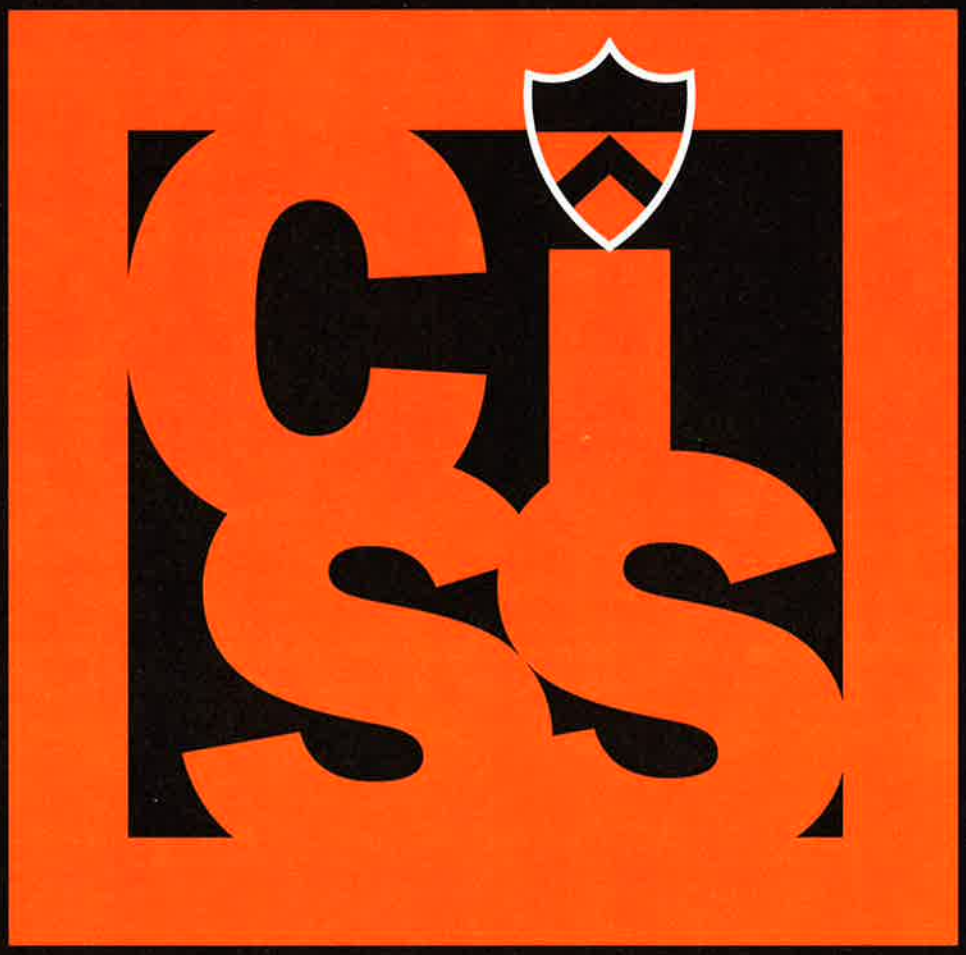
48th Annual
Conference on Information Sciences and Systems
2014

PRINCETON



PRINCETON

PRINCETON

MARCH 19, 20, AND 21 • 2014 • FRIEND CENTER • PRINCETON UNIVERSITY

Hosted by the Department of Electrical Engineering with technical co-sponsorship by IEEE

Plenary Speakers

John Lafferty, University of Chicago — Wednesday, March 19, 8:30 a.m.

Regression as Compression (and Vice Versa)
Compression and regression are two sides of the same coin. To solve large scale prediction problems, it is necessary to exploit structure in the data. This structure can come in several forms, including sparsity, low rank constraints, and manifold assumptions. We survey a number of results–of our own and by others–that achieve scalability in linear and nonparametric regression by compressing the data in different ways. Such compression typically incurs a tradeoff between computational resources and accuracy. We present algorithms that make explicit tradeoffs when the resource is computation, and outline an extension to minimax theory to optimize the tradeoff when the resource is storage. On the flip side, compression algorithms based on sparse regression are good candidates for practical implementations that nearly achieve the minimax lower bounds.

John Lafferty is a Louis Block Professor at the University of Chicago, in the Departments of Statistics and Computer Science, and a faculty member of the College of the University of Chicago. Prior to joining the University of Chicago in 2011, Lafferty was a faculty member in the School of Computer Science at Carnegie Mellon University for almost 20 years. He received his doctoral degree in mathematics from Princeton University in 1986, where he was a member of the Program in Applied and Computational Mathematics. His main research interests lie in machine learning, at the interface of statistics and computer science. Current interests include high dimensional linear and nonparametric estimation, graphical models, and computation/risk tradeoffs in statistical learning. Lafferty and his co-authors received 10-year best paper awards from the International Conference on Machine Learning in 2011, 2012 and 2013. He is a Fellow of the IEEE.

Rüediger Urbanke, EPFL, Lausanne, Switzerland — Thursday, March 20, 8:30 a.m.

Universal Channel Coding
Consider the point-to-point transmission problem. If the channel is known at both the transmitter and the receiver then we know how to construct low-complexity coding schemes that provably achieve capacity for a wide range of channels. But what if there is uncertainty at either the transmitter or the receiver or at both? This is the so-called compound channel coding problem. if complexity is not an issue, then optimal transmission strategies exist for many instances. But how about low-complexity coding schemes for this setting? I will discuss coding schemes, based on both polar codes as well as spatially-coupled codes, that provably achieve the compound capacity for some interesting scenarios. I will conclude by posing some open challenges. [This is joint work with Hamed Hassani.]

Rüediger Urbanke held a position at the Mathematics of Communications Department at Bell Labs from 1995 till 1999 before becoming a faculty member at the School of Computer & Communication Sciences of EPFL, Lausanne, Switzerland. He is principally interested in the analysis and design of modern coding schemes. Such schemes allow reliable transmission close to theoretical limits at low complexities and they are part of most modern communications standards, including wireless transmission, optical communication and hard disk storage. More broadly, his research focuses on the analysis of graphical models and the application of methods from statistical physics to problems in communications. He is a co-author of the book "Modern Coding Theory" published by Cambridge University Press as well as a co-recipient of the 2002 and the 2013 IEEE Information Theory Society Paper Award and the IEEE Koji Kobayashi Award.

Stephen Boyd, Stanford University — Friday, March 21, 8:30 a.m.

120 Years of Lyapunov's Methods
Lyapunov's original idea of an energy-like quantity that dissipates along the trajectories of a dynamical system, even one for which we cannot write down an explicit solution, has been going strong for 120 years now, aided by many extensions and variations on the idea, and new methods for computing so-called Lyapunov functions, with research and innovations continuing to the present. In this talk I will trace the history of the method, from its inception to current work on linear matrix inequalities and sum-of-squares methods.

Stephen Boyd is the Samsung Professor in the School of Engineering at Stanford University, and the director of the Information Systems Laboratory. He is a professor of Electrical Engineering, and (by courtesy) Computer Science and Management Science and Engineering. He received an AB degree in Mathematics, summa cum laude, from Harvard University in 1980, and a PhD in EECS from U. C. Berkeley in 1985. He is the author of Linear Controller Design: Limits of Performance (with Craig Barratt, 1991), Linear Matrix Inequalities in System and Control Theory (with L. El Ghaoui, E. Feron, and V. Balakrishnan, 1994), and Convex Optimization (with Lieven Vandenberghe, 2004). His current interests include convex programming applications in control, signal processing, and circuit design.

