland College Park, USA

“Cross Layer Optimization of Static Lightpath Demands in Transparent WDM Optical Networks”
K. Christodoulopoulos, K. Manousakis, E. Varvarigos, Univ. of Patras, Greece

“Finite-State Broadcast Channels with Feedback and Receiver Cooperation”
R. Dabora, A. Goldsmith, Stanford Univ., USA

June 11 Thursday

9:15 -10:00:

Keynote Talk 2: “Towards a Network Measurement Science”

Don Towsley, Univ. of Massachusetts Amherst, USA

10:15-11:15

Invited session 4: Network Coding (organizer: M. Medard)

(Title to be announced)
Kannan Ramchandran, Univ. of California at Berkeley, USA

“On the Capacity of Multi-source Network Coding”
M. Jafari Siavoshani, S. Mohajer, Ch. Fragouli, S. Diggavi, EPFL, Switzerland

“Delay Performance of Network Coding and the Analysis of Coupled Queues”
O. Abdelrahman, Imperial College London, UK

11:30-12:30:

Invited session 5: Network Game Theory (organizer: A. Ozdaglar)

“Information Theory meets Game Theory”

R. A. Berry, Northwestern Univ., USA, D. N. C. Tse, Univ. of California Berkeley, USA

“Comparing Multilateral and Bilateral Exchange Models for Content Distribution”

Ch. Aperjis, R. Johari, M. J. Freedman, Stanford Univ., USA

“A Game Theoretic Approach to Network Coding”

J. R. Marden, M. Effros, Caltech, USA

14:30-15:30:

Invited session 6: Coding and Information Theory in Life Sciences (organizer: O. Milenkovic)

“Information Theory of the Perception-Action Cycle”

N. Tishby, The Hebrew Univ., Jerusalem, Israel

“Anthropic Correction of Information Estimates”

M. C. Gastpar, Univ. of California Berkeley, USA, P. R. Gill, Cornell Univ., USA, F. E. Theunissen, Univ. of California Berkeley, USA

“Information Theoretic Modeling of Gene Interaction”

N. P. Santhanam, Univ. of Hawaii Manoa, USA

15:45-17:05:

Contributed Sessions 3:

- **Room A: Source Coding 1**

“Coding for Noisy Quadratic-Gaussian Wyner-Ziv Problem: A Successive Quantization Approach”

S. C. Lin, S. J. Lin, K. S. Chen, H. J. Su, National Taiwan Univ., Taiwan

“Binary Erasure Multiple Descriptions with at Most Two Receptions”

E. Ahmed, A. Wagner, Cornell Univ., USA

“Distortion-Rate Functions for Quantized Compressive Sensing”

W. Dai, H. Pham, O. Milenkovic, Univ. of Illinois at Urbana Champaign, USA

“Rate-Distortion Optimized Network Communication Using Generalized MDC”

M. Shao, S. Dumitresku, X. Wu, McMaster Univ., Canada

- **Room B: Relay/Routing 2**

“Optimal Amplify and Forward Strategy for Two-Way Relay Channel with Multiple Relays”

R. Vaze, R. Heath, Univ. of Texas at Austin, USA

“Analysis of Contention-based Relay Selection Mechanisms in Autonomous Multi-hop Networks”

C. Morais de Lima, G. Abrey, Univ. of Oulu, Finland

“On the Capacity of the Erasure Multiple Relay Channel”

S. Puducheri, T. Fuja, Univ. of Notre Dame, USA

“Mutual Information of Amplify-and-Forward DSTBCs over the Random Set Relay Channel”
Q. Xue, G. Abreu, Univ. of Oulu, Finland, B. Aazhang, Rice Univ.

- **Room C: Communication Networks 2**

“Opportunistic Scheduling using Compress Sensed Medium Access”
S. Bhaskaran, S. Hanly, A. Grant, P. Tune, Univ. of Melbourne, Australia

“Approximately Optimal Utility Maximization”
A. Nedich, Univ. of Illinois at Urbana Champaign, USA, V. Subramanian, National Univ. of Ireland, Maynooth, Ireland

“A Mechanism for Pricing Service Guarantees”
B. Hajek, Univ. of Illinois at Urbana Champaign, USA, S. Yang, Qualcomm Flarion Techn., USA

June 12 Friday

9:15-10:00:

Keynote Talk 3: Keynote Talk 2: (title to be announced)
Christos Papadimitriou, Univ. of California – Berkeley, USA

10:15-11:15:

Invited session 7: MIMO Wireless Communications (organizer: Y. Steinberg)

“A Channel-Enhancement Approach to the Secrecy Capacity of the Multiantenna Wiretap Channel”
T. Liu, Texas A&M Univ., USA, S. Shamai, Technion, Israel

“Three-User MIMO MACs with Cooperation”
M. Wigger, ETH Zurich, Switzerland, G. Kramer, Univ. of S. California, USA

