

2017 IEEE International Symposium on Information Theory

Aachen, Germany | June 25 - 30, 2017



Program



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VDE **ITG**

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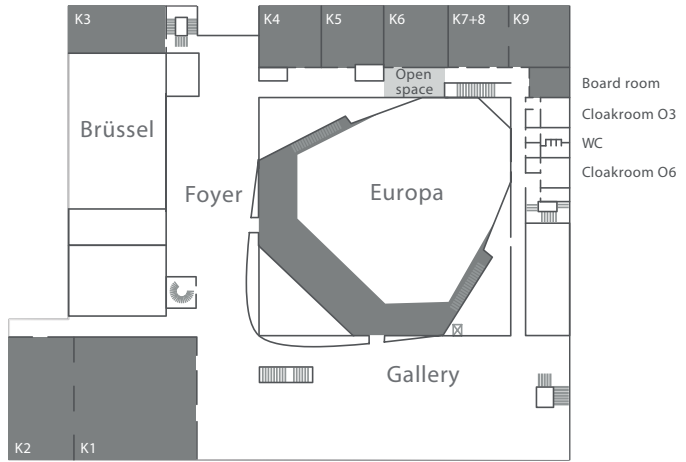
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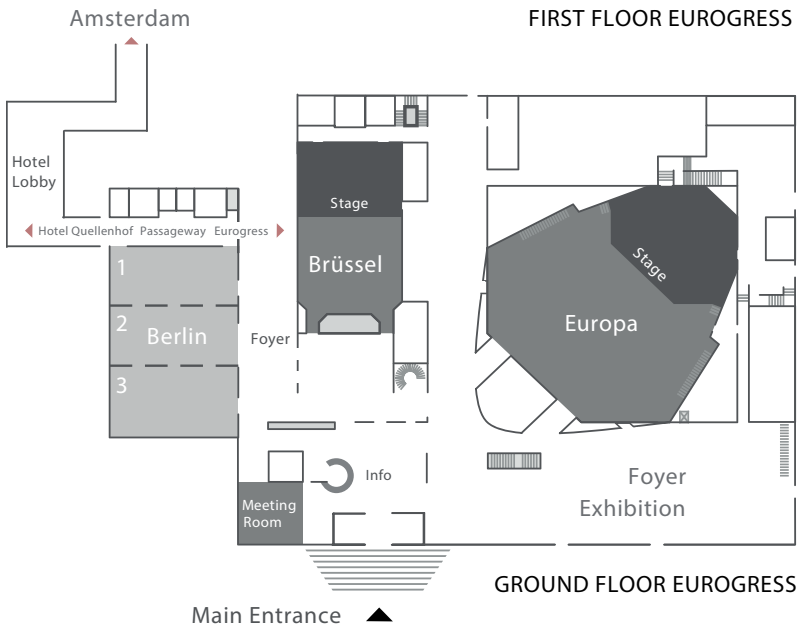
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Sponsors





FIRST FLOOR EUROGRESS



GROUND FLOOR EUROGRESS

Symposium Registration

Registration will open on Sunday at 8:00 and close at 18:00.
Registration then opens every day at 7:30.

Optional Pre-Conference Tutorial Sessions - Sunday, June 25

Sunday, June 25 K2 9:30 - 13:00

Codes for Distributed Computing

Viveck Cadambe and Pulkit Grover

Sunday, June 25 K3 9:30 - 13:00

Information Limits on Finding and Hiding Message Sources on Networks: Social Media and Cryptocurrencies

Giulia Fanti and Pramod Viswanath

Sunday, June 25 K3 14:00 - 17:30

Information Theoretic Cryptography for Information Theorists

Himanshu Tyagi and Shun Watanabe

Sunday, June 25 K2 14:00 - 17:30

Statistical Foundations of Interactive Learning

Kamalika Chaudhuri and Tara Javidi

Special Events

Sunday, June 25 Foyer 18:00 - 21:00

Welcome Reception

Monday, June 26 K1 12:50 - 14:40

Women in Information Theory (WITHITS) Speed Networking Event: Time to Ask the Burning Questions

Monday, June 26 Foyer 18:30 - 20:00

Mentoring Outreach

Tuesday, June 27 Brüssel hall 18:30 - 19:15

Fano Memorial

Wednesday, June 28 Europa hall 12:45 - 13:45

Award Session

Thursday, June 29 Europa hall 19:30 - 23:00

Banquet

Student Activities

Wednesday, June 28 Brüssel hall 9:50 - 12:30

Jack Keil Wolf Student Paper Award: Candidate Talks

Multiplexing Zero-Error and Rare-Error Communications over a Noisy Channel with Feedback
Tibor Keresztfalvi (ETH Zurich, Switzerland), Amos Lapidoth (ETHZ, Switzerland)

The Exact Rate-Memory Tradeoff for Caching with Uncoded Prefetching
Qian Yu (University of Southern California, USA); Mohammad Ali Maddah-Ali (Bell Labs, Alcatel Lucent, USA); Salman Avestimehr (University of Southern California, USA)

Greedy-Merge Degrading has Optimal Power-Law
Assaf Kartowsky and Ido Tal (Technion, Israel)

A Generic Transformation for Optimal Repair Bandwidth and Rebuilding Access in MDS Codes
Jie Li (Southwest Jiaotong University, P.R. China); Xiaohu Tang (SWJTU, P.R. China); Chao Tian (University of Tennessee Knoxville, USA)

A High-SNR Normal Approximation for Single-Antenna Rayleigh Block-Fading Channels
Alejandro Lancho and Tobias Koch (Universidad Carlos III de Madrid & Gregorio Marañón Health Research Institute, Spain); Giuseppe Durisi (Chalmers University of Technology, Sweden)

A Tight Rate Bound and a Matching Construction for Locally Recoverable Codes with Sequential Recovery From Any Number of Multiple Erasures
Balaji Srinivasan Babu (IISc, India); Ganesh Kini (Indian Institute of Science, India); P Vijay Kumar (Indian Institute of Science & University of Southern California, India)

Feedback Capacity and Coding for the (0,k)-RLL Input-Constrained BEC
Ori Peled, Oron Sabag and Haim H Permuter (Ben-Gurion University, Israel)

Thursday, June 29 K1 12:50 - 13:20

Student Lunch

Thursday, June 29 Brüssel hall 13:30 - 14:30

Interview with the Shannon Awardee

Social Program

Wednesday, June 28 Weisweiler

12:15

Visit of the RWE power plant Weisweiler

Please note, you need to register with EDAS for this event.

A bus will leave from the Eurogress at the above mentioned time. The tour starts at 13:00 in Weisweiler.

Wednesday, June 28 Elisenbrunnen

14:30 - 16:00

Tour of the old town

Please note, you need to register with EDAS for this event.

The historic old town of Aachen invites to go for a stroll. Let yourself be guided through narrow alleys and across historic squares through the 2000 year-old history of Aachen. Experience all facets of Aachen, a modern city with beautiful historic town houses, many old and new fountains and innumerable stories all about the Cathedral and the ‚Rathaus‘ (town hall).

Wednesday, June 28 Elisenbrunnen

14:30 - 16:00

Tour of the Rathaus

Please note, you need to register with EDAS for this event.

In the 14th century the ‚Rathaus‘ (town hall) of Aachen was built on the foundation walls of the Carolingian palace. The neo-Gothic outside appearance and the baroque inside of the building are a reflection of its eventful history. Let yourself be guided through a building, which today is the location for the famous International Charlemagne Prize and at the same time is the official residence of the Lord Mayor.

Wednesday, June 28 Elisenbrunnen

14:30 - 16:30

Combined tour old town and Centre Charlemagne

Please note, you need to register with EDAS for this event.

The guided tour through the ‚Centre Charlemagne – Neues Stadtmuseum Aachen‘ (new city museum Aachen) and the old town offers the perfect possibility of getting to know the imperial city from the past to the present. In the Centre Charlemagne you will learn everything worth knowing about Aachen's city history; starting with early settlements from the 5th millennium B.C. to the European city of the 20th and 21st century. During a subsequent guided tour of the old town you will experience everything close up and in addition learn interesting stories about Cathedral and the ‚Rathaus‘ (town hall).

Wednesday, June 28 Elisenbrunnen

14:30 - 16:30

Really true? – The lies tour

Please note, you need to register with EDAS for this event.

Have a guess and get to know Aachen and its stories. Listen to the many anecdotes told on the way along Aachen's sights. The tour guide will not always strictly keep to the truth; was the first chocolate actually invented in Aachen? And did the devil have a hand in the construction of the Aachen cathedral? Is the smell around the Elisenbrunnen really that of rotten egg? Really true? In a guessing competition with other participants you decide with a green or red card, whether you believe or you don't believe the curious stories told by our tour guide.

Wednesday, June 28 Eisenbrunnen, Bus Stop H2

15:30 - 17:30

HopOn-HopOff-Bus tour

Please note, you need to register with EDAS for this event.

Explore Aachen on a city tour: With a double-decker bus you will be on a tour through Aachen to see the most important sights. At 15 stops you can take the „HopOn-HopOff-Ticket“ and stop again.

Wednesday, June 28 Aachen Cathedral

17:00 - 17:45

Organ Recital in the Aachen Cathedral

Please note, you need to register with EDAS for this event.

Enjoy a concert in an incomparable historical atmosphere, which will not be forgotten! We offer you an organ recital in the Aachen Cathedral (German: Aachener Dom), a Roman Catholic church. It is the oldest cathedral in northern Europe and was constructed by order of the emperor Charlemagne, who was buried there after his death in 814. In 1978, it was one of the first 12 items to make the entry into the UNESCO list of world heritage sites, as the first German and one of the first three European historical ensembles.

Claude E. Shannon Award Lecture

Wednesday, June 28

Europa hall

8:30 - 9:30



The Spirit of Information Theory

David Tse, Stanford University, California, USA

Biography

David Tse received the B.A.Sc. degree in systems design engineering from University of Waterloo in 1989, and the M.S. and Ph.D. degrees in electrical engineering from Massachusetts Institute of Technology in 1991 and 1994 respectively. From 1994 to 1995, he was a postdoctoral member of technical staff at A.T. & T. Bell Laboratories. From 1995 to 2014, he was on the faculty of the University of California at Berkeley. He is currently a professor at Stanford University.

David Tse is the recipient of the 2017 Claude E. Shannon Award. Previously, he received a NSF CAREER award in 1998, the Erlang Prize from the INFORMS Applied Probability Society in 2000 and a Gilbreth Lectureship from the National Academy of Engineering in 2012. He received multiple best paper awards, including the Information Theory Society Paper Award in 2003, the IEEE Communications Society and Information Theory Society Joint Paper Awards in 2000, 2013 and 2015, the Signal Processing Society Best Paper Award in 2012 and the IEEE Communications Society Stephen O. Rice Prize in 2013. For his contributions to education, he received the Outstanding Teaching Award from the Department of Electrical Engineering and Computer Sciences at U.C. Berkeley in 2008 and the Frederick Emmons Terman Award from the American Society for Engineering Education in 2009. He is a coauthor, with Pramod Viswanath, of the text *Fundamentals of Wireless Communication*, which has been used in over 60 institutions around the world. He is the inventor of the proportional-fair scheduling algorithm used in all third and fourth-generation cellular systems.

Plenary Talks

Monday, June 26

Europa hall

8:45 - 9:45



Reading and Hiding Data in Quantum Systems

Andreas Winter, Universitat Autònoma de Barcelona, Spain

Quantum data hiding, originally invented as a limitation on so-called local operations and classical communications (LOCC) in distinguishing globally orthogonal states, is actually a phenomenon arising generically in statistics whenever comparing a 'strong' set of measurements (i.e., decision rules) with a 'weak' one. The classical statistical analogue is secret sharing, in which two perfectly distinguishable multi-partite hypotheses appear to be indistinguishable when accessing only a marginal. The quantum versions are richer in that, e.g., LOCC allows for state tomography, so the states cannot become perfectly indistinguishable but only nearly so, and hence the question is one of efficiency. I will discuss two concrete examples and associated sets of problems.

1. Gaussian operations and classical computation (GOCC): GOCC cannot distinguish optimally even two coherent states of a single mode (Takeoka/Sasaki, 2008). We find states, each a mixture of multi-mode coherent states, which are almost perfectly distinguishable by suitable measurements, but when restricted to GOCC, i.e., linear optics and post-processing, the states appear almost identical. The construction is random and relies on coding arguments. Open questions include whether one can give a constructive version of the argument, and whether even thermal states can be used, and how efficient the hiding is.
2. Local operation and classical communication (LOCC): It is known that, asymptotically, $\log d$ bits can be hidden in a bipartite $d \times d$ -system (Hayden/Leung/Shor/Winter, 2004). We show that this is asymptotically optimal by using the calculus of min-entropies. In fact, we get bounds on the data hiding capacity of any preparation system; these are, however, not always tight. While it is known that data hiding by separable states is possible, i.e., the state preparation can be done by LOCC, it is open whether the optimal information efficiency of (asymptotically) $\log d$ bits can be achieved by separable states.

Biography

Andreas Winter received a Diploma degree in Mathematics from Freie Universität Berlin, Berlin, Germany, in 1997, and a Dr. math. degree from the Fakultät für Mathematik, Bielefeld University, Germany, in 1999. He was Research Associate at Bielefeld University, and from 2001 with the Department of Computer Science at University of Bristol, U.K. In 2003, still with University of Bristol, he was appointed Lecturer in Mathematics, and in 2006 Professor of Physics of Information. Since 2012 he is ICREA Research Professor with the Universitat Autònoma de Barcelona, Spain. He is the recipient of a Royal Society Wolfson Research Merit Award (2007), a Philip Leverhulme Prize (2009) and the Whitehead Prize of the London Mathematical Society (2012).

Andreas Winter's scientific interests revolve around quantum information theory and discrete mathematics, in particular quantum Shannon theory. He is the originator of several technical and conceptual innovations in that field, among them the discovery of state merging as a primitive and the meaning of negative information; the application of geometric measure concentration in quantum information and statistical mechanics; the development of a matrix tail bound à la Bernstein with numerous applications in information theory, signal processing and combinatorics; techniques towards strong converses and „pretty strong“ converses in quantum Shannon theory; quantum entropy inequalities; and the development of zero-error quantum information theory, including an interpretation of the Lovász number as the zero-error capacity of a graph assisted by non-signalling correlations.



Biological Systems as Communication Networks

Urbashi Mitra, University of Southern California (USC), Los Angeles, USA

Significant progress has been made, of late, on fundamental problems across many areas of biology – in particular, biological interaction and signaling. Two important questions remain elusive. How do complex networks of simple organisms form in order to perform sophisticated tasks? What are the underlying signaling mechanisms that enable the formation and operation of such networks? Concepts and methods from information theory and communication theory offer some hope in providing abstractions and tools that can enable basic understanding of these two questions as well as determine fundamental limitations. The definition of communication in the biological context is vague and can be considered as „the transfer of information from one cell or molecule to another via chemical, mechanical, or electrical signals,“ or more broadly as „an activity by one organism that changes the behavior of another.“ Given the enormous diversity of organisms, there is an equally large number of communication systems that can be studied, and not all systems yield to a communication- or information-theoretic lens. To this end, we shall consider microbial ecosystems which contain a number of communication/information theoretic architectures. Microbial communities play a significant role in infection, bioremediation, plant growth promotion, human and animal digestion, the carbon cycle, cleaning water and microbial fuel cells. Two canonical multi-terminal structures are of importance: multi-hopped networks motivated by bacterial cables, and ad hoc multi-terminal networks as proxies for biofilms and quorum sensing. In this talk, we explore how a communication- and information-theoretic framework can be used to understand — and possibly design — biological systems.