Wednesday, March 19

7:30–8:30 a.m.	8:30–9:45 a.m.	10:10 a.m.–12:30 p.m.	12:30–2:30 p.m.	2:30–4:50 p.m.	6:00–8:00 p.m.
Continental Breakfast **Convocation Room**	**Welcome &** **Plenary Talk:** **John Lafferty** **F101**	**Sessions** **WA-01 – WA-06**	**Lunch Break** See last page for local suggestions	**Sessions** **WP-01 – WP-06**	**Reception Dinner** **Charter Club** Name tag required for admittance

INVITED SESSION

WA-01 Signal Processing — 10:10 a.m.–12:30 p.m.
Room 004

Organizer: Urbashi Mitra

10:10-10:30am
Spectral Coherency Mining
H. Firouzi, University of Michigan
Dennis Wei, University of Michigan
A. Hero, University of Michigan

10:30-10:50am
Generalized Sparse Spectral Sensing using Theories of Positive Trigonometric Polynomials
Weiyu Xu, University of Iowa
Kumar Vijay Mishra, University of Iowa
Myung Cho, University of Iowa

10:50-11:10am
Phase Retrieval via Non-Convex Optimization: Theory and Practice
Xiaodong Li, University of Pennsylvania
Mahdi Soltanolkotabi, Stanford University
Emmanuel Candes, Stanford University

11:10-11:30am
BREAK

11:30-11:50am
Binary Linear Classification and Feature Selection via Generalized Approximate Message Passing
J. Ziniel, Ohio State University
P. Schniter, Ohio State University
P. Sederberg, Ohio State University

11:50am-12:10pm
Identifiability Results on Bilinear Inverse Problems and Sparse Blind Deonvolution
Sunav Choudhary, University of Southern California
Urbashi Mitra, University of Southern California

12:10-12:30pm
Recovering Structured Signals in Noise: Least-Squares meets Compressed Sensing
Samet Oymak, CalTech
Christos Thramboulidis, CalTech
Babak Hassibi, CalTech

INVITED SESSION

WA-02 Data — 10:10 a.m.–12:30 p.m.
Room 008

Organizer: Olgica Milenkovic

10:10-10:30am
Approximate Sorting of Data Streams with Limited Storage
F. Farnoud, CalTech

10:30-10:50am
Rank Modulation Coding for Nonvolatile Memories
R. Gabrys, UCLA

10:50-11:10am
Active Learning Problems with Pairwise Comparisons
K. Jamieson, University of Wisconsin

11:10-11:30am
BREAK

11:30-11:50am
Smooth Representation of Rankings
Arya Mazumdar, University of Minnesota-Twin Cities
Olgica Milenkovic, University of Illinois,

11:50am-12:10pm
Reconciling Remote Ranking Information
O. Milenkovic, UIUC

12:10-12:30pm
Rank compression
Da Wang, MIT

INVITED SESSION

WA-03 Coding Theory — 10:10 a.m.–12:30 p.m.
Room 006

Organizer: Emmanuel Abbe

10:10-10:30am
Spatially Coupled Codes I
D. Costello, University of Notre Dame

10:30-10:50am
Spatially Coupled Codes II
D. Costello, University of Notre Dame

11:10-11:30am
BREAK

11:30-11:50am
Interactive Function Computation via Polar Coding
A. Barg, University of Maryland
T.C. Gulcu, University of Maryland

11:50am-12:10pm
Achieving Marton's Region for Broadcast Channels Using Polar Codes
Marco Mondelli, EPFL
S. Hamed Hassani, EPFL
Igal Sason, Technion
Rüdiger Urbanke, EPFL

12:10-12:30pm
Techniques for Polar Coding over Multiple Access Channels
Hessam Mahdavifar, Samsung Mobile Solutions Lab
Mostafa El-Khamy, Samsung Mobile Solutions Lab
Jungwon Lee, Samsung Mobile Solutions Lab
Inyup Kang, Samsung Mobile Solutions Lab

WA-04 10:10 a.m.–12:30 p.m.
Communication 1
Room 109

10:10-10:30am
Power Allocation in Parallel Relay Channels using a Near-Potential Game Theoretical Approach
Fatemeh Afghah, North Carolina A&T State University
Abolfazl Razi, Duke University
Ali Abedi, University of Maine

10:30-10:50am
Security in Cognitive Radio Networks
Sami Akin, Leibniz University of Hanover

10:50-11:10am
Exact Repair Problems with Multiple Sources
Jayant S. Apte, Drexel University
Congduan Li, Drexel University
John M. Walsh, Drexel University
Steven Weber, Drexel University

11:10-11:30am
BREAK

11:30-11:50am
A Hybrid Digital-Analog Scheme for the Multiple Access Channel
Mohamed K. Hassanin, University of Delaware
Javier Garcia-Frias, University of Delaware

11:50am-12:10pm
Energy Efficiency of Hybrid-ARQ Systems under QoS Constraints
Yi Li, Syracuse University
Gozde Ozcan, Syracuse University
Mustafa C. Gursoy , Syracuse University
Senem Velipasalar, Syracuse University

12:10-12:30pm
Energy-Efficient Coordinated Transmission for Cloud-RANs: Algorithm Design and Trade-off
Vu N. Ha, INRS-EMT, University of Quebec
Long B. Le, INRS-EMT, University of Quebec
Ngoc Dung Dao, Huawei Technologies Canada Co., Ltd.

WA-05 10:10 a.m.–12:10 p.m.
Information Theory 1
Room 108

10:10-10:30am
Transmission of Correlated Gaussian Samples in a Multiple-Access Channel
Ayse Unsal, Eurecom Institute
Raymond Knopp, Eurecom Institute

10:30-10:50am
Computing Entropy Rate Of Symbol Sources & A Distribution-free Limit Theorem
Ishanu Chattopadhyay, Cornell University
Hod Lipson, Cornell University

10:50-11:10am
On the bit error rate of repeated error-correcting codes
Weihao Gao, Tsinghua University
Yury Polyanskiy, MIT

11:10-11:30am
BREAK

11:30-11:50am
Capacity Analysis of a Discrete-Time Bufferless Timing Channel
Mehrnaz Tavan, Rutgers University
Roy D. Yates, Rutgers University
Waheed U. Bajwa, Rutgers University

11:50-12:10pm
Performance Evaluation of Multiterminal Backhaul Compression for Cloud Radio Access Networks
Seok-Hwan Park, New Jersey Institute of Technology
Osvaldo Simeone, New Jersey Institute of Technology
Onur Sahin, InterDigital Inc.
Shlomo Shamai, Technion

WA-06 10:10 a.m.–12:10 p.m.
Networks 1
Room 007

10:10-10:30am
Packet clustering introduced by routers: modeling, analysis and experiments
Chiun Lin Lim, Cornell University
Ki Suh Lee, Cornell University
Han Wang, Cornell University
Hakim Weatherspoon, Cornell University
Ao Tang, Cornell University

10:30-10:50am
A Cross-Layer Metric for Application-Constrained MAC-Aware Capacity Optimization
Bahador Amiri, UCSC
Hamid R. Sadjadpour, UCSC

10:50-11:10am
A New Design for Information Centric Networks
Hamid R. Sadjadpour, UCSC

11:10-11:30am
BREAK

11:30-11:50am
Cooperative Estimation for Under-Determined Linear Systems
Antonio Bolognino, Politecnico di Milano
Umberto Spagnolini, Politecnico di Milano

11:50am-12:10pm
Joint Spectrum Partition and User Association in Multi-tier Heterogeneous Networks
Yicheng Lin, University of Toronto
Wei Yu, University of Toronto

INVITED SESSION

WP-01 **2:30–4:30 p.m.**
Machine Learning
Room: 004

Organizer: Aurelie Lozano

2:30-2:50pm
Admixture of Poisson MRFs: A Topic Model with Word Dependencies
Pradeep Ravikumar, University of Texas Austin

2:50-3:10pm
Modeling and Computation with Quadratic Support Functions
Aleksandr Aravkin, IBM Research and Columbia University

3:10-3:30pm
TBD
Sahand Negahban, Yale University

3:30-3:50pm
BREAK

3:50-4:10pm
First-photon Imaging: 3D and Reflectivity Acquisition using One Detected Photon per Pixel
Ahmed Kirmani, MIT

4:10-4:30pm
Reliable Differential Dependency Network Analysis
Alexandru Niculescu-Mizil, NEC Laboratories America

INVITED SESSION

WP-02 **2:30–4:50 p.m.**
Security and Information
Room: 008

Organizer: Paul Cuff

2:30-2:50pm
A Converse for Secret Key Agreement and its Umpteen Implications
Himanshu Tyagi , UC San Diego
Shun Watanabe, University of Tokushima, Japan

2:50-3:10pm
Secure Broadcasting of a Common Message using Independent Secret Keys
Rafael Schaefer, Princeton University
Ashish Khisti, University of Toronto

3:10-3:30pm
Wiretap Codes from Channel Resolvability Codes
Matthieu Bloch, Georgia Tech

3:30-3:50pm
BREAK

3:50-4:10pm
Quantum Information
Charles Bennett, IBM Thomas J. Watson Research Center

4:10–4:30pm
Preserving Link Privacy in Social Network Based Systems
Prateek Mittal, Princeton University

4:30-4:50pm
Deterministic Z-Interference Channels with Unidirectional Partial Cribbing
Ritesh Kolte, Stanford University
Ayfer Ozgur, Stanford University
Haim Permuter, Ben-Gurion University

INVITED SESSION

WP-03 **2:30–4:50 p.m.**
Communication Network Optimization
Room: 006

Organizer: Mung Chiang

2:30-2:50pm
On Optimal Routing over Parallel Multi-Servers in Overloaded Conditions
Bin Li, Ohio State University
Atilla Eryilmaz, Ohio State University
R. Srikant, UIUC
Leandros Tassiulas, Univ. of Thessaly

2:50-3:10pm
Software-Defined Access Network (SDAN)
Ken J. Kerpez, ASSIA, Inc.
George Ginis, ASSIA, Inc.