“Optimized Training and Feedback for MIMO Downlink Channels”
M. Kobayashi, SUPELEC, France, N. Jindal, Univ. of Minnesota, USA, G. Caire, Univ. of S. California, USA

11:30-12:30:

Invited session 8: Approaching the rate distortion function (organizer: S. Verdú)

“Low-density Constructions and Message-Passing for Lossy Compression of Continuous Sources”
M. J. Wainwright, Univ. of California Berkeley, USA

“An Iterative Scheme for Near Optimal and Universal Lossy Compression”
S. Jalali, A. Montanari, T. Weissman, Stanford Univ., USA

“Efficient Random Codebooks and Databases for Lossy Compression in Near-Linear Time”
Ch. Gioran, I. Kontoyiannis, Athens Univ. of Economics and Business, Greece

14:30-15:30:

Invited session 9: Statistical Inference for Large Data Sets (organizer: M. Wainwright)

“Sparse Markov Source Estimation via Transformed Lasso”

T. Roos, Helsinki Inst. for Information Techn., Finland, B. Yu, Univ. of California at Berkeley, USA

“High Dimensional Principal Component Analysis with Contaminated Data”

H. Xu, McGill Univ. / UT Austin, Canada/USA, C. Caramanis, Univ. of Texas Austin, Canada, S. Mannor, McGill Univ./Technion, Canada/Israel

(Title to be announced)

Alon Orlitsky, Univ. of California, San Diego, USA

15:45-17:05:

Contributed sessions 4:

- **Room A: Source Coding 2**

“Quantization Splitting For Symmetric K-Channel Multiple Descriptions”

C. Tian, AT&T Labs – Research, USA, J. Chen, McMaster Univ., Canada

“AND-OR Tree Analysis of Distributed LT Codes”

D. Sejdinovic, R. Piechocki, A. Doufexi, Univ. of Bristol, UK

“Problems We Can Solve With a Helper”

H. Permuter, Ben-Gurion Univ., Israel, Y. Steinberg, Technion, Israel, T. Weissman, Stanford Univ., USA

- **Room B: Network Coding 1**

“Menger's Paths with Minimum Mergings”

G. Han, Univ. of Hong Kong, Hong Kong

“Analog Network Coding Mappings in Gaussian Multiple-Access Two-Hop Channels”

S. Yao, M. Skoglund, Royal Inst. of Techn., Sweden

“Universal Weakly Secure Network Coding”

D. Silva, F. Kschischang, Univ. of Toronto, Canada

- **Room C: Cognitive Radio Networks**

“Stability Analysis for Cognitive Radio with Cooperative Enhancements”

I. Krikidis, Univ. of Edinburgh, UK, J. N. Laneman, Univ. of Notre Dame, USA, J. Thompson, S. McLaughlin, Univ. of Edinburgh, UK

“Three-User Cognitive Channels with Cumulative Message Sharing: An Achievable Rate Region”

K. Nagananda, C. Murthy, Indian Inst. of Science, India

“Rate Region and Power Considerations in a simple 2x2 Interference Channel”

E. Spanakis, A. Traganitis, Inst. of Computer Science, FORTH, Greece, A. Ephremides, Univ. of Maryland College Park, USA

17:20-18:20:

Contributed sessions 5:

- **Room A: Channel Capacity**

“Capacity Bounds for the Gaussian Interference Channel with Transmitter Cooperation”

R. Tandon, S. Ulukus, Univ. of Maryland College Park, USA

“Distribution of MIMO Mutual Information: A Large Deviations Approach”

P. Kazakopoulos, P. Mertikopoulos, A. Moustakas, Univ. of Athens, Greece, G. Caire, USC, USA

“Approximate Capacity of the Symmetric Half-duplex Gaussian Butterfly Network”

A. Avestimehr, T. Ho, Caltech, USA

- **Room B: Network Coding 2**

“M-user Cooperative Wireless Communications Based on Nonbinary Network Codes”

M. Xiao, M. Skoglund, Royal Inst. of Techn., Sweden

“Reversibility in Linear Deterministic Networks under Linear Coding”

A. Raja, V. Prabhakaran, P. Viswanath, Univ. of Illinois Urbana - Champaign, USA

“On a Theory of Network Equivalence”

R. Koetter, Technical Univ. of Munich, Germany, M. Effros, Caltech, USA, M. Medard, MIT, USA

- **Room C: Interference Networks**

“Capacity of Deterministic Z-Chain Relay-Interference Network”

S. Mohajer, S. Diggavi, C. Fragouli, EPFL, Switzerland, D. Tse, Univ. of California Berkeley, USA

“K-user Interference Channels: Achievable Secrecy Rate and Degrees of Freedom”

H. Xiang, A. Yener, Pennsylvania State Univ., USA

“Partial Cognitive Relay Channels”

M. Nilchian, V. Aref, M. R. Aref, Sharif Univ. of Techn., Ireland