Biography

Urbashi Mitra received the B.S. and the M.S. degrees from the University of California at Berkeley and her Ph.D. from Princeton University. She is currently a Dean's Professor of Electrical Engineering at the Department of Electrical Engineering at the University of Southern California (USC), Los Angeles. She is the inaugural Editor-in-Chief for the IEEE Transactions on Molecular, Biological and Multi-scale Communications. Dr. Mitra is a Distinguished Lecturer for the IEEE Communications Society for 2015-2017. She is a member of the IEEE Information Theory Society's Board of Governors (2002-2007, 2012-2017) and the IEEE Signal Processing Society's Technical Committee on Signal Processing for Communications and Networks (2012-2016). Dr. Mitra is a Fellow of the IEEE. She is the recipient of: a 2016 United Kingdom Royal Academy of Engineering, Distinguished Visiting Fellowship, a 2015 US Fulbright Scholar Award, a 2016-2017 Leverhulme Trust Visiting Professorship Fellowship, a 2015 Insight Magazine STEM Diversity Award, 2012 Globecom Signal Processing for Communications Symposium Best Paper Award, 2012 US National Academy of Engineering Lillian Gilbreth Lectureship, USC Center for Excellence in Research Fellowship (2010-2013), the 2009 DCOSS Applications and Systems Best Paper Award, Texas Instruments Visiting Professor (Fall 2002, Rice University), 2001 Okawa Foundation Award, 2000 OSU College of Engineering Lumley Award for Research, 1997 OSU College of Engineering MacQuigg Award for Teaching, and a 1996 National Science Foundation CAREER Award. She has been an Associate Editor for the following IEEE publications: Transactions on Signal Processing (2012--2015), Transactions on Information Theory (2007-2011), Journal of Oceanic Engineering (2006-2011), and Transactions on Communications (1996-2001). She has co-chaired: (technical program) 2014 IEEE International Symposium on Information Theory in Honolulu, HI, 2014 IEEE Information Theory Workshop in Hobart, Tasmania, IEEE 2012 International Conference on Signal Processing and Communications, Bangalore India, and the IEEE Communication Theory Symposium at ICC 2003 in Anchorage, AK; and was the general co-chair for the first ACM Workshop on Underwater Networks at Mobicom 2006, Los Angeles, CA. She served as co-Director of the Communication Sciences Institute at the University of Southern California from 2004-2007. Her research interests are in: wireless communications, communication and sensor networks, biological communication systems, detection and estimation and the interface of communication, sensing and control.

Thursday, June 29

Europa hall

8:30 - 9:30



The Flesh of Polar Codes

Emre Telatar, École polytechnique fédérale de Lausanne, Switzerland

Biography

I. Emre Telatar received the B.Sc. degree in electrical engineering from the Middle East Technical University, Ankara, Turkey, in 1986. He received the S.M. and Ph.D. degrees in electrical engineering and computer science from the Massachusetts Institute of Technology, Cambridge, in 1988 and 1992 respectively. In 1992, he joined the Communications

Analysis Research Department at AT&T Bell Laboratories (later Lucent Technologies), Murray Hill, NJ. He has been at the EPFL since 2000.

Emre Telatar was the recipient of the IEEE Information Theory Society Paper Award in 2001. He was a program co-chair for the IEEE International Symposium on Information Theory in 2002, and associate editor for Shannon Theory for the IEEE Information Theory Transactions from 2001 to 2004. He was awarded the EPFL Agepoly teaching prize in 2005.

Emre Telatar's research interests are in communication and information theories.

Friday, June 30

Europa hall

8:30 - 9:30



Information Theory Out of its Box

Cédric Villani, University Claude Bernard, Lyon, France

Some examples of information theoretical tools doing great in various fields of mathematics - kinetic theory, mathematical physics, geometry.

Biography

Cédric Villani's research interests are in kinetic theory (Boltzmann and Vlasov equations and their variants), and optimal transport and its applications.

Cédric Villani studied mathematics at École Normale Supérieure in Paris. In 1998, he defended his PhD on the mathematical theory of the Boltzmann equation. From 2000 to 2010, he was professor at École Normale Supérieure de Lyon, and now at the Université de Lyon. He occupied visiting professor positions in Atlanta, Berkeley and Princeton. Since 2009, he is the Director of Institut Henri Poincaré in Paris.

He received several national and international prizes for his research, in particular the Fields Medal, awarded at the 2010 International Congress of Mathematicians in Hyderabad (India), by the President of India. He is a chief editor of the Journal of Functional Analysis, and editor of *Inventiones Mathematicae*. He participates actively in the administration of science, through the Institut Henri Poincaré, but also by sitting on a number of panels and committees, including the higher council of research and the strategic council of Paris, and the High Level Group of Scientific Advisors at the European Commission. Since 2010 he has been involved in fostering mathematics in Africa, through programs by the Next Einstein Initiative and the World Bank.

He has been a member of the Paris Academy of Sciences since December 2013, and a member of the Pontifical Academy of Sciences (Roma, Italy) since 2016.

Recent Results

Wednesday, June 28

11:30 - 12:30 | Foyer

List of Recent Results Posters

Generalized Chernoff bound: Stochastic Processes, States on Quantum Spin Chains and Beyond
Yuri Campbell (Max Plank Institute for Mathematics in the Sciences, Leipzig, Germany)

5G Radio Design Enabling Ultra-Reliable and Low-Latency Communication
Shehzad Ali Ashraf, Gustav Wikström, Torsten Dudda, John Camilo Solano Arenas (Ericsson Research, Aachen, Germany)

From Uncoded Prefetching to Coded Prefetching in Coded Caching
Chao Tian and Kai Zhang (The University of Tennessee Knoxville, USA)

Repair of Multiple Descriptions
Anders Høst-Madsen (University of Hawaii, USA), Jungwoo Lee (Seoul National University, South Korea)

On Codes for Tandem and Palindromic Duplication Errors
Andreas Lenz (Technische Universität München, Germany), Antonia Wachter-Zeh (Israel Institute of Technology), Eitan Yaakobi (Technion, Israel)

Transmit Signal Design Based on Correlation Matrices for MIMO Wiretap Channel with Discrete Signaling
Sina Rezaei Aghdam, Tolga M. Duman (Bilkent University, Ankara, Turkey)

Repair Duality in Storage Systems
Katrina Kravevska, Danilo Gligoroski, Harald Øverby, Rune E. Jensen, and Per Simonsen (Norwegian University of Science and Technology, Norway)

Polar Codes Based on Multiplicative Repetition for High-Order Modulations
Peiyao Chen, Minzi Xu, Baoming Bai, Xiao Ma (Xidian University, China, Sun Yat-sen University, China)

Double Nearest-Neighbor Error Correcting Codes on Multidimensional Signal Constellations
Hiroyoshi Morita (The University of Electro-Communications, Japan)

Cooperative Data Exchange: A Coalition Game Perspective
Anoosheh Heidarzadeh and Alex Sprintson (Texas

A&M University, USA)

Three-Dimensional Golay Complementary Array Pairs
Ying Li, Ming-Hung Weng (Yuan Ze University, Taiwan)

Info-Clustering Algorithms
Chung Chan (The Chinese University of Hong Kong)

Distributed Learning with Limited Communications: A Coreset Framework
Husheng Li, Yawen Fan (University of Tennessee, Knoxville, USA)

The Role of Transmitter Cooperation in Linear Interference Networks with Block Erasures
Yasemin Karacora, Tolunay Seyfi and Aly El Gamal (Purdue University, USA)

Moment Generating Functions for General MIMO Product Channels
G. Alfano, G. Taricco (Politecnico di Torino, Italy)

Synchronization Strings: Codes for Insertions and Deletions Approaching the Singleton Bound
Bernhard Haeupler, Amirbehshad Shahrabi (Carnegie Mellon University, USA)

Information-theoretic limits, algorithms, and experiments to validate Ultra-Resolution EEG in clinical and neuroscientific settings
Praveen Venkatesh (Carnegie Mellon University, USA)

Two-letter Capacity Formula for Channels with Memory and Feedback
Christos K. Kourtellis, Ioannis Tzortzis and Charalambos D. Charalambous (University of Cyprus)

Multi-Stream Opportunistic Network Decoupling With Virtual Full-Duplex Operation
Huifan Lin, Won-Yong Shin, Bang Chul Jung (Dankook University, Republic of Korea, Chungnam National University, South Korea)

A Random Coding Analysis of Circular-Shift Linear Network Coding
Hanqi Tang, Qifu T. Sun, Zongpeng Li (University of Science and Technology, China, University of Calgary, Canada)

Technical Program

Monday, June 26

10:10	10:30	10:50	10:10-11:10
Mo1-1: Algebraic Coding Chair: Christian Senger			Europa
Constructions of Partial MDS Codes over Small Fields <i>Eitan Yaakobi, Ryan Gabrys, Mario Blaum, Paul Siegel</i>	Attaining Capacity with iterated (UJU+V) codes based on AG codes and Koetter-Vardy soft decoding <i>Jean-Pierre Tillich, Irene Márquez-Corbella</i>	An Algebraic-Combinatorial Proof Technique for the GM-MDS Conjecture <i>Anoosheh Heidarzadeh, Alex Sprintson</i>	
Mo1-2: Convolutional Codes Chair: Michael Lentmaier			Brussels
On the Code Distance of a Woven Block Code Construction <i>Igor Zhilin, Alexey Kreshchuk, Victor V. Zyablov</i>	Generalized column distances for convolutional codes <i>Sara D. Cardell, Marcelo Firer, Diego Napp</i>	A Unified Ensemble of Concatenated Convolutional Codes <i>Saeedeh Moloudi, Michael Lentmaier, Alexandre Graell Amat</i>	
Mo1-3: Multiple Access 1 Chair: Aydin Sezgin			K2
Cooperative Binning for Semi-deterministic Channels with Non-causal State Information <i>Ido Gattegno, Haim Permuter, Shlomo (Shitz) Shamai, Ayfer Özgür</i>	A New Achievable Rate Region for Multiple-Access Channel with States <i>Mohsen Heidari Khoozani, Farhad Shirani, Sandeep Pradhan</i>	The Benefit of Encoder Cooperation in the Presence of State Information <i>Parham Noorzad, Michelle Effros, Michael Langberg</i>	
Mo1-4: Entropy 1 Chair: Holger Boche			K3
A lower bound on the differential entropy for log-concave random variables with applications to rate-distortion theory <i>Arnaud Marsiglietti, Victoria Kostina</i>	$H(X)$ vs. $H(f(X))$ <i>Ferdinando Cicalese, Luisa Gargano, Ugo Vaccaro</i>	Concavity of Entropy Power: Equivalent Formulations and Generalizations <i>Thomas Courtade</i>	
Mo1-5: Optical Communications Chair: Frank Kschischang			K4
On Time-Bandwidth Product of Multi-Soliton Pulses <i>Alexander Span, Vahid Aref, Henning Buelow, Stephan ten Brink</i>	A Novel Demodulation Scheme for a Memory-less Optical Interference Channel <i>Kamran Keykhosravi, Erik Agrell</i>	Optical MISO IM/DD Channels: Optimality of Spatial Repetition Codes among DC-offset STBCs <i>Yerzhan Sapenov, Anas Chaaban, Zouheir Rezki, Mohamed-Slim Alouini</i>	
Mo1-6: Precoding Chair: Jinyuan Chen			K5
Beamforming Codebook Compensation for Beam Squint with Channel Capacity Constraint <i>Mingming Cai, J. Nicholas Laneman, Bertrand Hochwald</i>	Asymptotics of Nonlinear LSE Precoders with Applications to Transmit Antenna Selection <i>Ali Beryhi, Mohammad Ali Sedaghat, Ralf Müller</i>	MIMO IBC Beamforming with Combined Channel Estimate and Covariance CSIT <i>Wassim Tabikh, Dirk Slock, Yi Yuan-Wu</i>	
Mo1-7: Quantization Chair: Ioannis Kontoyiannis			K6
How to Quantize n Outputs of a Binary Symmetric Channel to $n-1$ Bits? <i>Wasim Huleihel, Or Ordentlich</i>	Information-Distilling Quantizers <i>Bobak Nazer, Or Ordentlich, Yuri Polyanskiy</i>		
Mo1-8: Rate Distortion Theory 1 Chair: Shigeaki Kuzuoka			K7+8
Distortion bounds for source broadcasting and asymmetric data transmission with bandwidth expansion <i>Shraga Bross, Hagai Zalach</i>	Rate-Distortion Region of a Gray-Wyner Problem with Side-Information <i>Meryem Benammar, Abdellatif Zaidi</i>	A Multiple Description CEO Problem with Log-Loss Distortion <i>Georg Pichler, Pablo Piantanida, Gerald Matz</i>	
Mo1-9: Hypothesis Testing 1 Chair: Gregory Wornell			K9
Neyman-Pearson Test for Zero-Rate Multiterminal Hypothesis Testing <i>Shun Watanabe</i>	Using data-compressors for statistical analysis of problems on homogeneity testing and classification <i>Boris Ryabko, Andrey Guskov, Irina Selivanova</i>	First- and Second-Order Hypothesis Testing for Mixed Memoryless Sources with General Mixture <i>Te Sun Han, Ryo Nomura</i>	
Mo1-A: Age of Information 1 Chair: Yin Sun			Berlin 3
Status updates through M/G/1/1 queues with HARQ <i>Eile Najm, Roy Yates, Emina Soljanin</i>	Information Freshness and Popularity in Mobile Caching <i>Clement Kam, Sastry Kompella, Gam Nguyen, Jeffrey Wieselthier, Anthony Ephremides</i>	Age-Optimal Constrained Cache Updating <i>Roy Yates, Philippe Ciblat, Aylin Yener, Michele Wigger</i>	

Monday, June 26

11:30-12:50

11:30	11:50	12:10	12:30	
Mo2-1: Coding Techniques 1	Chair: Jos Weber			Europa
PIR schemes with small download complexity and low storage requirements <i>Simon Blackburn, Tuvit Eitzion, Maura Paterson</i>	Nearly Optimal Constructions of PIR and Batch Codes <i>Hilal Asi, Eitan Yaakobi</i>	Cyclone Codes <i>Christian Schindelhauer, Andreas Jakob, Sven Kohler</i>	Approaching Capacity Using Incremental Redundancy without Feedback <i>Haobo Wang, Sudarsan Vasista Srinivasan Ranganathan, Richard Wesel</i>	
Mo2-2: Locally Repairable Codes 1	Chair: Iwan Duursma			Brussels
Rate Optimal Binary Linear Locally Repairable Codes with Small Availability <i>Swanand Kadhe, Robert Calderbank</i>	On Optimal Ternary Locally Repairable Codes <i>Jie Hao, Shutao Xia, Bin Chen</i>	A Study on the Impact of Locality in the Decoding of Binary Cyclic Codes <i>Nikhil Krishnan Murallee Krishnan, Bhagyashree Puranik, P Vijay Kumar, Itzhak Tamo, Alexander Barg</i>	Locally Repairable Codes with the Optimum Average Information Locality <i>Mostafa Shahabinejad, Majid Khabbazian, Masoud Ardakani</i>	
Mo2-3: Broadcast Channels 1	Chair: Chandra Nair			K2
Error Exponent of the Common-Message Broadcast Channel with Variable-Length Feedback <i>Lan Truong, Vincent Tan</i>	Exact Random Coding Exponents and Universal Decoders for the Degraded Broadcast Channel <i>Ran Averbuch, Neri Merhav</i>	Feedback Halves the Dispersion for Some Two-User Broadcast Channels with Common Message <i>Kasper Tillinggaard, Wei Yang, Giuseppe Durisi, Petar Popovski</i>	A New Capacity-Approaching Protocol for General 1-to-K Broadcast Packet Erasure Channels with ACK/NACK <i>Chih-Hua Chang, Chih-Chun Wang</i>	
Mo2-4: Feedback	Chair: Gerhard Kramer			K3
On the Capacity of Burst Noise-Erasure Channels With and Without Feedback <i>Lin Song, Fady Alajaji, Tamas Lindner</i>	The ARMA(K) Gaussian Feedback Capacity <i>Tao Liu, Guangyue Han</i>	An Optimal Coding Scheme for the BIBO Channel with a No-Repeated-Ones Input Constraint <i>Oron Sabag, Haim Permuter, Navin Kashyap</i>		
Mo2-5: Reconstruction	Chair: Urbashi Mitra			K4
Compressed Sensing with Prior Information via Maximizing Correlation <i>Xu Zhang, Wei Cui, Yulong Liu</i>	Low Dimensional Atomic Norm Representations in Line Spectral Estimation <i>Maxime Ferreira Da Costa, Wei Dai</i>	Analysis of Approximate Message Passing with a Class of Non-Separable Denoisers <i>Yanting Ma, Cynthia Rush, Dror Baron</i>	Inexact Projected Gradients on Unions of Subspaces <i>Thomas Wiese, Lorenz Weiland, Wolfgang Utschick</i>	
Mo2-6: Complexity	Chair: Pulkit Grover			K5
Analysis and Enhancements of a Cognitive Based Complexity Measure <i>Dilshan De Silva, Nuwan Kodagoda, Saluka Kodituwakku, Amalka J. Pindiyaarachchi</i>	Generic Cospark of a Matrix Can Be Computed in Polynomial Time <i>Sichen Zhong, Yue Zhao</i>	Enumeration of Boolean Functions of Sensitivity Three and Inheritance of Nondegeneracy <i>Kazuyuki Amano</i>	On the Complexity of Estimating Renyi Divergences <i>Maciej Skorski</i>	
Mo2-7: ARQ	Chair: Zouheir Rezki			K6
An Information Density Approach to Analyzing and Optimizing Incremental Redundancy with Feedback <i>Haobo Wang, Nathan Wong, Alexander Baldauf, Christopher Bachelor, Sudarsan Vasista Srinivasan Ranganathan, Dariush Divsalar, Richard Wesel</i>	Outage Effective Capacity of Buffer-Aided Diamond Relay Systems Using HARQ-IR <i>Deli Qiao</i>	Constraints for coded tunnels across long latency bottlenecks with ARQ-based congestion control <i>Ulrich Speidel, Sven Puchinger, Martin Bossert</i>	Throughput of HARQ-IR with Finite Blocklength Codes and QoS Constraints <i>Yi Li, M. Cenk Gursoy, Senem Velipasalar</i>	
Mo2-8: Quantum IT 1	Chair: Marco Dalai			K7+8
Polar Codes for Arbitrary Classical-Quantum Channels and Arbitrary cq-MACs <i>Rajal Nasser, Joseph Renes</i>	Sphere-Packing Bound for Symmetric Classical-Quantum Channels <i>Hao-Chung Cheng, Min-Hsiu Hsieh, Marco Tomamichel</i>	A meta-converse for private communication over quantum channels <i>Mark Wilde, Marco Tomamichel, Mario Berta</i>	Moderate Deviations for Classical-Quantum Channels <i>Hao-Chung Cheng, Min-Hsiu Hsieh</i>	
Mo2-9: Source Coding 1	Chair: Lele Wang			K9
Entropy of Some General Plane Trees <i>Zbigniew Golebiewski, Abram Magner, Wojciech Szpankowski</i>	On Optimality and Redundancy of Side Information Version of SWLZ <i>Ayush Jain, Rakesh Bansal</i>	Two-Dimensional Source Coding by Means of Subblock Enumeration <i>Takahiro Ota, Hiroyoshi Morita</i>		
Mo2-A: Age of Information 2	Chair: Michele Wigger			Berlin 3
Timely Updates over an Erasure Channel <i>Roy Yates, Elie Najm, Emina Soljanin, Jing Zhong</i>	Remote Estimation of the Wiener Process over a Channel with Random Delay <i>Yin Sun, Yury Polyanskiy, Elif Uysal-Biyikoglu</i>	Age and Value of Information: Non-linear Age Case <i>Antzela Kosta, Nikolaos Pappas, Anthony Ephremides, Vangelis Angelakis</i>	Status Updates Over Unreliable Multiaccess Channels <i>Sanjit Kaul, Roy Yates</i>	