3:10-3:30pm
Wireless Backhaul Node Placement for Small Cell Networks
Muhammad Nazmul Islam, Rutgers University
Ashwin Sampath, Qualcomm Corporate R&D
Atul Maharshi, Qualcomm Corporate R&D
Ozge Koymen, Qualcomm Corporate R&D
Narayan Mandayam, WINLAB, Rutgers University

3:30-3:50pm
BREAK

3:50-4:10pm
Wireless Network Optimization by Perron-Frobenius Theory
Chee Wei Tan, City University of Hong Kong

4:10-4:30pm
Congestion-Free Routing Reconfiguration: Formulation and Examples
Chiun lin Lim, Cornell University
Ning Wu, Cornell University
A. Kevin Tang, Cornell University

4:30-4:50pm
SDMA Optimization in Millimeter Wave Wireless Networks
Sundeep Rangan, NYU

■ WP-04 — 2:30–4:50 p.m.
Information Theory 2
Room: 108

2:30-2:50pm
Output Decisions for Stochastic LDPC Decoders
Kuo-Lun Huang, Northeastern University
Vincent Gaudet, University of Waterloo
Masoud Salehi, Northeastern University

2:50-3:10pm
Transmission of Partitioning Information over Non-Adaptive Multi-Access Boolean Channel
Shuhang Wu, Department of EE, Tsinghua University
Shuangqing Wei, The School of EECS, Louisiana State University
Yue Wang, Department of EE, Tsinghua University
Ramachandran Vaidyanathan, the School of EECS, Louisiana State University
Jian Yuan, Department of EE, Tsinghua University

3:10-3:30pm
Exhaustive Message Splitting for Partial Decode-Dorward in Single-Source Single-Destination Relay Networks
Yao Tang, McGill University
Ahmad Abu Al Haija, McGill University
Mai Vu, Tufts University

3:30-3:50pm
BREAK

3:50-4:10pm
Analog Mappings for Flexible Rate Transmission of Gaussian Sources with Side Information
Bo Lu, University of Delaware
Javier Garcia-Frias, University of Delaware

4:10-4:30pm
SCHEME: Scholastically Convergent Heuristical Wxpectation Maximization Estimation
Michael A. Tope, Laboratory for Telecomunication Sciences
Joel M. Morris, University of Maryland Baltimore County

4:30-4:50pm
Hybird Analog-Digital Coding Scheme Based on Parallel Concatenation of Linear Random Projections and LDGM Codes
Lu Li, University of Delaware
Javier Garcia-Frias, University of Delaware

■ WP-05 — 2:30–4:50 p.m.
Communication 2
Room: 109

2:30-2:50pm
Delay Minimization with Channel-Adaptive Packetization Policy for Random Data Traffic
Abolfazl Razi, Duke University
Ali Abedi, University of Maine
Anthony Ephremides, University of Maryland

2:50-3:10pm
Energy Efficiency in Cooperative Cognitive Wireless Networks
Maice Costa, University of Maryland
Anthony Ephremides, University of Maryland

3:10-3:30pm
On the Impact of Dynamic Jamming on End-to-End Delay in Linear Wireless Networks
Azadeh Sheikholeslami, The University of Massachusetts-Amherst
Hossein Pishro-Nik, The University of Massachusetts-Amherst
Majid Ghaderi, University of Calgary
Dennis Goeckel, The University of Massachusetts-Amherst

3:30-3:50pm
BREAK

3:50-4:10pm
Statistics and System Performance Metrics for the Two Wave with Diffuse Power Fading Model
Milind Rao, Stanford University
F. Javier Lopez-Martinez, Stanford University
Andrea Goldsmith, Stanford University

4:10-4:30pm
Impact of End-User Decisions on Pricing in Wireless Networks
Yingxiang Yang, Dept. of ECE, Rutgers University
Narayan B. Mandayam, WINLAB, Department of ECE, Rutgers University

4:30-4:50pm
Interactive Communication For Resource Allocation
Jie Ren, Drexel University
John M. Walsh, Drexel University

■ WP-06 — 2:30–4:50 p.m.
Signal and Image Processing 1
Room: 007

2:30-2:50pm
Distributed Particle Filter Using Gaussian Approximated Likelihood Function
Tadesse Ghirmai, University of Washington Bothell

2:50-3:10pm
Frequency Agile Generalized Multicarrier Radar
Marian Bica, Aalto University
Visa Koivunen, Aalto University

3:10-3:30pm
Brain Tumor Identification Using Gaussian Mixture Model Features and Decision Trees Classifier
Ahmad Chaddad, University of Texas MD Anderson Cancer Center
Pascal O.Zinn, University of Texas MD Anderson Cancer Center
Rivka R.Colen, University of Texas MD Anderson Cancer Center

3:30-3:50pm
BREAK

3:50-4:10pm
Dynamic Best Spectral Bands Selection for Face Recognition
Hamdi Jamel Bouchech, Qatar University
Sebti Foufou, Qatar University
Mongi Abidi, University of Tennessee. USA

4:10-4:30pm
Linear Minimum Mean-Square Error Estimation Based on High-Dimensional Data with Missing Values
Mahdi Zamanighomi, ECPE-Iowa State University
Zhengdao Wang, ECPE-Iowa State University
Konstantinos Slavakis, ECPE- University of Minnesota
Georgios B. Giannakis, ECPE- University of Minnesota

4:30-4:50pm
An Iterative $\ell 1$-Regularized Least Absolute Deviation Algorithm for Robust GPR Imaging
Mandoye Ndoye, Howard University
John Anderson, Howard University

Thursday, March 20

7:30–8:30 a.m.	8:30–9:45 a.m.	10:10 a.m.–12:30 p.m.	12:30–2:30 p.m.	2:30–4:50 p.m.	6:00–8:00 p.m.
Continental Breakfast Convocation Room	**Welcome & Plenary Talk: Rüediger Urbanke F101**	**Sessions TA-01–TA-06**	**Lunch Break** See last page for local suggestions	**Sessions TP-01–TP-06**	**Reception Dinner Charter Club** Name tag required for admittance

INVITED SESSION

TA-01 Coding Theory — 10:10 a.m.–12:30 p.m.
Room: 006

Organizer: Alex Dimakis

10:10-10:30am
New Codes and Inner Bounds for Exact Repair in Distributed Storage Systems
Sreechakra Goparaju, Princeton University
Salim El Rouayheb, Illinois Institute of Technology
Robert Calderbank, Duke University

10:30-10:50am
On Cooperative Local Repair in Distributed Storage
Ankit Rawat, University of Texas
Arya Mazumdar, University of Minnesota-Twin Cities
Sriram Vishwanath, University of Texas

10:50-11:10am
Locally Repairable Codes for Multiple Parallel Reads
Alexandros Dimakis, University of Texas

11:10-11:30am
BREAK

11:30-11:50am
Interactive Channel Capacity
Gillat Kol, IAS
Ram Raz, IAS

11:50am-12:10pm
Graphs Clustering: Efficient Recovery Close to the Information Theoretic Threshold
A. Bandeira, Princeton University

12:10-12:30pm
Polynomial Complexity of Polar Codes for Correlated Sources with Applications to Key Agreement and Slepian-Wolf Coding
Jingbo Liu, Princeton University
Emmanuel Abbe, Princeton University

INVITED SESSION

TA-02 Energy Network Optimization — 10:10 a.m.–12:10 p.m.
Room: 004

Organizer: Mung Chiang

10:10-10:30am
Convex Online Resource Provisioning and its Applications in Data Centers and Microgrids
Minghua Chen, The Chinese University of Hong Kong

10:30-10:50am
Optimal Control of Storage for Arbitrage
Richard Gibbens, University of Cambridge

10:50-11:10am
Nonlinear Pricing for Social Optimality of PEV Charging Under Uncertain User Preferences
Abouzar Ghavami, Rensselaer Polytechnic Institute
Koushik Kar, Rensselaer Polytechnic Institute

11:10-11:30am
BREAK

11:30-11:50am
Decision Making in Forward Power Markets with Supply and Demand Uncertainty
Fernando Paganini, Universidad ORT Uruguay
Pablo Belzarena, Universidad de la Republica
Pablo Monzon, Universidad de la Republica

11:50AM-12:10pm
Online Electric Vehicle Charging Control With Multistage Stochastic Programming
Wanrong Tang, The Chinese University of Hong Kong
Ying Jun Zhang, The Chinese University of Hong Kong

TA-03 Detection and Control — 10:10 a.m.–12:30 p.m.
Room: 007

10:10-10:30am
A Left-to-Right HDP-HMM with HDPM Emissions
Amir Hossein Harati Nejad Torbati, Temple University
Joseph Picone, Temple University
Marc Sobel, Temple University

10:30-10:50am
Controllability and Observability Grammians for Balancing Linear Singularly Perturbed Systems
Kliti Kodra, Rutgers University
Maja Skataric, Rutgers University
Zoran Gajic, Rutgers University

10:50-11:10am
Joint-Covariance Reconstruction in Linear Estimation Systems
Marc Reinhardt, Karlsruhe Institute of Technology
Benjamin Noack, Karlsruhe Institute of Technology
Uwe D. Hanebeck, Karlsruhe Institute of Technology

11:10-11:30am
BREAK

11:30-11:50am
Kernel-Based Deterministic Blue-Noise Sampling of Arbitrary Probability Density Functions
Uwe D. Hanebeck, Karlsruhe Institute of Technology

11:50am-12:10pm
Game-Theoretic Analysis of Advance Reservation Services
Eran Simhon, Boston University
David Starobinski, Boston University

12:10-12:30pm
Strong Convergence to Mixed Equilibria in Fictitious Play
Brian Swenson, Carnegie Mellon University
Soummya Kar, Carnegie Mellon University
Joao Xavier, University of Lisbon

TA-04 10:10 a.m.–12:30 p.m.
Communication 3
Room: 008

10:10-10:30am
On Remote Radio Head Selection for the Downlink of Backhaul Constrained Network MIMO Systems
Seok-Hwan Park, New Jersey Institute of Technology
Osvaldo Simeone, New Jersey Institute of Technology
Onur Sahin, InterDigital Inc.
Shlomo Shamai, Technion

10:30-10:50am
Low Complexity Scheduling Algorithms for Wireless Networks with Full Duplex State Exchange
Weihe Wang, Qualcomm Technologies, Inc.
Vijay Subramanian, EECS Department, Northwestern University
Dongning Guo, EECS Department, Northwestern University

10:50-11:10am
Energy-Efficient Transmission Control in Cognitive Radio Networks with Channel State Information
Mohamed Kashef, University of Maryland, College Park
Anthony Ephremides, University of Maryland, College Park

11:10-11:30am
BREAK

11:30-11:50am
Power Scheduling for MSE Minimization with Peak and Average Power Constraints
Duy H. Nguyen, McGill University
Long Bao Le, INRS-EMT
Tho Le-Ngoc, McGill University

11:50am-12:10pm
Downlink Femto-Macro ICI Cancellation by On Request Channel Allocation in LTE Network
Shahadate Rezvy, Middlesex University

12:10-12:30pm
Achievability of Nonlinear Degrees of Freedom in Correlatively Changing Fading Channels
Mina Karzand, Massachusetts Institute of Technology
Lizhong Zheng, Massachusetts Institute of Technology

TA-05 10:10–11:50 a.m.
Signal and Image Processing 2
Room: 109

10:10-10:30am
A Fast Algorithm for the Computation of Angular Radial Transform
Chandan Singh, Punjabi University
Amandeep Kaur, Punjabi University
Rahul Upneja, Sri Guru Granth Sahib World University

10:30-10:50am
Fast and Accurate Pupil Isolation Based on Morphpology and Active Contour
Mohammed A. Abdullah, University of Newcastle
Satnam S. Dlay, University of Newcastle
Wai L. Woo, University of Newcastle

10:50-11:10am
Fast Smooth Rank Approximation for Tensor Completion
Mohammed H. Al-Qizwini, Michigan State University
Hayder Radha, Michigan State University

11:10-11:30am
BREAK

11:30-11:50am
RIP Bounds for Naively Subsampled Scrambled Fourier Sensing Matrices
Dionysios Kalogerias, Rutgers, The State University of New Jersey
Athina Petropulu, Rutgers, The State University of New Jersey

TA-06 10:10 a.m.–12:10 p.m.
Networks 2
Room: 108

10:10-10:30am
A Convex Framework to Control Spreading Processes in Directed Networks
Victor M. Preciado, University of Pennsylvania
Michael Zargham, University of Pennsylvania
David Sun, University of Pennsylvania

10:30-10:50am
Distributed Estimation in the Presence of Attacks for Large Scale Sensor Networks
Jiangfan Zhang, Lehigh University
Rick S. Blum, Lehigh University

10:50-11:10am
Performance Bounds for Phase Offset Estimation in IEEE 1588 Synchronization
Anand Guruswamy, Lehigh University
Rick S. Blum, Lehigh University
Shalinee Kishore, Lehigh University
Mark Bordogna, LSI Corporation

11:10-11:30am
BREAK

11:30-11:50am
Worst-case Scenarios for Greedy, Centrality-Based Network Protection Strategies
Michael C. Zargham, University of Pennsylvania
Victor Preciado, University of Pennsylvania

11:50am-12:10pm
Joint User Association and Resource Allocation in Small Cell Networks with Backhaul Constraints
Zhe Cui, The Edward S. Rogers Sr. Department of Electrical
Raviraj Adve, The Edward S. Rogers Sr. Department of Electrical

INVITED SESSION

TP-01 2:30–4:30 p.m.
Statistics
Room: 004

Organizers: Sebastien Bubeck and Philippe Rigollet

2:30-2:50pm
PAC-Bayesian Learning and Canonical Metric for Vector Quantization
Maxim Raginsky, UIUC

2:50-3:10pm
Learning Graphs with a Few Hubs
Pradeep Ravikumar, University of Texas, Austin

3:10-3:30pm
An Information Theoretic Analysis of Thompson Sampling
Dan Russo, Stanford University

3:30-3:50pm
BREAK

3:50-4:10pm
Best-arm Identification Algorithms for Multi-Armed Bandits in the Fixed Confidence Setting
Kevin Jamieson, University of Wisconsin-Madison

4:10-4:30pm
Prior-free and Prior-dependent Regret Bounds for Thompson Sampling
Che-Yu Liu, Princeton Universityl

INVITED SESSION

TP-02 2:30–4:30 p.m.
Social Network Optimization
Room: 006

Organizer: Mung Chiang

2:30-2:50pm
Social Learning Networks: A Brief Survey
Christopher G. Brinton, Princeton University
Mung Chiang, Princeton University

2:50-3:10pm
Microscopic Generative Models for Complex Networks
Yueli Zhang, University of Toronto
Peter Marbach, University of Toronto

3:10-3:30pm
Influence Maximization over Strategic Diffusion in Social Networks
Jungseul Ok, KAIST
Jaeyoung Choi, International Computer Science Institute, a private research lab affiliated with University of California, Berkeley
Youngmi Jin, Korea Advanced Institute of Science and Technology
Jinwoo Shin,KAIST
Yung Yi, KAIST

3:30-3:50pm
BREAK

3:50-4:10pm
Detecting Multiple Information Sources in Networks under the SIR Model
Zhen Chen, Arizona State University
Kai Zhu, Arizona State University
Lei Ying, Arizona State University

4:10-4:30pm
Social Group Utility Maximization in Mobile Networks: From Altruistic to malicious Behavior
Xiaowen Gong, Arizona State University
Xu Chen, Arizona State University
Junshan Zhang, Arizona State Universityl