Monday, June 26

14:40-16:20

14:40	15:00	15:20	15:40	16:00	
Mo3-1: Reed-Solomon Codes Chair: Alexander Vardy					Europa
Twisted Reed-Solomon Codes <i>Peter Beelen, Sven Puchinger, Johan Rosenkilde</i>	Iterative Soft-Decision Decoding of Reed-Solomon Codes of Prime Lengths <i>Shu Lin, Khaled Abdel-Ghaffar, Juane Li, Keke Liu</i>	Optimal Repair Schemes for Some Families of Full-Length Reed-Solomon Codes <i>Hoang Dau, Oligica Milenkovic</i>	Repairing Reed-Solomon Codes With Two Erasures <i>Hoang Dau, Iwan Duursma, Han Mao Kiah, Oligica Milenkovic</i>	Decoding of Interleaved Reed-Solomon Codes Using Improved Power Decoding <i>Sven Puchinger, Johan Rosenkilde</i>	
Mo3-2: LDPC Codes 1 Chair: Paul Siegel					Brussels
Average Spectra for Ensembles of LDPC Codes and Applications <i>Irina Bocharova, Boris Kudryashov, Vitaly Skachek, Yauhen Yakimenka</i>	Time-invariant LDPC convolutional codes <i>Dimitris Achiolotas, Hamed Hassani, Wei Liu, Ruediger Urbanke</i>	On LDPC Code Ensembles with Generalized Constraints <i>Yanfeng Liu, Pablo M. Otimos, Tobias Koch</i>	Non-Uniformly Coupled LDPC Codes: Better Thresholds, Smaller Rate-loss, and Less Complexity <i>Laurent Schmalen, Vahid Aref, Fanny Jardel</i>	Reed-Solomon Based Non-binary Globally Coupled LDPC Codes: Correction of Random Errors and Bursts of Erasures <i>Juane Li, Keke Liu, Shu Lin, Khaled Abdel-Ghaffar</i>	
Mo3-3: Caching 1 Chair: Osvaldo Simeone					K2
Characterizing the Rate-Memory Tradeoff in Cache Networks within a Factor of 2 <i>Qian Yu, Mohammad Ali Maddah-Ali, Salman Avestimehr</i>	A Computer-Aided Investigation on the Fundamental Limits of Caching <i>Chao Tian</i>	Capacity Scaling of Wireless Device-to-Device Caching Networks under the Physical Model <i>An Liu, Vincent Lau, Giuseppe Caire</i>	Wireless Coded Caching: A Topological Perspective <i>Jingjing Zhang, Petros Elia</i>	Multiplex Conduance and Gossip Based Information Spreading in Multiplex Networks <i>Yufan Huang, Huaiyu Dai</i>	
Mo3-4: Channel Capacity 1 Chair: Min Li					K3
Capacity of Discrete-Time Wiener Phase Noise Channels to Within a Constant Gap <i>Luca Barletta, Stefano Rini</i>	Capacity Sensitivity in Additive Non-Gaussian Noise Channels <i>Malcolm Egan, Samir Perla, Vyacheslav Kungurtsev</i>	Communicating under Temperature and Energy Harvesting Constraints <i>Omur Ozel, Sennur Ulukus, Pulkit Grover</i>	On Additive Channels with Generalized Gaussian Noise <i>Alex Dyto, Ronit Bustin, H. Vincent Poor, Shlomo (Shitz) Shami</i>	The Capacity of Injective Semi-Deterministic Two-Way Channels <i>Anas Chaaban, Lav Varshney, Mohamed-Slim Alouini</i>	
Mo3-5: Detection and Estimation 1 Chair: Venugopal Veeravalli					K4
Sequential Estimation based on Conditional Cost <i>George Moustakides, Tony Yaacoub, Yajun Mei</i>	Fundamental limit of resolving two point sources limited by an arbitrary point spread function <i>Ronan Kerviche, Saikat Guha, Amit Ashok</i>	Denoising Linear Models with Permuted Data <i>Ashwin Pananjady, Martin Wainwright, Thomas Courtade</i>	Signal Recovery from Unlabeled Samples <i>Saeid Haghighatshoar, Giuseppe Caire</i>	Estimation of Sparsity via Simple Measurements <i>Abhishek Agarwal, Larkin Flodin, Arya Mazumdar</i>	
Mo3-6: Wireless Networks 1 Chair: Andrea Goldsmith					K5
On Optimal Link Scheduling with Deadlines for Employing a Wireless Network <i>Qing He, Di Yuan, Anthony Ephremides</i>	On the Coverage Probability of a Spatially Correlated Network <i>Chang-sik Choi, Jae Oh Woo, Jeffrey Andrews</i>	Efficiently Finding Simple Schedules in Gaussian Half-Duplex Relay Line Networks <i>Yahya Ezzeldin, Martina Cardone, Christina Fragouli, Daniela Tuninetti</i>	Exact Speed and Transmission Cost in a Simple One-Dimensional Wireless Delay-Tolerant Network <i>Dimitrios Cheliotis, Ioannis Kontoyiannis, Michail Loulakis, Stavros Toumpis</i>	Analysis of Breakdown Probability of Wireless Sensor Networks with Unreliable Relay Nodes <i>Takayuki Nozaki, Takafumi Nakano, Tadashi Wadayama</i>	
Mo3-7: Communications 1 Chair: Nan Liu					K6
Optimal Frame Synchronization Over a Finite State Markov Channel <i>M Sundaram R, Arup Das, Devendra Jalihal, Venkatesh Ramaiyan</i>	Two-way Interference Channels with Jammers <i>Sidharth Jaggi, Michael Langberg</i>	Bit-Interleaved Coded Modulation for Phase Shift Keying on the Hypersphere <i>Christoph Ruchinger, Ralf Müller, Johannes Huber</i>	Rigorous Dynamics of Expectation-Propagation-Based Signal Recovery from Unitarily Invariant Measurements <i>Keigo Takeuchi</i>	Geometrically uniform differential vector signaling schemes <i>Ezio Biglieri, Emanuele Viterbo</i>	
Mo3-8: Compressed Sensing 1 Chair: Gerhard Wunder					K7+8
Statistical and computational phase transitions in spiked tensor estimation <i>Thibault Lesieur, Leo Miano, Marc Lelarge, Florent Krzakala, Lenka Zdeborova</i>	Corrupted Sensing with Subgaussian Measurements <i>Jinchi Chen, Yulong Liu</i>	On the Phase Transition of Corrupted Sensing <i>Huan Zhang, Yulong Liu, Lei Hong</i>	On the Success Probability of the Box-Constrained Rounding and Babai Detectors <i>Jinming Wen, Xiao-Wen Chang, Chintia Tellambura</i>	A Characterization of Sampling Patterns for Low-Tucker-Rank Tensor Completion Problem <i>Morteza Ashrafipour, Vaneet Aggarwal, Xiaodong Wang</i>	
Mo3-9: MIMO 1 Chair: Christoph Studer					K9
Asymptotic Capacity Results for MIMO Wireless Optical Communication <i>Stefan Moser, Michail Mylonakis, Ligong Wang, Michele Wigger</i>	On Capacity of Noncoherent MIMO with Asymmetric Link Strengths <i>Joyson Sebastian, Ayan Sengupta, Suhas Diggavi</i>	On the Degrees-of-Freedom of the MIMO Three-Way Channel with Intermittent Connectivity <i>Anas Chaaban, Aydin Sezgin, Mohamed-Slim Alouini</i>	Outage Information Rate of Spatially Correlated Multi-Cluster Scattering MIMO Channels <i>Giorgio Taricco, Giuseppe Aflano</i>	A Generalized Zero-Forcing Precoder for Multiple Antenna Gaussian Broadcast Channels <i>Sha Hu, Fredrik Rusek</i>	
Mo3-A: Age of Information 3 Chair: Elif Uysal-Biyikoglu					Berlin 3
Age of Information: Design and Analysis of Optimal Scheduling Algorithms <i>Yu-Pin Hsu, Eytan Modiano, Lingjie Duan</i>	Backlog-Adaptive Compression: Age of Information <i>Jing Zhong, Roy Yates, Emrina Soljanin</i>	The Stationary Distribution of the Age of Information in FCFS Single-Server Queues <i>Yoshiaki Inoue, Hiroyuki Masuyama, Tetsuya Takine, Toshiyuki Tanaka</i>	Age-optimal Information Updates in Multihop Networks <i>Ahmed Bedewy, Yin Sun, Ness Shroff</i>	Communication over a Channel that Wears Out <i>Ting-Yi Wu, Lav Varshney, Vincent Tan</i>	

Monday, June 26

16:40-18:20

16:40	17:00	17:20	17:40	18:00		
Mo4-1: Coding Theory 1					Chair: Juergen Freudenberger	Europa
Non-linear Cyclic Codes that Attain the Gilbert-Varshamov Bound <i>Ishay Haviv, Michael Langberg, Moshe Schwartz, Eitan Yaakobi</i>	Strong Functional Representation Lemma and Applications to Coding Theorems <i>Cheuk Ting Li, Abbas El Gamal</i>	On the VC-Dimension of Binary Codes <i>Sihuang Hu, Nir Weinberger, Ofer Shayevitz</i>	Duality of channels and codes <i>Joseph Renes</i>	Polynomial Ring Transforms for Efficient XOR-based Erasure Coding <i>Jonathan Detchart, Jerome Lagan</i>		
Mo4-2: Coding for Storage					Chair: Camilla Hollanti	Brussels
Secure RAID Schemes from EVENODD and STAR Codes <i>Wentao Huang, Jehoshua Bruck</i>	Sector-disk codes with three global parities <i>Xiao Li, Iwan Duursma</i>	Coding for Racetrack Memories <i>Yeow Meng Chee, Han Mao Kiah, Alexander Vardy, Van Khu Vu, Eitan Yaakobi</i>	On the Tradeoff Region of Secure Exact-Repair Regenerating Codes <i>Shuo Shao, Tie Liu, Chao Tian, Cong Shen</i>	Construction of Unrestricted-Rate Parallel Random Input-Output Code <i>Shan Lu, Hiroshi Kamabe, Jun Cheng, Akira Yamawaki</i>		
Mo4-3: Interference Channels 1					Chair: Daniela Tuninetti	K2
Two-way interference channel capacity: How to have the cake and eat it too <i>Changho Suh, Jaewoong Cho, David Tse</i>	Capacity Region of the Symmetric Injective K-User Deterministic Interference Channel <i>Mehrdad Kiamari, Salman Avestimehr</i>	State-Dependent Z-Interference Channel with Correlated States <i>Yunhao Sun, Yingbin Liang, Ruchen Duan, Shlomo (Shitz) Shamai</i>	Novel Outer Bounds and Capacity Results for the Interference Channel with Conferencing Receivers <i>Reza K. Farsani, Amir K. Khandani</i>	Approximate Capacity of a Class of Partially Connected Interference Channels <i>Muryong Kim, Yitao Chen, Sriram Vishwanath</i>		
Mo4-4: Shannon Inequalities					Chair: Haim Permuter	K3
Wasserstein Stability of the Entropy Power Inequality for Log-Concave Random Vectors <i>Thomas Courtade, Max Fathi, Ashwin Pananjady</i>	Two-Moment Inequalities for Renyi Entropy and Mutual Information <i>Galen Reeves</i>	One-shot Multivariate Covering Lemmas via Weighted Sum and Concentration Inequalities <i>Mohammad Hossein Yassaee, Jingbo Liu, Sergio Verdú</i>	A min-entropy power inequality for groups <i>Peng Xu, James Melbourne, Mokshay Madiman</i>	A Minimal Set of Shannon-type Inequalities for Functional Dependence Structures <i>Satyajit Thakor, Terence Chan, Alex Grant</i>		
Mo4-5: Bounds 1					Chair: Martina Cardone	K4
Sum-set Inequalities from Aligned Image Sets: Instruments for Robust GDoF Bounds <i>Arash Gholami Davoodi, Syed Jafar</i>	Scaling Exponent of Sparse Random Linear Codes over Binary Erasure Channels <i>Hessam Mahdaviar</i>	A Frequency-Domain Approach to Tightening the Generalized Levenshtein Bound <i>Zilong Liu, Yong Liang Guan, Wai Ho Mow</i>	Bounds for Cooperative Locality Using Generalized Hamming Weights <i>Khalef Abdel-Ghaffar, Jos Weber</i>	Bounds on the Asymptotic Rate of Binary Constant Subblock-Composition Codes <i>Anshoo Tandon, Han Mao Kiah, Mehul Motani</i>		
Mo4-6: Multiterminal Source Coding					Chair: Michelle Effros	K5
Distributed Cooperative Information Bottleneck <i>Matias Vera, Leonardo Rey Vega, Pablo Piantarida</i>	A Unified Approach to Error Exponents for Multiterminal Source Coding Systems <i>Shigeaki Kuzuoka</i>	Generalized Gaussian Multiterminal Source Coding and Probabilistic Graphical Models <i>Jun Chen, Farrokh Etezadi, Ashish Khisti</i>	Two-Encoder Multiterminal Source Coding With Side Information Under Logarithmic Loss <i>Abdellatif Zaidi</i>	Coding for Arbitrarily Varying Remote Sources <i>Amitalok Budkuley, Bikash Dey, Vinod Prabhakaran</i>		
Mo4-7: Security 1					Chair: Wei Kang	K6
On The Compound MIMO Wiretap Channel with Mean Feedback <i>Amr Abdelaziz, Ashraf El-bayoumy, Can Koksal, Hesham El Gamal</i>	Multiple Access Wiretap Channel with Cribbing <i>Noha Helal, Aria Nosratinia</i>	Wiretap channel capacity: Secrecy criteria, strong converse, and phase change <i>Eric Graves, Tan Wong</i>	The Shannon Cipher System with a Guessing Eavesdropper <i>Langyng Yu, Paul Cuff</i>	Privacy-Aware Guessing Efficiency <i>Shahab Asoodeh, Mario Diaz, Fady Alajaji, Tamas Linder</i>		
Mo4-8: Privacy 1					Chair: Frans Willems	K7+8
Optimal Schemes for Discrete Distribution Estimation under Local Differential Privacy <i>Min Ye, Alexander Barg</i>	Limits of Location Privacy under Anonymization and Obfuscation <i>Nazanin Takkiri, Amir Houmansadr, Dennis Goeckel, Hossein Pishro-Nik</i>	Operational Definitions for Some Common Information Leakage Metrics <i>Ibrahim Issa, Aaron Wagner</i>	Smart Meter Privacy Based on Adversarial Hypothesis Testing <i>Zuxing Li, Tobias Oechtering, Deniz Gunduz</i>	Hypothesis Testing under Maximal Leakage Privacy Constraints <i>Jiachun Liao, Lalitha Sankar, Flavio Calmon, Vincent Tan</i>		
Mo4-9: Subspace and LDPC Codes					Chair: Shu Lin	K9
Cyclic Subspace Codes and Sidon Spaces <i>Netanel Raviv, Itzhak Tamo</i>	Grassmannian Codes from Multiple Families of Mutually Unbiased Bases <i>Olav Tirkkonen, Christopher Boyd, Roope Vehkalahti</i>	Performance of ML Decoding for Ensembles of Binary and Nonbinary Regular LDPC Codes of Finite Lengths <i>Irina Bocharova, Boris Kudryashov, Vitaliy Skachek</i>	Interleaved Subspace Codes in Fountain Mode <i>Vladimir Sidorenko, Hannes Bartz, Antonia Wachter-Zeh</i>	LT codes on Partial Erasure Channels <i>Carolyn Mayer, Christine Kelley</i>		
Mo4-A: Energy Harvesting 1					Chair: Yu-Pin Hsu	Berlin 3
Energy Harvesting Networks with General Utility Functions: Near Optimal Online Policies <i>Ahmed Arafat, Abdulrahman Baknina, Sennur Ulukus</i>	On Achievable Rates of AWGN Energy-Harvesting Channels with Block Energy Arrival and Non-Vanishing Error Probabilities <i>Silas Fong, Vincent Tan, Ayfer Ozgur</i>	Optimal Transmission for Energy Harvesting Nodes under Battery Size and Usage Constraints <i>Jing Yang, Jingxian Wu</i>	Single-User Channel with Data and Energy Arrivals: Online Policies <i>Abdulrahman Baknina, Sennur Ulukus</i>			