INVITED SESSION

TP-03 2:30–4:30 p.m.
Optimization in the Information Sciences
Room: 008

Organizer: Venkat Chandrasekaran

2:30-2:50pm
DSOS and SDSOS Optimization: LP and SOCP-Based Alternatives to Sum of Squares Optimization
Amir Ali Ahmadi, IBM Research
Anirudha Majumdar, MIT

2:50-3:10pm
Combinatorial QPs via a Low-dimensional Subspace Sampling
Dimitris Papailiopoulos, University of Texas Austin
Megasthenis Asteris, University of Texas Austin
Alexandros G. Dimakis, University of Texas Austin

3:10-3:30pm
Solving Quadratically Constrained Quadratic Programs on Acyclic Graphs with Application to Optimal Power Flow
Subhonmesh Bose, California Institute of Technology
Dennice F. Gayme, California Institute of Technology
K. Mani Chandy, California Institute of Technology
Steven H. Low, California Institute of Technology

3:30-3:50pm
BREAK

3:50-4:10pm
Stochastic Optimization and Sparse Statistical Recovery: An Optimal Algorithm for High Dimensions
Alekh Agarwal, Microsoft Research
Sahand N. Negahban, Yale University
Martin J. Wainwright, University of California, Berkeley

4:10-4:30pm
Conic Geometric Programming
Venkat Chandrasekaran, California Institute of Technology
Parikshit Shah, MIT

■ TP-04 2:30–4:50 p.m.
Applications of Information Sciences
Room: 007

2:30-2:50pm
A Model for Electron Transfer and Cell Energetics in Bacterial Cables
Nicolo Michelusi, University of Southern California
Sahand Pirbadian, University of Southern California
Mohamed Y. El-Naggar, University of Southern California
Urbashi Mitra, University of Southern California

2:50-3:10pm
Subjective Confidence and Source Eeliability in Soft Data Fusion
Donald J. Bucci, Drexel University
Sayandeep Acharya, Drexel University
Timothy J. Pleskac, Michigan State University
Moshe Kam, Drexel University

3:10-3:30pm
Indoor Multiple Sound Source Localization Using a Novel Data Selection Scheme
Longji Sun, Oklahoma State University
Qi Cheng, Oklahoma State University

3:30-3:50pm
BREAK

3:50-4:10pm
Broadband Underwater Source Localization via Multitask Learning
Pedro A. Forero, SPAWAR Systems Center – Pacific

4:10-4:30pm
Propagation of Uncertainty and Analysis of Signal-to-Noise in Nonlinear Compliance Estimations of an Arterial System Model
Timothy S. Phan, Rutgers University
John K. Li, Rutgers University

4:30-4:50pm
Production Equilibrium in Cooperative Smart Hybrid Renewable Minigrids
Jayaprakash Rajasekharan, Aalto University
Visa Koivunen, Aalto University

■ TP-05 2:30–4:50 p.m.
Communication 4
Room: 108

2:30-2:50pm
Optimal Partial Decode-and-Forward Rates for Stochastically Degraded Gaussian Relay Channels
Lennart Gerdes, Technische Universität München
Lorenz Weiland, Technische Universität München
Maximilian Riemensberger, Technische Universität München
Wolfgang Utschick, Technische Universität München

2:50-3:10pm
Asymptotic Oscillator Tracking Performance Analysis for Distributed Massive MIMO Systems
Donald R. Brown, WPI
Rui Wang, WPI
Soura Dasgupta, University of Iowa

3:10-3:30pm
Required Number of Small-Cells in Heterogenous Networks with Non-Uniform Traffic Distribution
S. Alireza Banani, University of Toronto
Andrew W. Eckford, York University
Raviraj S. Adve, University of Toronto

3:30-3:50pm
BREAK

3:50-4:10pm
Design and Performance of Noncoherent Massive Simo Systems
Mainak Chowdhury, Stanford University
Alexandros Manolakos, Stanford University
Andrea J. Goldsmith, Stanford University

4:10-4:30pm
Distributed Scalar Quantizers for Subband Allocation
Bradford D. Boyle, Dept. of ECE, Drexel University
John M. Walsh, Dept. of ECE, Drexel University
Steven Weber, Dept. of ECE, Drexel University

4:30-4:50pm
Pilot Optimization and Channel Estimation for Multiuser Massive MIMO Systems
Tadilo E. Bogale, Institute National de la Recherche Scientifique
Long B. Le, Institute National de la Recherche Scientifique (INRS)

■ TP-06 2:30–4:50 p.m.
Signal and Image Processing 3
Room: 109

2:30-2:50pm
Unsupervised Active Contour Model for Multiphase Inhomogeneous Image Segmentation
Yunyun Yang, HIT Shenzhen Graduate School
Yi Zhao, HIT Shenzhen Graduate School
Boying Wu, Harbin Institute of Technology
Hongpeng Wang, HIT Shenzhen Graduate School

2:50-3:10pm
Improved Segmentation Model Combining Region and Edge Information for Inhomogeneous Images
Yunyun Yang, HIT Shenzhen Graduate School
Yi Zhao, HIT Shenzhen Graduate School
Boying Wu, Harbin Institute of Technology

3:10-3:30pm
Brain Function Evaluation Using Enhanced fNIRS Signals Extraction
Ahmad Chaddad, University of Texas MD Anderson Cancer Center

3:30-3:50pm
BREAK

3:50-4:10pm
Capturing Subject Variability in Data dDriven fMRI Analysis: A Graph Theoretical Comparison
Jonathan Laney, University of Maryland, Baltimore County
Kelly Westlake, UMBC
Elizabeth Woytowicz, UMBC
Tulay Adali, UMBC

4:10-4:30pm
Data-Driven Fusion of EEG, Functional and Structural MRI: a Comparison of Two Models
Yuri Z. Levin-Schwartz, University of Maryland Baltimore County
Vince Calhoun, The Mind Research Network
Tulay Adali, University of Maryland Baltimore County

Friday, March 21

7:30–8:30 a.m.
Continental Breakfast
Convocation Room

8:30–9:45 a.m.
Welcome &
Plenary Talk:
Stephen Boyd
F101

10:10 a.m.–12:30 p.m.
Sessions
FA-01–FA-06

INVITED SESSION

FA-01 — 10:10 a.m.–12:30 p.m.
CSoI Session
Room: 004

Organizer: Thomas Courtade

10:10-10:30am
Discrete Actions in Information-Constrained Tracking Problems
Filip Matejka, CERGE, Charles University, Prague
Christopher Sims, Princeton

10:30-10:50am
Data Processing and the Predictive Benefit of Side Information
Jiantao Jiao, Stanford University
Thomas Courtade , UC Berkeley
Kartik Venkat, Stanford University
Tsachy Weissman, Stanford University

10:50-11:10am
Identifying Disease Genes via Hybrid Rank Aggregation
Minji Kim, UIUC
Farzad Farnoud, CalTech
Olgica Milenkovic (UIUC)

11:10-11:30am
BREAK

11:30am-11:50am
Liquidity Freezing in Financial Networks
Haoshu Tian, Princeton University
Weinan E, Princeton University

11:50am-12:10pm
Predictive Information in the Retina
Stephanie E. Palmer, University of Chicago
Olivier Marre, Vision Institute, INSERM, Paris VI University
Jared Salisbury, University of Chicago
Michael J. Berry, II, Princeton University
William Bialek, Princeton University

12:10-12:30pm
ConvexRelative Entropy Decay in Markov Chains
Varun Jog, University of California, Berkeley
Venkat Anantharam, University of California, Berkeley

INVITED SESSION

FA-02 — 10:10 a.m.–12:30 p.m.
Network Pricing Optimization
Room: 006

Organizer: Mung Chiang

10:10-10:30am
Behavior in a Shared Resource Game with Cooperative, Greedy and Vigilante Players
Christopher Griffin, PSU
George Kesidis, PSU

10:30-10:50am
Calculating the Benefits of Sponsored Data for an Individual Content Provider
Matthew Andrews, Alcatel-Lucent Bell Labs
Glenn Bruns, Alcatel-Lucent Bell Labs
Hyoseop Lee, Alcatel-Lucent Bell Labs

10:50-11:10am
Competition with Licensed Shared Spectrum
Chang Liu, Northwestern University
Randall A. Berry, Northwestern University

11:10-11:30am
BREAK

11:30-11:50am
Congestion Aware Network Selection and Data Offloading
Man Hon Cheung, Chinese University of Hong Kong
Richard Southwell, Chinese University of Hong Kong
Jianwei Huang, Chinese University of Hong Kong

11:50am-12:10pm
Distributed Load Balancing in Heterogeneous Systems
Seyoung Yun, KTH, The Royal Institute of Technology
Alexandre Proutiere, KTH, The Royal Institute of Technology

12:10-12:30pm
Quality Sensitive Price Competition in Spectrum Oligopoly over Multiple Locations
Saswati Sarkar. University of Pennsylvania
Arnob Ghosh, University of Pennsylvania

FA-03 — 10:10 a.m.–12:10 p.m.
Information Theory 3
Room: 008

10:10-10:30am
Joint Optimal Placement and Energy Allocation of Underwater Sensors in a Tree Topology
Hadis Dashtestani, University of the District of Columbia
Paul Cotae, University of the District of Columbia
Ira S. Moskowitz, Naval Research Laboratory

10:30-10:50am
On Fading Poisson Channels with Varying Noise Levels
Ain ul Aisha, Worcester Polytechnic Institute
Lifeng Lai, Worcester Polytechnic Institute;
Yingbin Liang, Syracuse University

10:50-11:10am
State-Dependent Z Channel
Saeid Hajizadeh, University of Illinois at Chicago
Mostafa Monemizadeh, Ferdowsi University of Mashhad
Elham Bahmani, Ferdowsi University of Mashhad

11:10-11:30am
BREAK

11:30-11:50am
Capacity Region of a Class of Strong MIMO IC
Sanjay Karmakar, North Dakota State University

11:50am-12:10pm
Rate-Information-Optimal Gaussian Channel Output Compression
Andreas Winkelbauer, Vienna University of Technology
Gerald Matz, Vienna University of Technology

FA-04 10:10 a.m.–12:10 p.m.
Communication 5
Room: 109

10:10-10:30am
Optimizing Interference Cancellation in Cooperative Wireless Networks with Relay Selection
Antonios Argyriou, University of Thessaly
Dimitrios Kosmanos, University of Thessaly
Leandros Tassiulas, University of Thessaly

10:30-10:50am
Emulating Co-Channel Interference in Wireless Networks Using Equivalent Low-Tap Filters
Shweta Sagari, WINLAB, Rutgers University
Larry Greenstein, WINLAB, Rutgers University
Wade Trappe, WINLAB, Rutgers University

10:50-11:10am
Distributed Power Control Subject to Channel and Interference Estimation Errors
Ehsan Karamad, University of Toronto
Raviraj S. Adve, University of Toronto

11:10-11:30am
BREAK

11:30-11:50am
Adaptive Transmission of VoIP Packets Using TTI Bundling
Fan Yang, University of Elec Scie and Tech of China
Xi Zhang, Texas A&M University

11:50am-12:10pm
Fading Channels in Energy-Harvesting Receivers
Hajar Mahdavi-Doost, Rutgers
Roy D. Yates, Rutgers

FA-05 10:10 a.m.–12:30 p.m.
Security and Privacy
Room: 108

10:10-10:30am
Rate Regions and Secrecy Rate Regions of Cooperative Relay Networks
Liang Chen, University of Maryland

10:30-10:50am
On Secret Key Generation From Finite Source Observations
Wenwen Tu, Worcester Polytechnic Institute
Lifeng Lai, Worcester Polytechnic Institute

10:50-11:10am
Rate Allocation for Multihop Routing in Anonymous Networking
Omid Javidbakht, Lehigh University
Parv Venkitasubramaniam, Lehigh University

11:10-11:30am
BREAK

11:30-11:50am
Primal Sketch Based Adaptive Perceptual JND Model for Digital Watermarking
Yana Zhang, Communication University of China

11:50am-12:10pm
Encompassing anonymity in signalling games
Abhishek Mishra, Lehigh University
Parv Venkitasubramaniam, Lehigh Univerisity

12:10-12:30pm
Power Control with Jammer Location Uncertainty: A Game Theoretic Perspective
Raghed A. El-Bardan, Syracuse University
Swastik Brahma, Syracuse University
Pramod K. Varshney, Syracuse University

FA-06 10:10 a.m.–12:30 p.m.
Detection and Estimation
Room: 007

10:10-10:30am
A Generalized Formulation for Harmonic Retrieval in Correlated Noise
Hassan Naseri, Aalto University
Mário Costa, Aalto University
Visa Koivunen, Aalto University

10:30-10:50am
After-Attack Performance of Parameter Estimation Systems
Basel Alnajjab, Lehigh University
Rick S. Blum, Lehigh University

10:50-11:10am
Detecting Anomalous Latent Classes in a Batch of Network Traffic Flows
Fatih Kocak, Penn State University
David J. Miller, Penn State University
George Kesidis, Penn State University

11:10-11:30am
BREAK

11:30-11:50am

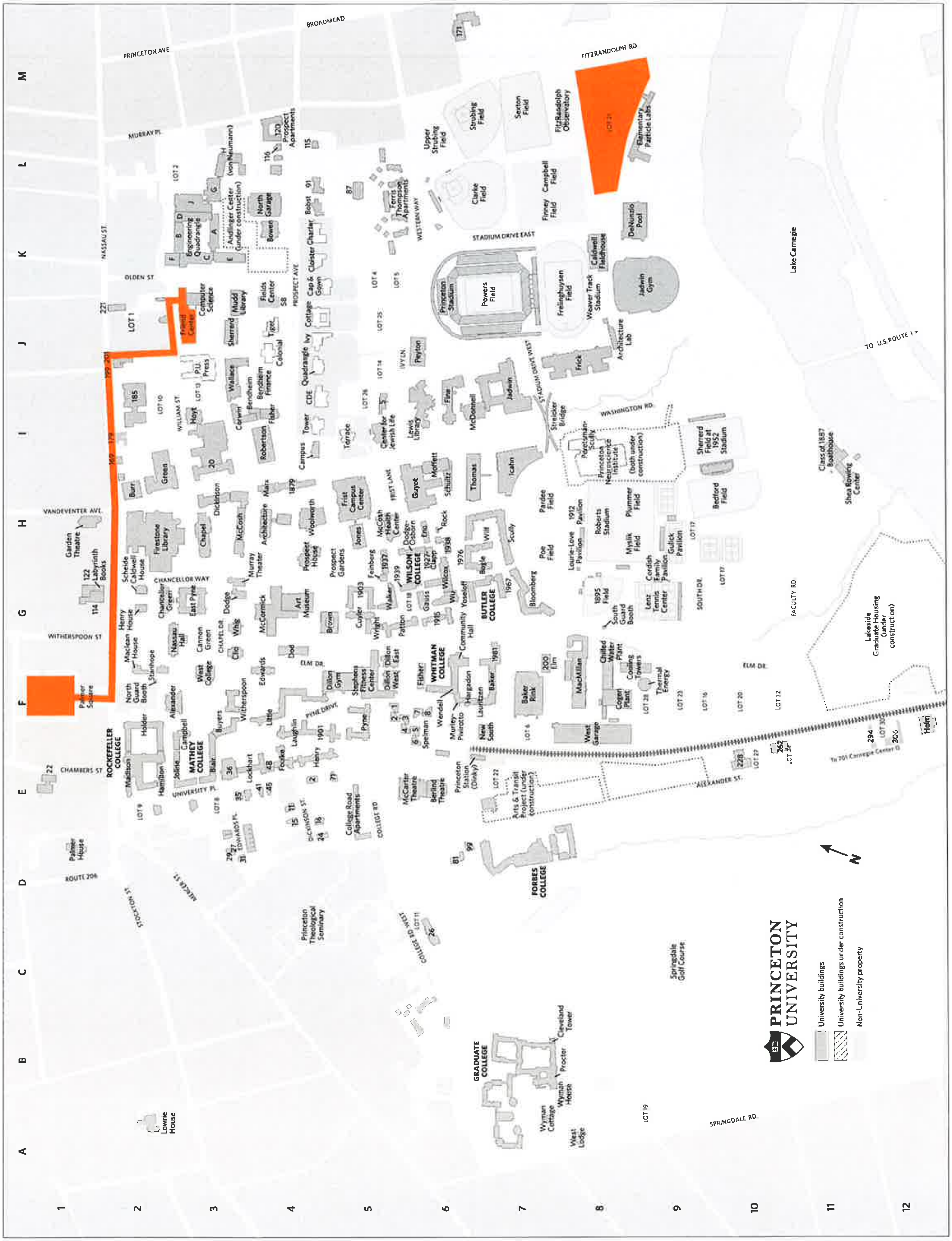
Signal Estimation with Low Infinity-Norm Error by Minimizing the Mean P-norm Error