Tuesday, June 27

09:50-11:10

9:50	10:10	10:30	10:50	
Tu1-1: Array Codes Chair: Joachim Rosenthal				Europa
Locality and Availability of Array Codes Constructed from Subspaces	Efficient Lowest Density MDS Array Codes of Column Distance 4	Triple-Fault-Tolerant Binary MDS Array Codes with Asymptotically Optimal Repair	Codes for Graph Erasures	Lev Yohananov, Eitan Yaakobi
<i>Natalia Silberstein, Tuvi Etzion, Moshe Schwartz</i>	<i>Zhijie Huang, Hong Jiang, Nong Xiao</i>	<i>Hanxu Hou, Patrick Pak-Ching Lee, Yunghsiang Han, Yuchong Hu</i>		
Tu1-2: Polar Codes 1 Chair: Ilya Dumer				Brussels
Fast Polarization for Non-Stationary Channels	A Lower Bound on the Probability of Error of Polar Codes over BMS Channels	On the Pointwise Threshold Behavior of the Binary Erasure Polarization Subchannels	Exploiting Source Redundancy to Improve the Rate of Polar Codes	Ying Wang, Krishna Narayanan, Anxiao Andrew Jiang
<i>Hessam Mahdaviifar</i>	<i>Boaz Shuvai, Ido Tal</i>	<i>Erik Ordentlich, Ron Roth</i>		
Tu1-3: Multiple Access 2 Chair: Abbas El Gamal				K2
Outer Bounds for Gaussian Multiple Access Channels with State Known at One Encoder	Homologous Codes for Multiple Access Channels	An Achievable Error Exponent for the Multiple Access Channel with Correlated Sources	A Broadcast Approach to Multiple Access Adapted to the Multiuser Channel	Samia Kazemi, Ali Tajer
<i>Wei Yang, Yingbin Liang, Shlomo (Shitz) Shamai, H. Vincent Poor</i>	<i>Pinar Sen, Young-Han Kim</i>	<i>Arezou Rezazadeh, Josep Font-Segura, Alfonso Martinez, Albert Guillén i Fàbregas</i>		
Tu1-4: Information Measures Chair: Thomas Courtade				K3
On the Information Dimension Rate of Stochastic Processes	A Variational Characterization of Rényi Divergences	A de Bruijn identity for discrete random variables	Direct Estimation of Information Divergence Using Nearest Neighbor Ratios	Morteza Noshad, Kevin Moon, Salimeh Yasaei Sekeh, Alfred Hero III
<i>Bernhard Geiger, Tobias Koch</i>	<i>Venkat Anantharam</i>	<i>Oliver Johnson, Saikat Guha</i>		
Tu1-5: Joint Source-Channel Coding 1 Chair: Aaron Wagner				K4
Expurgated Joint Source-Channel Coding Bounds and Error Exponents	Graph Information Ratio	Second Order Analysis for Joint Source-Channel Coding with Markovian Source	On the Necessary Conditions for Transmitting Correlated Sources over a Multiple Access Channel	Basak Guler, Deniz Gündüz, Aylin Yener
<i>Jonathan Scarlett, Alfonso Martinez, Albert Guillén i Fàbregas</i>	<i>Lele Wang, Ofer Shayevitz</i>	<i>Ryo Yaguchi, Masahito Hayashi</i>		
Tu1-6: Strong Converses Chair: Shun Watanabe				K5
Strong Converse for Content Identification with Lossy Recovery	Strong Converse Theorems for Discrete Memoryless Networks with Tight Cut-Set Bound	Reverse hypercontractivity region for the binary erasure channel	Beyond the Blowing-Up Lemma: Sharp Converses via Reverse Hypercontractivity	Jingbo Liu, Ramon van Handel, Sergio Verdú
<i>Lin Zhou, Vincent Tan, Mehul Motani</i>	<i>Silas Fong, Vincent Tan</i>	<i>Chandra Nair, Yan Nan Wang</i>		
Tu1-7: Crypto 1 Chair: Matthieu Bloch				K6
An Information-theoretic Approach to Hardness Amplification	Witness-Hiding Proofs of Knowledge for Cable Locks	Privacy Amplification of Distributed Encrypted Sources with Correlated Keys		
<i>Ueli Maurer</i>	<i>Chen-Da Liu Zhang, Ueli Maurer, Martin Raszyk, Daniel Tschudi</i>	<i>Bagus Santoso, Yasutada Oohama</i>		
Tu1-8: Wireless Communication Chair: Yingbin Liang				K7+8
Can Full-Duplex More than Double the Capacity of Wireless Networks?	Short-Message Communication and FIR System Identification using Huffman Sequences	Novel Construction Methods of Quaternion Orthogonal Designs based on Complex Orthogonal Designs		
<i>Serj Haddad, Ayfer Özgür, Emre Telatar</i>	<i>Philipp Walk, Peter Jung, Babak Hassibi</i>	<i>Erum Mushtaq, Sajid Ali, Syed Ali Hassan</i>		
Tu1-9: Hypothesis Testing 2 Chair: Yanina Shkel				K9
Hypothesis Test for Upper Bound on the Size of Random Defective Set	Distributed Hypothesis Testing Over Noisy Channels	Linear-Complexity Exponentially-Consistent Tests for Universal Outlying Sequence Detection	Active Hypothesis Testing on a Tree: Anomaly Detection under Hierarchical Observations	Chao Wang, Kobi Cohen, Qing Zhao
<i>Arkadii Dyachkov, Ilya Vorobyev, Nikita Polyanski, Vladislav Shchukin</i>	<i>Sreejith Sreekumar, Deniz Gündüz</i>	<i>Yuheng Bu, Shaofeng Zou, Venugopal Veeravalli</i>		

Tuesday, June 27

11:30-12:50

11:30	11:50	12:10	12:30	
Tu2-1: Coding Techniques 2		Chair: Alexander Barg		Europa
Fractional decoding: Error correction from partial information <i>Itzhak Tamo, Min Ye, Alexander Barg</i>	Performance of Optimal Data Shaping Codes <i>Yi Liu, Pengfei Huang, Paul Siegel</i>	Multilevel Code Construction for Compound Fading Channels <i>Antonio Campello, Ling Liu, Cong Ling</i>	Dense Gray Codes in Mixed Radices <i>Jessica Fan, Thomas Cormen</i>	
Tu2-2: Locally Repairable Codes 2		Chair: Antonia Tulino		Brussels
Balanced and Sparse Tamo-Barg Codes <i>Wael Halbawi, Iwan Duursma, Hoang Dau, Babak Hassibi</i>	Bounds and Constructions of Codes with All-Symbol Locality and Availability <i>Stanislav Kruglik, Alexey Frolov</i>	Security for Minimum Storage Regenerating Codes and Locally Repairable Codes <i>Swanand Kadhe, Alex Sprintson</i>		
Tu2-3: Broadcast Channels 2		Chair: Vincent Tan		K2
The Arbitrarily Varying Degraded Broadcast Channel with Causal Side Information at the Encoder <i>Uzi Pereg, Yossef Steinberg</i>	Sub-optimality of superposition coding region for three receiver broadcast channel with two degraded message sets <i>Mehdi Yazdanpanah, Chandra Nair</i>	The Broadcast Channel with Degraded Message Sets and Unreliable Conference <i>Dor Itzhak, Yossef Steinberg</i>	On the Capacity Region of the K-User Discrete Memoryless Broadcast Channel with Two Degraded Messages <i>Mahesh Varanasi, Mohamed Salman</i>	
Tu2-4: Channel Capacity 2		Chair: Amos Lapidoth		K3
The Optimal Exponent Function for the Additive White Gaussian Noise Channel at Rates above the Capacity <i>Yasutada Oohama</i>	A Generalized Ozarow-Wyner Capacity Bound with Applications <i>Alex Dytso, Mario Goldenbaum, H. Vincent Poor, Shlomo (Shitz) Shamai</i>	A Bound on the Shannon Capacity via a Linear Programming Variation <i>Sihuang Hu, Itzhak Tamo, Ofer Shayevitz</i>	On the Discreteness of Capacity-Achieving Distributions for the Censored Channel <i>Arash Behboodi, Gholamreza Airezaei, Rudolf Mathar</i>	
Tu2-5: Massive MIMO		Chair: Christoph Studer		K4
Massive Device Connectivity with Massive MIMO <i>Liang Liu, Wei Yu</i>	On the MISO Channel with Feedback: Can Infinitely Massive Antennas Achieve Infinite Capacity? <i>Jinyuan Chen</i>	The BOX-LASSO with Application to GSKK Modulation in Massive MIMO Systems <i>Ismail Ben Attallah, Christos Thrampoulidis, Abba Kammoun, Tareq Y. Al-Naffouri, Mohamed-Slim Alouini, Babak Hassibi</i>	Multi-Users Space-Time Modulation with QAM Division for Massive Uplink Communications <i>Jian-Kang Zhang, Zheng Dong</i>	
Tu2-6: MIMO 2		Chair: Vasanthan Raghavan		K5
Generalized Degrees-of-Freedom of the 2-User Case MISO Broadcast Channel with Distributed CSIT <i>Antonio Bazzi, Paul de Kerret, David Gesbert, Nicolas Gresset</i>	Spatially Correlated MIMO Broadcast Channel: Analysis of Overlapping Correlation Eigenspaces <i>Fan Zhang, Mohamed Fadel, Aria Nosratinia</i>	On the Achievable Rates of Decentralized Equalization in Massive MU-MIMO Systems <i>Charles Jeon, Kaipeng Li, Joseph Cavallaro, Christoph Studer</i>	V-BLAST in Lattice Reduction and Integer Forcing <i>Sebastian Stern, Robert Fischer</i>	
Tu2-7: Energy Harvesting 2		Chair: Deniz Gündüz		K6
Energy-Based Adaptive Multiple Access in LPWAN IoT Systems with Energy Harvesting <i>Nicola Michelusi, Marco Levorato</i>	Near Optimal Online Distortion Minimization for Energy Harvesting Nodes <i>Ahmed Arafa, Sennur Ulukus</i>	Scheduling Status Updates to Minimize Age of Information with an Energy Harvesting Sensor <i>Tan Bacinoglu, Elif Uysal-Biyikoglu</i>	Code Design for Binary Energy Harvesting Channel <i>Mehdi Dabirnia, Tolga Duman</i>	
Tu2-8: Compressed Sensing 2		Chair: Tara Javidi		K7+8
A Greedy Blind Calibration Method for Compressed Sensing with Unknown Sensor Gains <i>Valerio Cambareni, Amirafshar Moshtaghpour, Laurent Jacques</i>	Information-theoretic bounds and phase transitions in clustering, sparse PCA, and submatrix localization <i>Jess Banks, Cristopher Moore, Roman Vershynin, Nicolas Verzelen, Jiaming Xu</i>	Almost Optimal Phaseless Compressed Sensing with Sublinear Decoding Time <i>Vasileios Nakos</i>	A Characterization of Sampling Patterns for Low-Rank Multi-View Data Completion Problem <i>Morteza Ashraphijoo, Xiaodong Wang, Vaneet Aggarwal</i>	
Tu2-9: Source Coding 2		Chair: Ertem Tuncel		K9
Coding of Binary AIFV Code Trees <i>Kentarō Sumigawa, Hirotsuke Yamamoto</i>	Universal lossy compression under logarithmic loss <i>Yanina Shkel, Maxim Raginsky, Sergio Verdú</i>	Towards Optimal Quantization of Neural Networks <i>Avhishek Chatterjee, Lav Varshney</i>	Stochastic Stability of Non-Markovian Processes and Adaptive Quantizers <i>Serdar Yüksel</i>	

Tuesday, June 27

14:40-16:20

14:40	15:00	15:20	15:40	16:00	
Tu3-1: Network Coding 1	Chair: Tuvi Etzion				Europa
Secrecy and Robustness for Active Attack in Secure Network Coding <i>Masahito Hayashi, Masaki Owari, Go Kato, Ning Cai</i>	Linear Network Coding for Two-Unicast-Z Networks: A Commutative Algebraic Perspective and Fundamental Limits <i>Mohammad Fahim, Viveck Cadambe</i>	Network-Coded Fronthaul Transmission for Cache-Aided C-RAN <i>Tian Ding, Xiaojun Yuan, Soung Chang Liew</i>	Optimal Secondary Access in Retransmission based Primary Networks via Chain Decoding <i>Nicolò Michelusi</i>		
Tu3-2: LDPC Codes 2	Chair: Khaled Abdel-Ghaffar				Brussels
Characterization and Efficient Exhaustive Search Algorithm for Elementary Trapping Sets of Irregular LDPC Codes <i>Yoones Hashemi Toroghi, Amir Bahinashemi</i>	An Adaptive EMS Algorithm for Nonbinary LDPC Codes <i>Youngjun Hwang, Sunghye Cho, Kyeongcheol Yang</i>	A Two-Stage Decoding Algorithm for Short Nonbinary LDPC Codes with Near-ML Performance <i>Dixia Deng, Hengzhou Xu, Baoming Bai, Ji Zhang</i>	Design of Improved Quasi-Cyclic Protograph-Based Raptor-Like LDPC Codes for Short Block-Lengths <i>Sudarsan Vasista Srinivasan Ranganathan, Darjush Divsalar, Richard Wesel</i>	Finite-Length LDPC Codes on the q-ary Multi-Bit Channel <i>Rami Cohen, Yuval Casuto</i>	
Tu3-3: Caching 2	Chair: Bobak Nazer				K2
Online Edge Caching in Fog-Aided Wireless Networks <i>Seyyed Mohammadreza Azimi, Osvaldo Simeone, Avik Sengupta, Ravi Tandon</i>	Benefits of Cache Assignment on Degraded Broadcast Channels <i>Shirin Saeedi Bidokhti, Michele Wigger, Aylin Yener</i>	Rate-Memory Trade-off for the Two-User Broadcast Caching Network with Correlated Sources <i>Parisa Hassanzadeh, Antonia Tulino, Jaime Llorca, Elza Erkip</i>	On the Optimality of Separation between Caching and Delivery in General Cache Networks <i>Navid Naderializadeh, Mohammad Ali Maddah-Ali, Salman Avestimehr</i>		
Tu3-4: Second Order	Chair: Giuseppe Durisi				K3
Dispersion of the Discrete Arbitrarily-Varying Channel with Limited Shared Randomness <i>Oliver Kosut, Joerg Kliewer</i>	On the calculation of the minimax-converse of the channel coding problem <i>Nir Elkayam, Meir Feder</i>	Exact Moderate Deviation Asymptotics in Streaming Data Transmission <i>Si-Hyeon Lee, Vincent Tan, Ashish Khisti</i>	Infinite Dispersion in Bursty Communication <i>Longguang Li, Aslan Tchamkerten</i>	Achievable Moderate Deviations Asymptotics for Streaming Slepian-Wolf Coding <i>Lin Zhou, Vincent Tan, Mehul Motani</i>	
Tu3-5: Detection and Estimation 2	Chair: Jing Yang				K4
Demystifying Fixed k-Nearest Neighbor Information Estimators <i>Weihao Gao, Sewoong Oh, Pramod Viswanath</i>	Structure of optimal strategies for remote estimation over Gilbert-Elliott channel with feedback <i>Jhelum Chakravorty, Aditya Mahajan</i>	Sparse Gaussian Mixture Detection: Low Complexity, High Performance Tests via Quantization <i>Jonathan Ligo, George Moustakides, Venugopal Veeravalli</i>	Compressive Estimation of a Stochastic Process with Unknown Autocorrelation Function <i>Mahdi Barzegar Khalilsari, Saeid Haghhighatshoar, Giuseppe Caire, Gerhard Wunder</i>	Robust sequential change-point detection by convex optimization <i>Yang Cao, Yao Xie</i>	
Tu3-6: Sequences 1	Chair: Prakash Narayan				K5
Perfect polyphase sequences from cubic polynomials <i>Min Kyu Song, Hong-Yeop Song</i>	Bayesian definition of random sequences with respect to conditional probabilities <i>Hayato Takahashi</i>	On the Correlation between Boolean Functions of Sequences of Random Variables <i>Farhad Shirani, Sandeep Pradhan</i>	The Hybrid k-Deck Problem: Reconstructing Sequences from Short and Long Traces <i>Ryan Gabrys, Olgica Milenkovic</i>		
Tu3-7: Communications 2	Chair: Tobias Koch				K6
Reliability of Universal Decoding Based on Vector-Quantized Codebooks <i>Neri Merhav</i>	Sample Complexity of the Boolean Multireference Alignment Problem <i>Joao Pereira, Amit Singer, Emmanuel Abbe</i>	On the optimality of treating interference as noise in the $2 \times M$ LD X-channel <i>Soheil Gharekhloo, Yasemin Karacora, Aydin Sezgin</i>	Interaction Information for Causal Inference: The Case of Directed Triangle <i>AmirEmad Ghassami, Negar Kiyavash</i>	Completely blind sensing of multi-band signals <i>Taehyung Lim, Massimo Franceschetti</i>	
Tu3-8: Information Theory and Statistics 1	Chair: Pierre Moulin				K7+8
An Information-Theoretic Approach to Universal Feature Selection in High-Dimensional Inference <i>Shao-Lun Huang, Anuran Makur, Lizhong Zheng, Gregory Wornell</i>	Identifying Nonlinear 1-Step Causal Influences in Presence of Latent Variables <i>Saber Salehkaleybar, Jalal Etesami, Negar Kiyavash</i>	Closed-Form Moments of Finite-Dimension Non-central Wishart Matrices via Concentration of Spectral Measure <i>Xinmin Li, Ling Qiu</i>	Information-geometrical characterization of statistical models which are statistically equivalent to probability simplex <i>Hiroshi Nagaoka</i>	Density Functional Estimators with k-Nearest Neighbor Bandwidths <i>Weihao Gao, Sewoong Oh, Pramod Viswanath</i>	
Tu3-9: Machine Learning 1	Chair: Toshiyuki Tanaka				K9
Energy decay and conservation in deep convolutional neural networks <i>Philipp Grohs, Thomas Wiatowski, Helmut Bölcskei</i>	Neural Offset Min-Sum Decoding <i>Loren Lugosch, Warren Gross</i>	Learning-Based Epsilon Most Stringent Test for Gaussian Samples Classification <i>Lionel Fillatre, Igor Nikiforov</i>	Quickest Search and Learning over Multiple Sequences <i>Javad Heydari, Ali Tajer</i>	Minimax Lower Bounds for Ridge Combinations Including Neural Nets <i>Jason Klusowski, Andrew Barron</i>	

Tuesday, June 27

16:40-18:20

16:40	17:00	17:20	17:40	18:00	
Tu4-1: Coding Theory 2 Chair: Emina Soljanin					Europa
Pseudo-Wigner Matrices from Dual BCH Codes <i>Ilya Solovveychik, Yu Xiang, Vahid Tarokh</i>	On codes achieving zero error capacities in limited magnitude error channels <i>Bella Bose, Noha Elarief, Luca Tallini</i>	On the Capacities of Balanced Codes with Run-Length Constraints <i>Akiko Manada, Hiroyoshi Morita</i>	Geometric Orthogonal Codes Better than Optical Orthogonal Codes <i>Yeow Meng Chee, Han Mao Kiah, San Ling, Hengjia Wei</i>	The Augustin Center and The Sphere Packing Bound For Memoryless Channels <i>Baris Nakiboglu</i>	
Tu4-2: Coding for Distributed Storage 1 Chair: Vitaly Skachek					Brussels
Secrecy Capacity of Minimum Storage Regenerating Codes <i>Ankit Singh Rawat</i>	Cooperative Data Exchange based on MDS codes <i>Su Li, Michael Gastpar</i>	Asymptotically Optimal Regenerating Codes Over Any Field <i>Netanel Raviv</i>	Private Information Retrieval in Distributed Storage Systems Using an Arbitrary Linear Code <i>Siddhartha Kumar, Eirik Rosnes, Alexandre Graell i Amat</i>		
Tu4-3: Interference Channels 2 Chair: Changho Suh					K2
Nash Region of the Linear Deterministic Interference Channel with Noisy Output Feedback <i>Victor Quintero, Samir Perlaza, Jean-Marie Gorce, H. Vincent Poor</i>	Characterization of Degrees of Freedom versus Receivers Backhaul Load in K-User Interference Channel <i>Borna Kananian, Mohammad Ali Maddah-Ali, Seyed Pooya Shariatpanahi, Babak Hossein Khalaj</i>	Discrete Modulation for Interference Mitigation <i>Mirza Uzair Baig, Anders Hast-Madsen, Aria Nosratinia</i>	Communicating Correlated Sources Over an Interference Channel <i>Arun Padakanda</i>	Topological Interference Management: Linear Cooperation is not useful for Wyner's Networks <i>Aly El Gamal</i>	
Tu4-4: Entropy 2 Chair: Stefan Moser					K3
Urns and entropies revisited <i>František Matúš</i>	Metric and topological entropy bounds on state estimation for stochastic nonlinear systems <i>Christoph Kawan, Serdar Yüksel</i>	Playing Games with Bounded Entropy <i>Mehrdad Valizadeh, Amin Gohari</i>	Entropic Causality and Greedy Minimum Entropy Coupling <i>Murat Kocaoglu, Alexandros Dimakis, Sriram Vishwanath, Babak Hassibi</i>	On Structural Entropy of Uniform Random Intersection Graphs <i>Marcin Kardas, Zbigniew Golebiewski, Jakub Lemiesz, Krzysztof Majcher</i>	
Tu4-5: Bounds 2 Chair: Viveck Cadambe					K4
Dependence Measures Bounding the Exploration Bias for General Measurements <i>Jiantao Jiao, Yanjun Han, Tsachy Weissman</i>	Binary Subblock Energy-Constrained Codes: Bounds on Code Size and Asymptotic Rate <i>Anshoo Tandon, Han Mao Kiah, Mehul Motani</i>	Sampled Graph-Signals: Iterative Recovery with an Analytical Error Bound <i>Norbert Goertz</i>	Multidimensional Semiconstrained Systems <i>Ohad Elishco, Tom Meyerovitch, Moshe Schwartz</i>	Variable-length codes for channels with memory and feedback: error-exponent lower bounds <i>Achilleas Anastasopoulos, Jui Wu</i>	
Tu4-6: Sequences 2 Chair: Yossef Steinberg					K5
On Empirical Cumulant Generating Functions of Code Lengths for Individual Sequences <i>Neri Merhav</i>	Degree-(k + 1) Perfect Gaussian Integer Sequences of Period p^k <i>Ho-Hsuan Chang</i>	Reconstruction of Sequences over Non-Identical Channels <i>Michal Horovitz, Eitan Yaakobi</i>	Classification of a Sequence Family Using Plateaued Functions <i>Serdar Boztas, Ferruh Ozbudak, Eda Tekin</i>		
Tu4-7: Security 2 Chair: Arya Mazumdar					K6
Secret Key Agreement under Discussion Rate Constraints <i>Chung Chan, Manuj Mukherjee, Navin Kashyap, Qiaoqiao Zhou</i>	A Game Theoretic Treatment for Pair-wise Secret-Key Generation in Many-to-One Networks <i>Remi Chou, Aylin Yener</i>	Information-Theoretically Secure Key Generation and Management <i>Xin-Wen Wu, En-hui Yang</i>	Secret-Key Agreement with Public Discussion over Multi-Antenna Transmitters with Amplitude Constraints <i>Zouheir Rezki, Mohamed-Slim Alouini</i>	Robust and Secure Identification <i>Holger Boche, Christian Deppe</i>	
Tu4-8: Quantum IT 2 Chair: Joseph Renes					K7+8
Moderate deviation analysis for classical communication over quantum channels <i>Christopher Chubb, Vincent Tan, Marco Tomamichel</i>	Quantum Information on Spectral Sets <i>Peter Harremoës</i>	Kolmogorov Amplification from Bell Correlation <i>Ámin Baumeier, Charles Alexandre Bédard, Gilles Brassard, Stefan Wolf</i>	Degradable states and one-way entanglement distillation <i>Felix Leditzky, Nilanjana Datta, Graeme Smith</i>		
Tu4-9: Compression 1 Chair: Faramarz Fekri					K9
Recovery of Vertex Orderings in Dynamic Graphs <i>Abram Wagner, Ananth Grama, Jithin Sreedharan, Wojciech Szpankowski</i>	Variable-Length Lossy Compression Allowing Positive Overflow and Excess Distortion Probabilities <i>Shota Saito, Hideki Yagi, Toshiyasu Matsushima</i>	On Lossy Compression of Binary Matrices <i>Ronit Rubinfeld, Ofer Shayevitz</i>	Universal Lossless Compression of Graphical Data <i>Payam Delgosha, Venkat Anantharam</i>	Compressing data on graphs with clusters <i>Amir Asadi, Emmanuel Abbe, Sergio Verdú</i>	

Wednesday, June 28

09:50-11:10

9:50	10:10	10:30	10:50	
We1-1: Iterative Decoding 1 Chair: Albert Guillén i Fàbregas				
Vector Approximate Message Passing <i>Sundeep Rangan, Philip Schniter, Alyson Fletcher</i>	Generalized Approximate Message-Passing Decoder for Universal Sparse Superposition Codes <i>Erdem Bjyik, Jean Barbier, Mohamad Dia</i>	Block Markov Superposition Transmission of BCH Codes with Iterative Hard-decision Decoding <i>Nina Lin, Suihua Cai, Xiao Ma</i>	Belief Propagation for Subgraph Detection with Imperfect Side-information <i>Arun Kadavankandy, Konstantin Avrachenkov, Laura Cottatellucci, Rajesh Sundaresan</i>	Europa
We1-2: Student Paper Awards Candidate Talks 1 Chair: Wei Yu				
Multiplexing Zero-Error and Rare-Error Communications over a Noisy Channel with Feedback <i>Tibor Keresztfalvi, Amos Lapidoth</i>	The Exact Rate-Memory Tradeoff for Caching with Uncoded Prefetching <i>Qian Yu, Mohammad Ali Maddah-Ali, Salman Avestimehr</i>	Greedy-Merge Degrading has Optimal Power-Law <i>Assaf Kartowsky, Ido Tal</i>	A Generic Transformation for Optimal Repair Bandwidth and Rebuilding Access in MDS Codes <i>Jie Li, Xiaohu Tang, Chao Tian</i>	Brussels
We1-3: Coding for Storage and Streaming Chair: Ashish Khisti				
Multipermutation Ulam Sphere Analysis Toward Characterizing Maximal Code Size <i>Justin Kong, Manabu Hagiwara</i>	Multiplexed FEC for Multiple Streams with Different Playout Deadlines <i>Ahmed Badr, Devin Lui, Ashish Khisti, Wei-Tian Tan, Xiaoping Zhu, John Apostolopoulos</i>	A Code Equivalence between Streaming Network Coding and Streaming Index Coding <i>Ming Fai Wong, Michelle Effros, Michael Langberg</i>	On the error probability of stochastic decision and stochastic decoding <i>Jun Muramatsu, Shigeki Miyake</i>	K2
We1-4: Zero Error Capacity Chair: Alon Orlitsky				
The Birthday Problem and Zero-Error List Codes <i>Parham Noorzad, Michelle Effros, Michael Langberg, Victoria Kostina</i>	The Zero-Error Capacity of a Collision Channel With Successive Interference Cancellation <i>Yijin Zhang, Yi Chen, Yuan-Hsun Lo, Wing Shing Wong</i>	An improved bound on the zero-error list-decoding capacity of the 4/3 channel <i>Marco Dalai, Venkatesan Guruswami, Jaikumar Radhakrishnan</i>		K3
We1-5: Joint Source-Channel Coding 2 Chair: Sandeep Pradhan				
Dependence Balance in Multiple Access Channels with Correlated Sources <i>Amos Lapidoth, Shirin Saeedi Bidokhti, Michele Wigger</i>	On Minimum Energy for Robust Gaussian Joint Source-Channel Coding with a Distortion-Noise Profile <i>Erman Köken, Ertim Tuncel</i>	Communicating Correlated Sources Over a MAC <i>Arun Padakandla</i>		K4
We1-6: Spatial Coupling Chair: Laurent Schmalen				
Spatially Coupled LDLC: New Constructions <i>Svetlana Reznikov, Meir Feder</i>	A Protograph-Based Design of Quasi-Cyclic Spatially Coupled LDPC Codes <i>Li Chen, Shiyuan Mo, Daniel Costello, David Mitchell, Roxana Smarandache</i>	Complexity-Optimized Concatenated LDGM-Staircase Codes <i>Lei Zhang, Frank Kschischang</i>	A Novel Combinatorial Framework to Construct Spatially-Coupled Codes: Minimum Overlap Partitioning <i>Homa Esfahanizadeh, Ahmed Hareedy, Lara Dolecek</i>	K5
We1-7: Security 3 Chair: Salim El Rouayheb				
Secure wireless communication under spatial and local Gaussian noise assumptions <i>Masahito Hayashi</i>	The Degraded Gaussian Multiple Access Wiretap Channel with Selfish Transmitters: A Coalitional Game Theory Perspective <i>Remi Chou, Aylin Yener</i>	MIMO Gaussian Wiretap Channels with Two Transmit Antennas: Optimal Precoding and Power Allocation <i>Mojtaba Vaezi, Wonjae Shin, H. Vincent Poor, Jungwoo Lee</i>	Computation of the Random Coding Secrecy Exponent for a Constant Composition Ensemble <i>Yutaka Jitsumatsu</i>	K6
We1-8: Quantum IT 3 Chair: Min-Hsiu Hsieh				
Codes for Simultaneous Transmission of Quantum and Classical Information <i>Markus Grassl, Sirui Lu, Bei Zeng</i>	Belief propagation decoding of quantum channels by passing quantum messages <i>Joseph Renes</i>	Semidefinite programming converse bounds for classical communication over quantum channels <i>Xin Wang, Wei Xie, Runyao Duan</i>	On the Feasibility Conditions of Quantum State Discrimination <i>Chung-Chin Lu, Shiu-an-Hao Kuo</i>	K7+8
We1-9: Source Coding 3 Chair: Charalambos Charalambous				
An Information-Theoretic Analysis of Deduplication <i>Urs Niesen</i>	Extended Gray-Wyner System with Complementary Causal Side Information <i>Cheuk Ting Li, Abbas El Gamal</i>	Variable-Length Resolvability for General Sources <i>Hideki Yagi, Te Sun Han</i>	Universal Tree Source Coding Using Grammar-Based Compression <i>Markus Lohrey, Danny Huccke</i>	K9