Jin Tan, North Carolina State University
Dror Baron, North Carolina State University
Liyi Dai, Army Research Office

11:50am-12:10pm

Efficient Target Estimation in Distributed MIMO Radar via the ADMM

Bo Li, Rutgers, The State University of New Jersey
Athina Petropulu, Rutgers The State University of New Jersey


PRINCETON UNIVERSITY
University buildings
University buildings under construction
Non-University property
BROADMEAD
PRINCETON AVE
FITZRANDOLPH RD
MURRAY PL.
NASSAU ST.
OLDEN ST
VANDEVENTER AVE.
WITHERSPOON ST
CHAMBERS ST
ROUTE 206
STOCKTON ST.
MERCER ST.
UNIVERSITY PL.
CHANCELLOR WAY
ELM DR.
PYNE DRIVE
PROSPECT AVE
WASHINGTON RD.
STADIUM DRIVE EAST
STADIUM DRIVE WEST
WESTERN WAY
FACULTY RD
SOUTH DR.
ALEXANDER ST.
COLLEGE RD WEST
SPRINGDALE RD.
TO U.S. ROUTE 1
Lake Carnegie
ROCKEFELLER COLLEGE
MATHEY COLLEGE
WILSON COLLEGE
BUTLER COLLEGE
WHITMAN COLLEGE
FORBES COLLEGE
GRADUATE COLLEGE
Palmer Square
Palmer House
Lowrie House
Firestone Library
Chapel
Frist Campus Center
Friend Center
Computer Science
Engineering Quadrangle
Powers Field
Princeton Stadium
Jadwin Gym
Caldwell Fieldhouse
DeNunzio Pool
Weaver Track Stadium
Frelinghuysen Field
Lewis Library
Princeton Neuroscience Institute
Art Museum
McCarter Theatre
Berlind Theatre
Princeton Station (Dinky)
Arts & Transit Project (under construction)
Andlinger Center (under construction)
Lakeside Graduate Housing (under construction)
Princeton Theological Seminary
Springdale Golf Course
Cleveland Tower
Class of 1887 Boathouse
Shea Rowing Center
Baker Rink
West Garage
Dillon Gym
Jones
Guyot
Icahn
Frick
Jadwin
McDonnell
Fine
Peyton
Thomas
Schultz
Moffett
Wallace
Robertson
Nassau Hall
East Pyne
Chancellor Green
Garden Theatre
Labyrinth Books
FitzRandolph Observatory
Elementary Particle Labs
Clarke Field
Finney Field
Campbell Field
Sexton Field
Strubing Field
Upper Strubing Field
Roberts Stadium
Bedford Field
Sherrerd Field at 1952 Stadium
A B C D E F G H I J K L M
1 2 3 4 5 6 7 8 9 10 11 12

Princeton University

Destinations

Admission, Clio Hall, G3
Alumni Association, Maclean House, F2
Art Museum G4
Auditoriums:
- Betts, Architecture School, H3
- Dodds, Robertson Hall, I4
- Helm, 50 McCosh Hall, H3
- Richardson, Alexander Hall, F3
- Taplin, Fine Hall second floor, I6
- Wood, 10 McCosh Hall, H3

Berlind Theatre E6
Broadcast Center, Lewis Library, I6
Cannon Green G3
Career Services, 36 University Place, E3
Chapel H3
Communications, 22 Chambers Street, E1
Dean of the College, West College, F3
Dean of the Faculty, Nassau Hall, G3
Dean of the Graduate School, Clio Hall, G3
Dean of Undergraduate Students, West College, F3
Dean for Research, 91 Prospect Avenue, L4
Development, Helm Building, F12
Employment, Human Resources, New South Building, F6
Fields Center K4
Financial Aid (Undergraduate), West College, F3
Firestone Library H2
Frist Campus Center H5
Garden Theatre H1
Health Services, McCosh Health Center, H5
Housing Office, New South Building, F6
Information, Frist Campus Center, H5
Labyrinth Books, 122 Nassau Street, G1
Lewis Center for the Arts, 185 Nassau Street, I2
Lewis Library I6
Lost and Found, 200 Elm Drive, F7
McCarter Theatre E5
Nassau Hall G3
Princeton University Store, 114 Nassau Street, G1; 36 University Place, E3
Prospect House H4
Public Safety, 200 Elm Drive, F7
Registrar, West College, F3
Restrooms, Frist Campus Center, H5; Chancellor Green, G2
Theatre Intime, Murray Theater, G3
Woodrow Wilson School, Robertson Hall, I4

ATHLETICS

1952 Stadium I9
Athletic Ticket Office, Jadwin Gymnasium, K9
Baker Rink F7
DeNunzio Pool K8
Dillon Gymnasium F5
Jadwin Gymnasium K9
Princeton Stadium K6
Roberts Stadium H8

TRANSPORTATION

Shuttle Bus to Newark Airport, Nassau Inn (Palmer Square), F1
Visitor Parking, Lot 23, F9; Lot 21, L9
Taxi, Nassau Street, F2
Train, Princeton Station (Dinky), E6

Student Residences

BUTLER COLLEGE

1915 Hall G6
1967 Hall G7
1976 Hall G6
Bloomberg Hall G7
Bogle Hall G6
Wilf Hall H7
Wu Hall G6
Yoseloff Hall G6

FORBES COLLEGE D7

MATHEY COLLEGE

Blair Hall E3
Edwards Hall F4
Hamilton Hall E2
Joline Hall E3
Little Hall F4

ROCKEFELLER COLLEGE

Buyers Hall F3
Campbell Hall F3
Holder Hall E2
Madison Hall E2
Witherspoon Hall F3

WHITMAN COLLEGE

1981 Hall F7
Community Hall F6
Fisher Hall F6
Lauritzen Hall F6
Hargadon Hall F6
Murley-Pivirotto Family Tower F6
South Baker Hall F6
Wendell Hall F6

WILSON COLLEGE

1927-Clapp Hall H6
1937 Hall H5
1938 Hall H6
1939 Hall G5
Dodge-Osborn Hall H5
Feinberg Hall G5
Gauss Hall G6
Walker Hall G5
Wilcox Hall G6

UPPERCLASS HOUSING

1901 Hall F4
1903 Hall G5
Brown Hall G4
Cuyler Hall G5
Dod Hall G4
Foulke Hall E4
Henry Hall E4
Laughlin Hall F4
Lockhart Hall E3
Patton Hall G5
Pyne Hall F5
Scully Hall H7
Spelman Halls F6
Wright Hall G5

GRADUATE COLLEGE A7

GRADUATE HOUSING

Butler Tract East of Broadmead (not shown)
Lakeside Graduate Housing (under construction) G12
Lawrence Apartments, South of golf course (not shown)
Stanworth Apartments, North of Nassau Street (not shown)
Wyman House A7

Campus Directory

81 Alexander Street D6
99 Alexander Street D6
228 Alexander Street E10
262 Alexander Street E10
294 Alexander Street (ROTC) E12
306 Alexander Street E12
171 Broadmead M6
701 Carnegie Center, North of Route 1, (not shown)
22 Chambers Street E1
26 College Road West C6
2 Dickinson Street E4
11 Dickinson Street E4
15 Dickinson Street E4
16 Dickinson Street E4
24 Dickinson Street E4
27 Edwards Place D3
29 Edwards Place D3
31 Edwards Place D3
200 Elm Drive F7
5 Ivy Lane I5
114 Nassau Street G1
169 Nassau Street I2
179 Nassau Street I2
185 Nassau Street I2
194 Nassau Street I2
199 Nassau Street J1
201 Nassau Street J2
221 Nassau Street J2
58 Prospect Avenue K4
83 Prospect Avenue L4
87 Prospect Avenue L5
91 Prospect Avenue L4
115 Prospect Avenue L4
116 Prospect Avenue L4
120 Prospect Avenue L4
11 University Place E2
23 University Place E3
35 University Place E3
36 University Place E3
41 University Place E4
45 University Place E4
48 University Place E4
71 University Place E5
87 Prospect Avenue L5
130 University Place E7
20 Washington Road I3
1895 Field G8
1879 Hall H4
1901 Hall F4
1903 Hall G5
1912 Pavilion H8
1915 Hall G6
1927-Clapp Hall H6
1937 Hall H5
1938 Hall H6
1939 Hall G5
1952 Stadium I9
1976 Hall G6
1981 Hall F7