Wednesday, June 28

11:30-12:30

11:30	11:50	12:10	
We2-1: Coding Techniques (Focus Session)		Europa	
Chair: Irina Bocharova	Successive Cancellation Decoding of Single Parity-Check Product Codes	Codes for Channels With Segmented Edits	
Multi-Block Interleaved Codes for Local and Global Read Access	<i>Mustafa Coşkun, Gianluigi Liva, Alexandre Graell i Amat, Michael Lentmaier</i>	<i>Mahed Abroshan, Ramji Venkataramanan, Albert Guillen i Fàbregas</i>	
<i>Yuval Cassuto, Evyatar Hemo, Sven Puchinger, Martin Bossert</i>			
We2-2: Student Paper Awards Candidate Talks 2		Brussels	
Chair: Eiza Erkip	A Tight Rate Bound and a Matching Construction for Locally Recoverable Codes with Sequential Recovery From Any Number of Multiple Erasures	Feedback Capacity and Coding for the (0,k)-RL-L Input-Constrained BEC	
A High-SNR Normal Approximation for Single-Antenna Rayleigh Block-Fading Channels	<i>Balaji Srinivasan Babu, Ganesh Kini, P Vijay Kumar</i>	<i>Ori Peled, Oron Sabag, Haim Permuter</i>	
<i>Alejandro Lancho, Tobias Koch, Giuseppe Durisi</i>			
We2-3: Crypto (Focus Session)		K2	
Chair: Natasa Zivic	Information Set Decoding with Soft Information and some cryptographic applications	Statistical Decoding	
Efficiency Lower Bounds for Commit-and-Prove Constructions	<i>Qian Guo, Thomas Johansson, Erik Mårtensson, Paul Stankovski</i>	<i>Thomas Debris-Alazard, Jean-Pierre Tillich</i>	
<i>Chen-Da Liu Zhang, Christian Badertscher, Sandro Coretti, Ueli Maurer</i>			
We2-4: Security (Focus Session)		K3	
Chair: Andrew Thangaraj	New Models for Interference and Broadcast Channels with Confidential Messages	Secret Sharing with Optimal Decoding and Repeat Bandwidth	
Security of Helper Data Schemes for SRAM-PUF in Multiple Enrollment Scenarios	<i>Mohamed Nafea, Aylin Yener</i>	<i>Wentao Huang, Jehoshua Bruck</i>	
<i>Lieneke Kusters, Tanya Ignatenko, Frans Willemis, Roel Maes, Erik van der Suijs, Georgios Selimis</i>			
We2-5: Network Information Theory (Focus Session)		K5	
Chair: Anthony Ephremides	On the Sub-optimality of Single-letter Coding in Multi-terminal Communications	Coordination with Clustered Common Randomness in a Three-Terminal Line Network	
Towards an Algebraic Network Information Theory: Simultaneous Joint Typicality Decoding	<i>Farhad Shirani, Sandeep Pradhan</i>	<i>Ishaque Ashar Kadampot, Matthieu Bloch</i>	
<i>Sung Hoon Lim, Chen Feng, Adriano Pastore, Bobak Nazer, Michael Gastpar</i>			
We2-P: Recent Results Posters	Chair: Anke Schmeink	Foyer Brussels	

Wednesday, June 28

12:45-13:45

We3-1: Awards Session	Chair: Ruediger Urbanke	Europa
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Wednesday, June 28

Afternoon

Social Events

Thursday, June 29

09:50-11:10

9:50	10:10	10:30	10:50	
Th1-1: Lattice Codes 1 Chair: Stark Draper				Europa
Capacity Optimality of Lattice Codes in Common Message Gaussian Broadcast Channels with Coded Side Information <i>Lakshmi Natarajan, Yi Hong, Emanuele Viterbo</i>	On the Communication Cost of Determining an Approximate Nearest Lattice Point <i>Maiara Bollauf, Vinay Vaishampayan, Sueli Costa</i>	Communication Cost of Transforming a Nearest Plane Partition to the Voronoi Partition <i>Vinay Vaishampayan, Maiara Bollauf</i>	Compute-and-Forward over Block-Fading Channels Using Algebraic Lattices <i>Shanxiang Lyu, Antonio Campello, Cong Ling, Jean-Claude Belfiore</i>	
Th1-2: Polar Codes 2 Chair: Ruediger Urbanke				Brussels
Construction of Polar Codes with Sublinear Complexity <i>Marco Mondelli, Hamed Hassani, Ruediger Urbanke</i>	On the Error Probability of Short Concatenated Polar and Cyclic Codes with Interleaving <i>Giacomo Ricciutelli, Marco Baldi, Franco Chiaraluce, Gianluigi Liva</i>	A Randomized Construction of Polar Subcodes <i>Peter Trifonov, Grigori Trofimuk</i>	On Design of CRC Codes for Polar Codes with Successive Cancellation List Decoding <i>Takumi Murata, Hideki Ochiiai</i>	
Th1-3: Broadcast Channels 3 Chair: Shlomo (Shitz) Shamai				K2
Block-fading Broadcast Channel with Hybrid CSIT and CSIR <i>Mohamed Fadel, Aria Nosratinia</i>	Application of Yamamoto-Itoh Coding Scheme to Discrete Memoryless Broadcast Channels <i>Hirotsuke Yamamoto, Shintaro Hara</i>	Coding Across Heterogeneous Parallel Erasure Broadcast Channels is Useful <i>Sunghyun Kim, Soheil Mohajer, Changho Suh</i>	Rate Splitting and Superposition Coding for Concurrent Groupcasting over the Broadcast Channel: A General Framework <i>Henry Romero, Mahesh Varanasi</i>	
Th1-4: Private Information Retrieval Chair: Michael Gastpar				K3
Private Information Retrieval from MDS Coded Data with Colluding Servers: Setting a Conjecture by Freij-Hollanti et al <i>Hua Sun, Syed Jafar</i>	Multi-Message Private Information Retrieval <i>Karim Banawan, Sennur Ulukus</i>	Robust Private Information Retrieval on Coded Data <i>Razane Tajeddine, Salim El Rouayheb</i>	Private Information Retrieval Schemes for Coded Data with Arbitrary Collusion Patterns <i>Razane Tajeddine, Oliver Gnille, David Karpuk, Ragnar Freij-Hollanti, Camilla Hollanti, Salim El Rouayheb</i>	
Th1-5: Rate Distortion Theory 2 Chair: Tsachy Weissman				K4
A Distortion Based Approach for Protecting Inferences <i>Chi-Yo Tsai, Gaurav Kumar Agarwal, Christina Fragouli, Suhas Diggavi</i>	Rate-Distortion Regions of Instances of Cascade Source Coding with Side Information <i>Chien-Yi Wang, Abdellatif Zaidi</i>	The Rate-Distortion Function for Successive Refinement of Abstract Sources <i>Victoria Kostina, Ertem Tuncel</i>	Rate-Distortion Tradeoffs under Kernel-Based Distortion Measures <i>Kazuho Watanabe</i>	
Th1-6: Coding for Insertion and Deletion Channels 1 Chair: Joseph Jean Boutros				K5
Coding for the Permutation Channel with Insertions, Deletions, Substitutions, and Erasures <i>Maden Kovačević, Vincent Tan</i>	Perfect Codes for Single Balanced Adjacent Deletions <i>Manabu Hagiwara</i>	Timing-Drift Channel Model and Marker-Based Error Correction Coding <i>Haruhiko Kaneko</i>	Limits to List Decoding of Insertions and Deletions <i>Antonia Wachter-Zeh</i>	
Th1-7: Security 4 Chair: Lifeng Lai				K6
The Gelfand-Pinsker wiretap channel: Higher secrecy rates via a novel superposition code <i>Ziv Goldfeld, Paul Cuff, Haim Permuter</i>	The Gaussian Multiple Access Wiretap Channel when the Eavesdropper can Arbitrarily Jam <i>Remi Chou, Aylin Yener</i>	Secrecy Capacity of the First-Order Autoregressive Moving Average Gaussian Channel with Feedback <i>Chong Li, Yingbin Liang</i>	Asymptotic Converse Bound for Secret Key Capacity in Hidden Markov Model <i>Mohammad Reza Khalili Shoja, George Aminiouei, Zhengdao Wang, Shuangqing Wei, Jing Deng</i>	
Th1-8: Quantum IT 4 Chair: Stefan Wolf				K7+8
Compression for quantum population coding <i>Yuxiang Yang, Ge Bai, Giulio Chiribella, Masahito Hayashi</i>	Moderate Deviations for Quantum Hypothesis Testing and a Martingale Inequality <i>Hao-Chung Cheng, Min-Hsiu Hsieh</i>	Classical-Quantum Arbitrarily Varying Wiretap Channel: Secret Message Transmission under Jamming Attacks <i>Minglai Cai, Holger Boche, Christian Deppe, Janis Noetzel</i>	Quantum Markov Chains and Logarithmic Trace Inequalities <i>David Sutter, Mario Berta, Marco Tomamichel</i>	
Th1-9: Source Coding 4 Chair: Yasutada Oohama				K9
Distributed Task Encoding <i>Annina Bracher, Amos Lapidoth, Christoph Pfister</i>	Performance Limits on the Classification of Kronecker-structured Models <i>Ishan Jindal, Matthew Noleby</i>	The Redundancy Gains of Almost Lossless Universal Source Coding over Envelope Families <i>Jorge Silva, Pablo Piantanida</i>	Universal Sampling Rate Distortion <i>Vinay Praneeth Boda, Prakash Narayan</i>	

Thursday, June 29

11:30-12:50

11:30	11:50	12:10	12:30	
Th2-1: Coding Techniques 3 Chair: Vladimir Sidorenko				
Cooling Codes: Thermal-Management Coding for High-Performance Interconnects <i>Tuvi Etzion, Alexander Vardy, Yeow Meng Chee, Han Mao Kiah</i>	Recursive Block Markov Superposition Transmission of Short Codes <i>Shancheng Zhao, Qin Huang, Xiao Ma, Baoming Bai</i>	Complete Characterization of the Solvability of PAPR Reduction for OFDM by Tone Reservation <i>Holger Boche, Ullrich Mönich, Ezra Tampubolon</i>	Construction of q -ary Constant Weight Sequences using a Knuth-like Approach <i>Elie Ngomseu Mambou, Theo Swart</i>	Europa
Th2-2: Locally Repairable Codes 3 Chair: P Vijay Kumar				
Bounds and Constructions for Linear Locally Repairable Codes over Binary Fields <i>Anyu Wang, Zhifang Zhang, Dong-dai Lin</i>	Locally Repairable Codes with Multiple (r_i, δ_i) -Localities <i>Bin Chen, Shutao Xia, Jie Hao</i>	epsilon-MSR Codes with Small Sub-packetization <i>Ankit Singh Rawat, Itzhak Tamo, Venkatesan Guruswami, Klim Efremenko</i>	An Explicit, Coupled-Layer Construction of a High-Rate MSR Code with Low Sub-Packetization Level, Small Field Size and $d < (r_i - 1)$ <i>Birenjith Sasidharan, Myrna Vajha, P Vijay Kumar</i>	Brussels
Th2-3: Multicell and Cloud Radio Chair: Salman Avestimehr				
An Upper Bound on the Sum Capacity of the Downlink Multicell Processing with Finite Backhaul Capacity <i>Tianyu Yang, Nan Liu, Wei Kang, Shlomo (Shitz) Shamai</i>	Capacity Bounds on the Downlink of Symmetric, Multi-Relay, Single Receiver C-RAN Networks <i>Shirin Saeedi Bidokhti, Gerhard Kramer, Shlomo (Shitz) Shamai</i>	On the Capacity of Cloud Radio Access Networks <i>Shouvik Ganguly, Young-Han Kim</i>	On the Capacity of Cloud Radio Access Networks with Oblivious Relaying <i>Inaki Estella, Abdellatif Zaidi, Giuseppe Caire, Shlomo (Shitz) Shamai</i>	K2
Th2-4: Channel Capacity 3 Chair: Muriel Médard				
Intrinsic Capacity <i>Shengtian Yang, Rui Xu, Jun Chen, Jian-Kang Zhang</i>	Gaussian Channels with Minimum Amplitude Constraints: When is Optimal Input Binary? <i>Zhengwei Ni, Mehul Motani</i>	On the Achievable Rate of Bandlimited Continuous-Time 1-Bit Quantized AWGN Channels <i>Sandra Bender, Meik Dorpinghaus, Gerhard Fettweis</i>	Single-Bit Quantization of Binary-Input, Continuous-Output Channels <i>Brian Kurkoski, Hideki Yagi</i>	K3
Th2-5: Estimation 1 Chair: H. Vincent Poor				
Lower Bounds on Parameter Modulation-Estimation Under Bandwidth Constraints <i>Nir Weinberger, Neri Merhav</i>	Multi-Layer Generalized Linear Estimation <i>Andre Manoel, Florent Krzakala, Marc Mézard, Lenka Zdeborova</i>	Minimax Optimal Estimators for Additive Scalar Functionals of Discrete Distributions <i>Kazuto Fukuchi, Jun Sakuma</i>	I-MMSE relations in random linear estimation and a sub-extensive interpolation method <i>Jean Barbier, Nicolas Macris</i>	K4
Th2-6: MIMO 3 Chair: Hamid Jafarkhani				
Multi-Antenna Coded Caching <i>Seyed Pooya Shariatpanahi, Giuseppe Caire, Babak Hossein Khalaj</i>	Optimally-Tuned Nonparametric Linear Equalization for Massive MU-MIMO Systems <i>Ramina Ghods, Charles Jeon, Gulnar Mirza, Arian Maleki, Christoph Studer</i>	Rate Bounds on 4-group fast decodable space-time code <i>Bharath Sethuraman</i>		K5
Th2-7: Security 5 Chair: Sidharth Jaggi				
Games on Linear Deterministic Channels with Eavesdroppers <i>Ruijie Xu, Hao Ge, Randall Berry</i>	A New Broadcast Wiretap Channel Model <i>Mohamed Nafea, Aylin Yener</i>	Secrecy-Reliability Tradeoff for Semi-Deterministic Wiretap Channels at Finite Blocklength <i>Wei Yang, Rafael Schaefer, H. Vincent Poor</i>	On Secure Asymmetric Multilevel Diversity Coding Systems <i>Congduan Li, Xuan Guang, Chee Wei Tan, Raymond W. Yeung</i>	K6
Th2-8: Compressed Sensing 3 Chair: Tareq Y. Al-Naffouri				
Dynamical Functional Theory for Compressed Sensing <i>Burak Çakmak, Manfred Oppel, Ole Winther, Bernard Fleury</i>	Compressed Sensing under Optimal Quantization <i>Alon Kipnis, Galen Reeves, Yonina Eldar, Andrea Goldsmith</i>	Noisy Tensor Completion for Tensors with a Sparse Canonical Polyadic Factor <i>Swayambhoo Jain, Alexander Gutierrez, Jarvis Haupt</i>	Compressed Sensing of Compressible Signals <i>Sajjad Beygi, Shirin Jalali, Arian Maleki, Urbashi Mitra</i>	K7+8
Th2-9: Statistics 1 Chair: Andrew Barron				
Budget-Optimal Clustering via Crowdsourcing <i>Ravi Kiran Raman, Lav Varshney</i>	Universal Joint Image Clustering and Registration using Partition Information <i>Ravi Kiran Raman, Lav Varshney</i>	How to Find a Joint Probability Distribution of Minimum Entropy (almost) given the Marginals <i>Ferdinando Cicalese, Luisa Gargano, Ugo Vaccaro</i>	On the Fundamental Statistical Limit of Community Detection in Random Hypergraphs <i>Chung-Yi Lin, I Chien, I-Hsiang Wang</i>	K9

Thursday, June 29

14:40-16:20

14:40	15:00	15:20	15:40	16:00	
Th3-1: Coding Theory 3 Chair: Antonia Wachter-Zeh					⇒ Amsterdam ⇐
<p>Multiset combinatorial batch codes</p> <p><i>Hui Zhang, Eitan Yaakobi, Natalia Silberstein</i></p>	<p>Structured Spherical Codes With Asymptotically Optimal Distance Distributions</p> <p><i>Robert Taylor, Lamine Mili, Amir Zaghlool</i></p>	<p>Weight Spectrum of Quasi-Perfect Binary Codes with Distance 4</p> <p><i>Valentin Afanassiev, Alexander Davydov</i></p>	<p>Kronecker Product and Tiling of Permutation Arrays for Hamming Distances</p> <p><i>Sergey Bereg, Luis Gerardo Mojica de la Vega, Linda Morales, I. Hai Sudborough</i></p>	<p>Performance of Spinal Codes with Sliding Window Decoding</p> <p><i>WeiQiYang, Ying Li, Xiaopu Yu</i></p>	
Th3-2: Coding for Distributed Storage 2 Chair: Joerg Kliewer					Brussels
<p>Secure Regenerating Codes for Hybrid Cloud Storage Systems</p> <p><i>Islam Samy, Gokhan Calis, O. Ozan Koyluoglu</i></p>	<p>Centralized Multi-Node Repair for Minimum Storage Regenerating Codes</p> <p><i>Marwen Zorgui, Zhiying Wang</i></p>	<p>GDSP: A Graphical Perspective on the Distributed Storage Systems</p> <p><i>Saeid Sahraei, Michael Gastpar</i></p>	<p>Distributed Storage Allocation for Multi-Class Data</p> <p><i>Koosha Pourtahmasi Roshandeh, Moslem Noori, Masoud Ardakani, Chintha Tellambura</i></p>		
Th3-3: Relaying Chair: Roy Yates					K2
<p>The Capacity-distortion Function for Multihop Channels with State</p> <p><i>Amir Salimi, Wenyi Zhang, Satish Vedantam, Urbashi Mitra</i></p>	<p>The Geometry of the Relay Channel</p> <p><i>Xiugang Wu, Leighton Barnes, Ayfer Özgür</i></p>	<p>The CF-DF Approach for Relay Networks Based on Multiple Descriptions with the Shared Binning</p> <p><i>Leila Ghabeli</i></p>			
Th3-4: Guessing Chair: Neri Merhav					K3
<p>Making Recommendations Bandwidth Aware</p> <p><i>Linqi Song, Christina Fragouli</i></p>	<p>The Effect of Bias on the Guesswork of Hash Functions</p> <p><i>Yair Yona, Suhas Diggavi</i></p>	<p>Guessing With Limited Memory</p> <p><i>Wasim Huleihel, Salman Salamatin, Muriel Médard</i></p>	<p>Centralized vs Decentralized Multi-Agent Guesswork</p> <p><i>Salman Salamatin, Ahmad Beirami, Adaf Cohen, Muriel Médard</i></p>		
Th3-5: Detection and Estimation 3 Chair: Alfred Hero III					K4
<p>Asymptotic Optimality of D-CuSum for Quickest Change Detection under Transient Dynamics</p> <p><i>Shaofeng Zou, Georgios Fellouris, Venugopal Veeravalli</i></p>	<p>Sketched Covariance Testing: A Compression-Statistics Tradeoff</p> <p><i>Gautam Dasarathy, Parikshit Shah, Richard Baraniuk</i></p>	<p>Error bounds for Bregman Denoising and Structured Natural Parameter Estimation</p> <p><i>Amin Jalali, James Saunderson, Maryam Fazel, Babak Hassibi</i></p>	<p>On Random Sampling with Nodes Attraction: The Case of Gauss-Poisson Process</p> <p><i>Flavio Zabini, Gianni Pasolini, Andrea Conti</i></p>	<p>Low-rank, Sparse and Line Constrained Estimation: Applications to Target Tracking and Convergence</p> <p><i>Amr Elnakeeb, Urbashi Mitra</i></p>	
Th3-6: Multiple Access Feedback Chair: Lalitha Sankar					K5
<p>Two-User Downlink Non-Orthogonal Multiple Access with Limited Feedback</p> <p><i>Xiaoyi Liu, Hamid Jafarkhani</i></p>	<p>Role of Feedback in Modulo-Sum Computation over Erasure Multiple-Access Channels</p> <p><i>I-Hsiang Wang, Shih-Chun Lin, Yu-Chih Huang</i></p>	<p>On the Necessity of Structured Codes for Communications over MAC with Feedback</p> <p><i>Mohsen Heidari Khoozani, Farhad Shirani, Sandeep Pradhan</i></p>	<p>On the Gaussian MAC with Stop-Feedback</p> <p><i>Van Truong, Vincent Tan</i></p>		
Th3-7: Communications 3 Chair: Ralf Müller					K6
<p>Probabilistic Shaping and Non-Binary Codes</p> <p><i>Joseph Jean Boutros, Fanny Jardel, Cyril Measson</i></p>	<p>Successive Local and Successive Global Omniscience</p> <p><i>Anoosheh Heidarzadeh, Alex Sprintson</i></p>	<p>Noncoherent Massive Space-Time Codes with PSK Modulation for Uplink Network Communications</p> <p><i>Jian-Kang Zhang, Shuangzhi Li, Xiaomin Mu</i></p>	<p>FPLINQ: A Cooperative Spectrum Sharing Strategy for Device-to-Device Communications</p> <p><i>Kaiming Shen, Wei Yu</i></p>	<p>On the Effective Rate of MISO/TAS Systems in Rayleigh Fading</p> <p><i>Yazan Al-Badarnah, Costas Georgiades, Carlos Mejia</i></p>	
Th3-8: Compressed Sensing 4 Chair: Bernard Henri Fleury					K7+8
<p>Generalized Expectation Consistent Signal Recovery for Nonlinear Measurements</p> <p><i>Hengtao He, Chao-Kai Wen, Shi Jin</i></p>	<p>Universality of the Elastic Net Error</p> <p><i>Andrea Montanari, Phan Minh Nguyen</i></p>	<p>Using Mutual Information for Designing the Measurement Matrix in Phase Retrieval Problems</p> <p><i>Nir Shlezinger, Ron Dabora, Yonina Eldar</i></p>	<p>Information Theoretic Limits for Linear Prediction with Graph-Structured Sparsity</p> <p><i>Adarsh Barik, Jean Honorio, Mohit Tawarmalani</i></p>	<p>Improved Bounds for Universal One-bit Compressive Sensing</p> <p><i>Jayadev Acharya, Amab Bhattacharyya, Pritish Kamath</i></p>	
Th3-9: Signal Processing Chair: Negar Kiyavash					K9
<p>Principal Pivot Transforms on Radix-2 DFT-type Matrices</p> <p><i>Sian-Jheng Lin, Amira Aloulou, Tareq Y. Al-Naffouri</i></p>	<p>Adversarial Principal Component Analysis</p> <p><i>Daniel Pimentel-Alarcon, Anitra Biswas, Claudia Solis-Lemus</i></p>	<p>Characterization of the stability range of the Hilbert transform with applications to spectral factorization</p> <p><i>Holger Boche, Volker Pohl</i></p>	<p>Mellin-Transform-Based New Results of the Joint Statistics of Partial Products of Ordered Random Variables</p> <p><i>Sung Sik Nam, Young-Chai Ko, Mohamed-Slim Alouini</i></p>	<p>Optimal Sensor Selection in the Presence of Noise and Interference</p> <p><i>Alshin Abdi, Faramarz Fekri</i></p>	

Thursday, June 29

16:40-18:20

16:40	17:00	17:20	17:40	18:00	
Th4-1: Network Coding 2					Chair: Ron Roth
Circular-shift Linear Network Coding <i>Qifu Sun, Hanqi Tang, Zongpeng Li, Xiaolong Yang, Keping Long</i>	Coding for Networks of Compound Channels <i>Fariba Abbasi, Mayank Bakshi</i>	Distributed Decoding of Convolutional Network Error Correction Codes <i>Hengjie Yang, Wangmei Guo</i>	Multiuser Rate-Diverse Network-Coded Multiple Access <i>Haoyuan Pan, Lu Lu, Soung Chang Liew</i>		⇒ Amsterdam ⇐
Th4-2: Coded Computation					Chair: Helmut Bölcskei
Coded convolution for parallel and distributed computing within a deadline <i>Sanghamitra Dutta, Viveck Cadambe, Pulkit Grover</i>	Coded Computation over Heterogeneous Clusters <i>Amirhossein Reiszadeh, Saurav Prakash, Ramtin Pedarsani, Salman Avestimehr</i>	Coded Computation for Multicore Setups <i>Kangwook Lee, Ramtin Pedarsani, Dimitris Papailiopoulos, Kannan Ramchandran</i>	High-Dimensional Coded Matrix Multiplication <i>Kangwook Lee, Changho Suh, Kannan Ramchandran</i>		Brussels
Th4-3: Coded Caching 1					Chair: Giuseppe Caire
Coded Caching with Partial Adaptive Matching <i>Jad Hachem, Nikhil Karamchandani, Sharayu Moharir, Suhas Diggavi</i>	Improved Converses and Gap-Results for Coded Caching <i>Chien-Yi Wang, Shirin Saeedi Bidokhti, Michele Wigger</i>	Coded Caching for Combination Networks with Cache-Aided Relays <i>Ahmed Zewail, Aylin Yener</i>	Asynchronous Coded Caching <i>Hooshang Ghasemi, Aditya Ramamoorthy</i>	Decentralized Coded Caching in Wireless Networks: Trade-off between Storage and Latency <i>Antoniou Girgis, Ozgur Ercetin, Mohammed Nafie, Tamer ElBatt</i>	K2
Th4-4: Shannon Theory and Molecular					Chair: Olivier Leveque
A Characterization of the Shannon Ordering of Communication Channels <i>Rajai Nasser</i>	On the Input-Degradedness and Input-Equivalence Between Channels <i>Rajai Nasser</i>	Models and information-theoretic bounds for nanopore sequencing <i>Wei Mao, Suhas Diggavi, Sreeram Kannan</i>	Less Noisy Domination by Noisy Histogram Channels <i>Anuran Makur, Yury Polyanskiy</i>	Capacity of Molecular Channels with Imperfect Particle-Intensity Modulation and Detection <i>Nariman Farsad, Christopher Rose, Muriel Médard, Andrea Goldsmith</i>	K3
Th4-5: Bounds 3					Chair: I-Hsiang Wang
Information-theoretic Limits of Subspace Clustering <i>Kwangjun Ahn, Kangwook Lee, Changho Suh</i>	The Error Exponent of Sparse Regression Codes with AMP Decoding <i>Cynthia Rush, Ramji Venkataramanan</i>	Lower Bounds on the Number of Write Operations by Index-less Indexed Flash Code with Inversion Cells <i>Akira Yamawaki, Hiroshi Kamabe, Shan Lu</i>	Partial Data Extraction via Noisy Histogram Queries: Information Theoretic Bounds <i>Wei-Ning Chen, I-Hsiang Wang</i>	Asymptotics of the Error Probability in Quasi-Static Binary Symmetric Channels <i>Josep Font-Segura, Alfonso Martinez, Albert Guillén i Fàbregas</i>	K4
Th4-6: Wireless Networks 2					Chair: Randall Berry
Commitment in regulatory spectrum games: Examining the first-player advantage <i>Vidya Muthukumar, Anant Sahai</i>	Inferring Network Topology from Information Cascades <i>Feng Ji, Wenchang Tang, Wee Peng Tay, Edwin Chong</i>	Statistical beamforming for the large antenna broadcast channel <i>Vasanthan Raghavan, Junil Choi, David Love</i>	Efficient Resource Allocation in Mobile-edge Computation Offloading: Completion Time Minimization <i>Quy Hong Le, Hussein Al-Shatri, Anja Klein</i>	Scalable Spectrum Allocation for Large Networks Based on Sparse Optimization <i>Binnan Zhuang, Dongning Guo, Ermin Wei, Michael Honig</i>	K5
Th4-7: Random Access Channels					Chair: Robert Calderbank
A perspective on massive random-access <i>Yury Polyanskiy</i>	Low Complexity Schemes for the Random Access Gaussian Channel <i>Or Ordentlich, Yury Polyanskiy</i>	Multi-Cell Aware Opportunistic Random Access <i>Huilin Lin, Won-Yong Shin</i>	Multi-Channel Random Access with Replications <i>Olga Galimina, Andrey Turlikov, Sergey Andreev, Yevgeni Koucheryavy</i>		K6
Th4-8: Index Coding 1					Chair: Lawrence Ong
Private Broadcasting: an Index Coding Approach <i>Mohammed Karmoose, Linqi Song, Martina Cardone, Christina Fragouli</i>	Golden-Coded Index Coding <i>Yu-Chih Huang, Yi Hong, Emanuele Viterbo</i>	Generalized Index Coding Problem and Discrete Polymatroids <i>Anoop Thomas, B. Sundar Rajan</i>	A Pliable Index Coding Approach to Data Shuffling <i>Linqi Song, Christina Fragouli, Tianchu Zhao</i>		K7+8
Th4-9: Compression 2					Chair: Stefano Rini
Fixed-Length-Parsing Universal Compression with Side Information <i>Yeohae Im, Sergio Verdú</i>	Coding Theorems for the Compress and Estimate Source Coding Problem <i>Alon Kipnis, Stefano Rini, Andrea Goldsmith</i>	Row-centric lossless compression of Markov images <i>Matthew Reyes, David Neuhoff</i>	A Practical Approach for Successive Omnisense <i>Ni Ding, Rodney Kennedy, Parasतो Sadeghi</i>		K9

Friday, June 30

09:50-11:10

9:50	10:10	10:30	10:50	
Fr1-1: Lattice Codes 2 Chair: Robert Fischer				Europa
On the Universality of Lattice Codes for a Class of Ergodic Fading Channels <i>Ahmed Hindy, Aria Nosratinia</i>	Index Mapping for Bit-error Resilient Multiple Description Lattice Vector Quantizer <i>Sorina Dumitrescu, Yifang Chen, Jun Chen</i>	On Shaping Complex Lattice Constellations from Multi-level Constructions <i>Perathorn Pookksombat, J Harshan, Wittawat Kositwattanarak</i>	On the Design of Multi-Dimensional Irregular Repeat-Accumulate Lattice Codes <i>Min Qiu, Lei Yang, Yixuan Xie, Jinhong Yuan</i>	
Fr1-2: Polar Codes 3 Chair: Peter Trifonov				Brussels
Performance Bounds of Concatenated Polar Coding Schemes <i>Dina Goldin, David Burshtein</i>	Energy-Adaptive Polar Codes: Trading Off Reliability and Decoder Circuit Energy <i>Haewon Jeong, Christopher Blake, Pulkit Grover</i>	Polar codes with a stepped boundary <i>Ilya Dumer</i>	Permuted Successive Cancellation Decoding for Polar Codes <i>Sarit Buzaglo, Arman Fazeli, Veeresh Taranalli, Paul Siegel, Alexander Vardy</i>	
Fr1-3: Multiple Access 3 Chair: Young-Han Kim				K2
On the Degrees of Freedom of Wide-Band Multi-Cell Multiple Access Channels With No CSIT <i>Yo-Seb Jeon, Namyoan Lee, Ravi Tandon</i>	Low-Density Code-Domain NOMA: Better Be Regular <i>Ori Shental, Benjamin Zaidel, Shlomo (Shitz) Shamai</i>	Capacity Region of a One-Bit Quantized Gaussian Multiple Access Channel <i>Borzoo Rassouli, Deniz Gündüz, Morteza Varasteh</i>	On OR Many-Access Channels <i>Wenyi Zhang, Lingyan Huang</i>	
Fr1-4: Information Retrieval Chair: Eitan Yaakobi				K3
Improved Codes for List Decoding in the Levenshtein's channel and Information Retrieval <i>Tero Laihonen, Tuomo Lehtilä</i>	Binary, Shortened Projective Reed Muller Codes for Coded Private Information Retrieval <i>Myna Vajha, Vinayak Ramkumar, P Vijay Kumar</i>	Sparse Ternary Codes for similarity search have higher coding gain than dense binary codes <i>Sohrab Ferdowsi, Sviatoslav Voloshynovskiy, Dimche Kostadinov, Taras Holotyak</i>	PIR Array Codes with Optimal PIR Rates <i>Tuvi Etzion, Simon Blackburn</i>	
Fr1-5: Information Dynamics Chair: Anant Sahai				K4
The Capacity of Unstable Dynamical Systems-Interaction of Control and Information Transmission <i>Ioannis Tzortzis, Charalambos Charalambous, Christos Kourtellis, Sergey Loyka</i>	Optimal Quantizations of B-DMCs Maximizing α -Mutual Information with Monge Property <i>Yuta Sakai, Ken-ichi Iwata</i>	Information and estimation in Fokker-Planck channels <i>Andre Wibisono, Varun Jog, Po-Ling Loh</i>	Dynamical Systems, Ergodicity, and Posterior Matching <i>Todd Coleman</i>	
Fr1-6: Coding for Insertion and Deletion Channels 2 Chair: Wahid Aref				K5
Asymptotically Optimal Sticky-Insertion-Correcting Codes with Efficient Encoding and Decoding <i>Hessam MahdaviFar, Alexander Vardy</i>	Permutation Codes Correcting a Single Burst Deletion II: Stable Deletions <i>Yeow Meng Chee, San Ling, Tuan Thanh Nguyen, Van Khu Vu, Hengjia Wei</i>	Guess & Check Codes for Deletions and Synchronization <i>Serge Kas Hanna, Salim El Rouayheb</i>	On Unique Decoding from Insertion Errors <i>Kayvon Mazooji</i>	
Fr1-7: Security 6 Chair: Oliver Kosut				K6
Characterizing Optimal Security and Round-Complexity for Secure OR Evaluation <i>Amisha Jhanji, Hemanta Maji, Raphael Meyer</i>	Learning Adversary's Actions for Secret Communication <i>Mehrdad Tahmasbi, Matthieu Bloch, Aylin Yener</i>	On the Equivalency of Reliability and Security Metrics for Wireline Networks <i>Mohammad mahdi Mojahedian, Amin Gohari, Mohammad Reza Aref</i>	A code-based blind signature <i>Olivier Blazy, Philippe Gaborit, Julien Schrek, Nicolas Sendrier</i>	
Fr1-8: Multiple Access Chair: Richard Wesel				K7+8
Asymptotic Analysis of Tone Reservation Method for the PAPR Reduction of CDMA Systems <i>Holger Boche, Ezra Tampusolon</i>	Spatial random multiple access with multiple departure <i>Serguei Foss, Andrey Turlikov, Maxim Grankin</i>	Coded Random Access Design for Constrained Outage <i>MohammadReza Ebrahimi, Farshad Lahouti, Victoria Kostina</i>		
Fr1-9: Channel Identification Chair: Kenta Kasai				K9
On Optimal Error Exponents in Noiseless Channel Identification <i>Marat Burnashev, Hirotsuke Yamamoto</i>	Channel Resolvability Theorems for General Sources and Channels <i>Hideki Yagi</i>	Hierarchical Identification with Pre-processing <i>Minh Thanh Vu, Tobias Oechtering, Mikael Skoglund</i>	Mismatched Identification via Channels <i>Anelia Somekh-Baruch</i>	