A

Andlinger Center for Energy and the Environment (under construction) K4
Alexander Hall F3
Architecture Laboratory J8
Architecture School H3
Art Museum G4
Arts & Transit Project E7

B

Baker Rink F7
Bedford Field H10
Bendheim Center for Finance I4
Bendheim Hall I4
Berlind Theatre E6
Blair Hall E3
Bloomberg Hall G7
Bobst Hall L4
Bowen Hall K4
Brown Hall G4
Burr Hall H2
Buyers Hall F3

C

Caldwell Fieldhouse K8
Campbell Field L8
Campbell Hall F3
Campus Club I4
Cannon Dial Elm Club I4
Cannon Green G3
Cap & Gown Club K4
Center for Jewish Life I5
Chancellor Green G2
Chapel H3
Charter Club K4
Chilled Water Plant F8
Clarke Field K6
Class of 1887 Boathouse H11
Class of 1967 Hall H6
Cleveland Tower B7
Clio Hall G3
Cloister Inn K4
Cogeneration Plant F8
College Road Apartments E5
Colonial Club J4
Community Hall F6
Computer Science Building K3
Cooling Towers F8
Cordish Family Pavilion G9
Corwin Hall I3
Cottage Club J4
Cuyler Hall G5

D

DeNunzio Pool K8
Dickinson Hall H3
Dillon Court East F5
Dillon Court West F5
Dillon Gymnasium F5
Dod Hall G4
Dodge Hall G3
Dodge-Osborn Hall H5

E

East Pyne Hall G3
Edwards Hall F4
Elementary Particle Laboratory L9
Engineering Quadrangle K3
Eno Hall H6

F

Feinberg Hall G5
Ferris Thompson Apartments L5
Fields Center K4
Fine Hall I6
Finney Field K7
Firestone Library H2
Fisher Hall I4
Fisher Hall (Whitman) F6
FitzRandolph Observatory L8
Forbes College D7
Foulke Hall E4
Frelinghuysen Field K8
Frick Chemistry Laboratory J8
Friend Center J3
Frist Campus Center H5

G

Garden Theatre H1
Gauss Hall G6
Graduate College A7
Green Hall H3
Gulick Pavilion H9
Guyot Hall H5

H

Hamilton Hall E2
Hargadon Hall F6
Helm Building F12
Henry Hall E4
Henry House G2
Holder Hall E2
Hoyt Laboratory I3

I

Icahn Laboratory H7
Ivy Club J4

J

Jadwin Gymnasium K9
Jadwin Hall I7
Joline Hall E3
Jones Hall H5

L

Labyrinth Books G1
Lakeside Graduate Housing (under construction) G12
Laughlin Hall F4
Lauritzen Hall F6
Lenz Tennis Center G9
Lewis Library I6
Little Hall F4
Lockhart Hall E3
Lourie-Love Pavilion H7
Lowrie House A2

M

Maclean House F2
MacMillan Building F8
Madison Hall E2
Marx Hall H4
McCarter Theatre E5
McCormick Hall G4
McCosh Hall H3
McCosh Health Center H5
McDonnell Hall I6
Moffett Laboratory H6
Mudd Library J3
Murley-Pivirotto Family Tower F6
Murray Theater G3
Myslik Field H8

N

Nassau Hall G3
Neuroscience Institute (under construction) I8
New South Building F6
North Garage L4

P

Palmer House D1
Pardee Field H7
Patton Hall G5
Peretsman-Scully Hall (under construction) I8
Peyton Hall J6
Plummer Field H8
Poe Field H7
Princeton Stadium K6
Princeton Station (Dinky) E6
Princeton University Press J3
Princeton University Store, 114 Nassau Street, G1
Procter Hall B7
Prospect Apartments L4
Prospect Gardens H4
Prospect House H4
Pyne Hall F5

Q

Quadrangle Club J4

R

Roberts Stadium H8
Robertson Hall I4
Rock Magnetism Laboratory H6

S

Scheide Caldwell House G2
Schultz Laboratory H6
Scully Hall H7
Shea Rowing Center H11
Sherrerd Hall J3
Sexton Field L7
South Baker Hall F6
Spelman Halls F6
Springdale Golf Course C9
Stanhope Hall F2
Stephens Fitness Center F5
Streicker Bridge I7
Strubing Field L7

T

Terrace Club I4
Thermal Energy Storage Tank F8
Thomas Laboratory H6
Tiger Inn J4
Tower Club I4

U

U-Store 36 University Place E3
Upper Strubing Field L6

V

Visitor Parking Lot 23, F9; Lot 21, L9

W

Wallace Hall J3
Walker Hall G5
Weaver Track Stadium K8
Wendell Hall F6
West College F3
West Garage F8
West Lodge A7
Whig Hall G3
Wilcox Hall G6
Wilf Hall H7
Witherspoon Hall F3
Woolworth Center for Musical Studies H4
Wright Hall G5
Wu Hall G6
Wyman Cottage A7
Wyman House A7

Y

Yoseloff Hall G6

For an accessibility map, see www.princeton.edu/ada-map/ (.pdf)

Restaurants

For dining options on campus see link: **http://m.princeton.edu/dining/**

Here is a listing of some restaurants within a short walk from Friend Center. (An asterisk* denotes those closest to Friend Center)

Alchemist & Barrister
28 Witherspoon Street
American: Bar
609-924-5555

Agricola
11 Witherspoon Street
American
609-921-2798

The Bent Spoon
35 Palmer Square West
Ice cream & bakery
609-924-2368

***Blue Point Grill**
258 Nassau Street
Fresh seafood, BYOB
Dinner only
609-921-1211

Cheeburger Cheeburger
182 Nassau Street
Hamburgers
609-921-0011

D'Angelo Italian Market
35 Spring Street
Italian
609-921-0404

***Despaña**
235 Nassau Street
Spanish/Tapis
609-921-2992

***EFES Mediterranean Grill**
235B Nassau Street
Mediterranean
609-683-1220

***EPS Corner**
238 Nassau Street
Chinese
609-921-2388

Halo Pub
9 Hulfish Street
Fresh Ice Cream & Coffee
609-921-1710

***Hoagie Haven**
242 Nassau Street
Deli: take out only
609-921-7723

Princeton Pi
86 Nassau Street
Italian pizzeria
609-924-5515

La Mezzaluna
25 Witherspoon Street
Italian
609-688-8515

Massimo's
124 Nassau Street
Italian pizzeria
609-924-0777

Mediterra
29 Hulfish Street
Mediterranean
609-252-9680

***Mehek**
164 Nassau Street
Indian
609-279-9191

Naked Pizza
180 Nassau Street
Pizza
609-924-4700

Nassau Street Seafood
256 N. Nassau Street
Seafood
609-921-0620

Nassau Sushi
179 Nassau Street
Japanese and Korean
609-497-3275

Olives
22 Witherspoon Street
Greek/Sandwiches
609-921-1569

Panera Bread
136 Nassau Street
Sandwiches
609-683-5222

Qdoba Mexican Grill
140 Nassau Street
Mexican
609-921-2031

PJ's Pancake House
154 Nassau Street
Pancakes
609-924-1353

***Small World Coffee**
254 Nassau Street
Coffeehouse
609-924-4377

Starbucks
100 Nassau Street
Coffee
609-279-9204

Taste of Mexico
180 Nassau Street
Mexican
609-924-0500

Teresa's Pizzetta and Café
21 Nassau Street
East Italian
609-921-1974

***Tiger Noodles**
260 Nassau Street
Chinese
609-252-0663

***Tomo Sushi**
236 Nassau Street
Sushi
609-924-8478

Triumph Brewery Company
138 Nassau Street
Local brewery: restaurant/bar
609-924-7855

J.B. Winberie
1 Palmer Square
American
609-921-0700

Witherspoon Grill
57 Witherspoon Street
Steakhouse
609-924-6011

Yankee Doodle Tap Room
The Nassau Inn
10 Palmer Square
Contemporary American
609-921-7500

Published by Print and Mail Services

♻ printed on recycled paper
441516-14


IEEE INFORMATION THEORY SOCIETY
IEEE