Friday, June 30

11:30-12:50

11:30	11:50	12:10	12:30	
Fr2-1: Rank Metric Codes Chair: Sven Puchinger				
On Decoding Rank-Metric Codes over Large Fields <i>Ron Roth</i>	Universal secure rank-metric coding schemes with optimal communication overheads <i>Umberto Martínez-Peñas</i>	MRD Rank Metric Convolutional Codes <i>Diego Napp, Raquel Pínto, Joachim Rosenthal, Paolo Vettori</i>	A decoding algorithm for Twisted Gabidulin codes <i>Tovohery Randrianarisoa, Joachim Rosenthal</i>	Europa
Fr2-2: Iterative Decoding 2 Chair: Yuval Cassuto				
An Iterative Soft-decision Decoding Algorithm for Reed-Solomon Codes <i>Huang Chang Lee, Jyun-Han Wu, Yeong-Luh Ueng, Chung-Hsuan Wang</i>	Decoding from Pooled Data: Phase Transitions of Message Passing <i>Ahmed El Aloufi, Aaditya Ramdas, Florent Krzakala, Lenka Zdeborova, Michael Jordan</i>	Topological Interference Management with Decoded Message Passing: A Polyhedral Approach <i>Xinping Yi, Giuseppe Caire</i>		Brussels
Fr2-3: Coded Caching 2 Chair: Petros Elia				
Decentralized Caching and Coded Delivery over Gaussian Broadcast Channels <i>Mohammad Mohammadi Amiri, Deniz Gündüz</i>	Low Subpacketization Schemes for Coded Caching <i>Li Tang, Aditya Ramamoorthy</i>	On Coded Caching in the Overloaded MISO Broadcast Channel <i>Enrico Piovano, Hamdi Joudeh, Bruno Clerckx</i>	Coded Caching with Linear Subpacketization is Possible using Ruzsa-Szemerédi Graphs <i>Karthikeyan Shanmugam, Antonia Tulino, Alexandros Dimakis</i>	K2
Fr2-4: Channel Capacity 4 Chair: Hideki Yagi				
The Arbitrarily Varying Channel Under Constraints with Causal Side Information at the Encoder <i>Uzi Pereg, Yossef Steinberg</i>	Storage Capacity as an Information-Theoretic Analogue of Vertex Cover <i>Arya Mazumdar, Andrew McGregor, Sofya Vorotnikova</i>	Gaussian ISI Channels with Mismatch <i>Wasim Huleihel, Salman Salamati, Neri Merhav, Muriel Médard</i>	Characterization of Super-Additivity and Discontinuity Behavior of the Capacity of Arbitrarily Varying Channels under List Decoding <i>Holger Boche, Rafael Schaefer, H. Vincent Poor</i>	K3
Fr2-5: Communications 4 Chair: Remi Chou				
Optimal Covert Communications using Pulse-Position Modulation <i>Matthieu Bloch, Saikat Guha</i>	Covert Communication with Non-causal Channel-State Information at the Transmitter <i>Si-Hyeon Lee, Ligong Wang, Ashish Khisti, Gregory Wornell</i>	Strong Coordination of Signals and Actions over Noisy Channels <i>Giulia Cervia, Laura Luzzi, Mael Le Treust, Matthieu Bloch</i>	Strong Coordination over Noisy Channels: Is Separation Sufficient? <i>Sarah Obead, Badr Vellambi, Joerg Kliewer</i>	K4
Fr2-6: Coding and Decoding Chair: Hessam Mahdavi				
Universal Decoding Using a Noisy Codebook <i>Neri Merhav</i>	Variable-to-Fixed Length Homophonic Coding Suitable for Asymmetric Channel Coding <i>Junya Honda, Hirosuke Yamamoto</i>	Optimality of the recursive data exchange protocol <i>Himanshu Tyagi, Shun Watanabe</i>	Explicit Constructions of Finite-Length WOM Codes <i>Yeow Meng Chee, Han Mao Kiah, Alexander Vardy, Eitan Yaakobi</i>	K5
Fr2-7: Privacy and Security Chair: Philippe Gaborit				
On Information-Theoretic Privacy with General Distortion Cost Functions <i>Kousha Kalantari, Lalitha Sankar, Oliver Kosut</i>	Impact of the Communication Channel on Information Theoretical Privacy <i>Mehmet Demir, Gunes Karabulut Kurt, Guido Dartmann, Volker Lücken, Gerd Ascheid</i>	Constructive Interference Based Secure Precoding <i>Muhammad Khandaker, Christos Masouros, Kai Kit Wong</i>	Secure and reliable connectivity in heterogeneous wireless sensor networks <i>Rashad Eltreby, Osman Yağan</i>	K6
Fr2-8: Computation Chair: Anelia Somekh-Baruch				
Communication-Aware Computing for Edge Processing <i>Songze Li, Mohammad Ali Maddah-Ali, Salman Avestimehr</i>	Encoded Distributed Optimization <i>Can Karakus, Yifan Sun, Suhas Diggavi</i>	Fundamental Estimation Limits in Autoregressive Processes with Compressive Measurements <i>Milind Rao, Tara Javidi, Yonina Eldar, Andrea Goldsmith</i>	Minimizing Latency for Secure Distributed Computing <i>Rawad Bitar, Parimal Parag, Salim El Rouayheb</i>	K7+8

Friday, June 30

14:40-16:20

14:40	15:00	15:20	15:40	16:00		
Fr3-1: Codes and Graphs					Chair: Norbert Goertz	Europa
On sparse graph coding for coherent and noncoherent demodulation <i>Charles-Ugo Piat-Durozoi, Charly Poulliat, Nathalie Thomas, Marie-Laure Boucheret, Guy Lesthievant</i>	The Number of Independent Sets In Hexagonal Graphs <i>Zhun Deng, Jie Ding, Kathryn Heal, Vahid Tarokh</i>	Density Evolution on a Class of Smeared Random Graphs <i>Kabir Chandrasekher, Orhan Ocal, Kannan Ramchandran</i>	Connectivity of inhomogeneous random key graphs intersecting inhomogeneous Erdős-Rényi graphs <i>Rashad Eletreby, Osman Yağan</i>			
Fr3-2: LDPC Codes 3					Chair: Boris Kudryashov	Brussels
Message Alignment for Discrete LDPC Decoders with Quadrature Amplitude Modulation <i>Jan Lewandowsky, Maximilian Stark, Gerhard Bauch</i>	Rate-Loss Reduction of SC-LDPC Codes by Optimizing Reliable Variable Nodes via Expected Graph Evolution <i>Heeyoul Kwak, Jaewha Kim, Jong-Seon No</i>	Compute-Forward Multiple Access (CFMA) with Nested LDPC Codes <i>Erixhen Sula, Jingge Zhu, Adriano Pastore, Sung Hoon Lim, Michael Gastpar</i>	Edge Spreading Design of High Rate Array-Based SC-LDPC Codes <i>David Mitchell, Eirik Rosnes</i>	LDPC Code Design for Correlated Sources using EXIT Charts <i>Mohamad. Khas, Hamid Saeedi, Reza Asvadi</i>		
Fr3-3: Caching 3					Chair: Aditya Ramamoorthy	K2
Fundamental Limits of Distributed Caching in Multihop D2D Wireless Networks <i>Mingyue Ji, Rong-Rong Chen, Giuseppe Caire, Andreas Molisch</i>	Fundamental Limits on Latency in Transceiver Cache-Aided HetNets <i>Jaber Kakar, Soheil Gherekhloo, Aydin Sezgin</i>	Cache-Aided Cooperation with No CSIT <i>Eleftherios Lampiris, Jingjing Zhang, Petros Ela</i>				
Fr3-4: Entropy 3					Chair: Peter Harremoës	K3
Arimoto-Rényi Conditional Entropy and Bayesian Hypothesis Testing <i>Igal Sason, Sergio Verdú</i>	Rényi Entropy Rate of Hidden Markov Processes <i>Chengyu Wu, 'Easton' Li Xu, Guangyue Han</i>	Sharp Bounds on Arimoto's Conditional Rényi Entropies Between Two Distinct Orders <i>Yuta Sakai, Ken-ichi Iwata</i>	Minimax Rényi Redundancy <i>Semih Yaglı, Yücel Altuğ, Sergio Verdú</i>	Infinity-Rényi entropy power inequalities <i>Peng Xu, James Melbourne, Mokshay Madiman</i>		
Fr3-5: Machine Learning 2					Chair: Parimal Parag	K4
Noisy Inductive Matrix Completion Under Sparse Factor Models <i>Akshay Soni, Troy Chevalier, Swayambhoo Jain</i>	On the Problem of On-line Learning with Log-Loss <i>Yaniv Fogel, Meir Feder</i>	Multiclass MinMax Rank Aggregation <i>Pan Li, Olgica Milenkovic</i>	Adiabatic Persistent Contrastive Divergence Learning <i>Hyeryung Jang, Hyungwon Choi, Yung Yi, Jinwoo Shin</i>	Online Nonparametric Anomaly Detection based on Geometric Entropy Minimization <i>Yasin Yilmaz</i>		
Fr3-6: Estimation 2					Chair: Laura Cottatellucci	K5
Spectral Initialization for Nonconvex Estimation: High-Dimensional Limit and Phase Transitions <i>Yue Lu, Gen Li</i>	Jackknife estimation for Markov processes with no mixing constraints <i>Kevin Oshiro, Changlong Wu, Narayana Prasad Santhanam</i>	Minimax Risk for Missing Mass Estimation <i>Nikhilesh Rajaraman, Andrew Thangaraj, Ananda Suresh</i>				
Fr3-7: Information Theory and Statistics 2					Chair: Himanshu Tyagi	K6
Ensemble Estimation of Mutual Information <i>Kevin Moon, Kumar Sricharan, Alfred Hero III</i>	Minimum Rates of Approximate Sufficient Statistics <i>Masahito Hayashi, Vincent Tan</i>	Information-theoretic characterizations of Markov random fields and subfields <i>Raymond W. Yeung, Ali Al-Bashabsheh, Chao Chen, Qi Chen, Pierre Moulin</i>	Conditional Central Limit Theorems for Gaussian Projections <i>Galen Reeves</i>	An Information Theoretic Analysis of Sequential Decision-Making <i>Meik Dörpinghaus, Edgar Roldán, Izaak Neri, Heinrich Meyr, Frank Jülicher</i>		
Fr3-8: Index Coding 2					Chair: Guido Montorsi	K7+8
On the Capacity for Distributed Index Coding <i>Yucheng Liu, Parastoo Sadeghi, Fatemeh Arbabjolfaei, Young-Han Kim</i>	Improved Bounds for Multi-Sender Index Coding <i>Min Li, Lawrence Ong, Sarah Johnson</i>	Uniprior Index Coding <i>Vijaya Kumar Mareedu, Prasad Krishnan</i>	Rate $\frac{1}{3}$ Index Coding: Forbidden and Feasible Configurations <i>Lalitha Vadlamani, Prasad Krishnan</i>			
Fr3-9: Statistics 2					Chair: Raymond W. Yeung	K9
Divergence Scaling of Fixed-Length, Binary-Output, One-to-one Distribution Matching <i>Patrick Schulte, Bernhard Geiger</i>	Lower Bounds on the Minimax Risk for the Source Localization Problem <i>Praveen Venkatesh, Pulkit Grover</i>	On the Optimality of Some Group Testing Algorithms <i>Matthew Aldridge</i>	Measurement Dependent Noisy Search: The Gaussian Case <i>Anusha Lalitha, Nancy Rongquillo, Tara Javidi</i>	Scalable Multichannel Joint Sequential Change Detection and Isolation <i>Sourabh Banerjee, Georgios Fellous</i>		

Friday, June 30

16:40-18:00

16:40	17:00	17:20	17:40	
Fr4-1: Coding Theory 4 Chair: Hans-Andrea Loeliger				Europa
A New Approach for Constructing and Decoding Maximum Rank Distance Codes <i>Hessam Mahdaviifar</i>	Individually-Secure Multi-Source Multicast <i>Alejandro Cohen, Asaf Cohen, Omer Gurewitz, Muriel Médard</i>	Lattice coding for Rician fading channels from Hadamard rotations <i>Alex Karrila, Niko Väisänen, David Karpuk, Camilla Hollant</i>		
Fr4-2: DNA and Coding Chair: Olga Milenkovic				Brussels
Mutually Uncorrelated Codes for DNA Storage <i>Maya Levy, Eitan Yaakobi</i>	Noise and Uncertainty in String-Duplication Systems <i>Siddharth Jain, Farzad Farnoud (Hassanzadeh), Moshe Schwartz, Jehoshua Bruck</i>	Rank Modulation Codes for DNA Storage <i>Netanel Raviv, Moshe Schwartz, Eitan Yaakobi</i>	Fundamental Limits of DNA Storage Systems <i>Reinhard Heckel, Ilan Shomorony, Kannan Ramchandran, David Tse</i>	
Fr4-3: Error Exponents Chair: Meir Feder				K2
Distributed Identity Testing with Zero-Rate Compression <i>Wenwen Zhao, Lifeng Lai</i>	Exponential source/channel duality <i>Sergey Tridenski, Ram Zamir</i>	Error Exponents for Sparse Communication <i>Lóránt Farkas, Tamás Kóli, Imre Csiszár</i>	Universal Random Access Error Exponents for Codebooks with Different Word-Lengths <i>Lóránt Farkas, Tamás Kóli</i>	
Fr4-4: Bounds 4 Chair: Itzhak Tamo				K3
Bounds on the Rate and Minimum Distance of Codes with Availability <i>Balaji Srinivasan Babu, P Vijay Kumar</i>	Improved existence bounds on IPP codes using the Clique Lovász Local Lemma <i>Cástor Aranda, Marcel Fernández</i>	Explicit bounds on the length of optimal X-codes <i>Yu Tsunoda, Yuichiro Fujiwara</i>	A convolution inequality for entropy over \mathbb{Z}^2 <i>Varun Jog</i>	
Fr4-5: Shannon Theory and Applications Chair: Sergio Verdú				K4
Topological Structures on DMC spaces <i>Rajai Nasser</i>	A Strong Data Processing Inequality for Thinning Poisson Processes and Some Applications <i>Ligong Wang</i>	Continuity of Channel Parameters and Operations under Various DMC Topologies <i>Rajai Nasser</i>	SCW Codes for Optimal CSI-Free Detection in Diffusive Molecular Communications <i>Vahid Jamali, Arman Ahmadzadeh, Nariman Farsad, Robert Schober</i>	
Fr4-6: Quantum IT 5 Chair: Masahito Hayashi				K5
Pretty good measures in quantum information theory <i>Rabani Iken, Joseph Renes, David Sutter</i>	Linear Programming Bounds for Entanglement-Assisted Quantum Codes <i>Ching-Yi Lai, Alexei Ashikhmin</i>	Estimating the Information Rate of a Channel with Classical Input and Output and a Quantum State <i>Michael Cao, Pascal Vontobel</i>	Fundamental limits of quantum-secure covert optical sensing <i>Boulat Bash, Christos Gagatsos, Animesh Datta, Saikat Guha</i>	
Fr4-7: Source Coding 5 Chair: Galen Reeves				K6
Source Coding with Distortion Profile Constraints <i>Pierre Moulin</i>	Lower Bounds on Rate of Fixed-Length Source Codes under Average- and ϵ -Fidelity Constraints <i>Pierre Moulin</i>	Enhanced MDL with Application to Atypicality <i>Elyas Sabeti, Anders Høst-Madsen</i>	Distributed Coding of Multispectral Images <i>Maxim Goukhshtein, Petros Boufounos, Toshiaki Koike-Akino, Stark Draper</i>	

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