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Program

T1: Cooperation and Coordination over Cellular Networks: Taking a New Look at Interference

Pushed by the demand for bandwidth-hungry multimedia and internet-related wireless services, communication engineers seek to maximally exploit the spectral resources in all available dimensions. Together with the increased density of base stations in cellular networks in the most populated areas, the aggressive reuse of frequencies planned in so-called next generation cellular networks results in a novel situation where interference (along with the classical fading problem) is no longer just an issue but rather emerges as the key limiting factor. As an element of the solution lies the notion of network coordination and cooperation which can take place between base stations, or even between the terminals themselves. Although cooperative communications was until recently much associated with the notion of relaying, this concept is now re-inventing itself to find its way into the cellular network framework, notably as a way to deal with interference using distributed MIMO concepts. A powerful weapon against fading and interference, cooperative communication finds itself particularly well suited to the context and constraints of cellular communications because of pre-existing backhaul infrastructure linking the base stations together. Coordination can take place in a variety of domains such as resource control, scheduling, beamforming, interference alignment, etc. and poses both new theoretical and practical challenges.

Such concepts of MIMO cooperation, interference alignment and coordinated resource control have been the subject of numerous special sessions and journal issues in the past months. In this tutorial they will be addressed in a unifying manner, under the general framework of interference coordination. In this tutorial we will review the fundamentals as well as the latest evolutions in network multicell cooperation and coordination research with an emphasis on the issue of feedback and information exchange. New concepts for distributed forms of coordination will be discussed. Applications will be described along with the current status of discussion in key standards.

T2: Random Matrix Advances in Signal Processing

This tutorial introduces basic notions of random matrix theory with applications to signal processing in large dimensional systems, such as detection and statistical inference in large population sizes. In a first part, the focus is on the presentation of theoretical tools of random matrix theory, and in a second part on applications of these methods such as eigen-based source detection, improved DoA estimation, statistical inference in large sensor networks, etc. In a third part, we then provide an introduction to recent work on robust estimation and random matrix theory. The objective is for the attendees to get acquainted with the field of random matrix theory and with the methodological tools to tackle signal processing problems.

T3: Game Theory for Wireless Communications and Sensor Networks

The ever-increasing demand for reliable and ubiquitous high-speed data communications and environment sensing services calls for new challenges in the design and the optimization of wireless networks, which may benefit from the adoption of sophisticated signal processing techniques at large. Recently, game theory has emerged as an effective framework for the network design, since it provides analytical tools to predict the outcome of interactions among rational entities. This tutorial provides an overview of the relevant applications of game theory, focusing on state-of-the-art techniques for resource allocation. In the first part, the very basic concepts are introduced by means of many simple examples, and special emphasis is put on how to translate a real-world problem to an analytical game model. In the second part, relevant applications of game theory to wireless networks design are reported, including power and rate control, bandwidth allocation, and spectrum sensing, suited for CDMA and OFDMA systems, and some clues will be given on how to extend such methods to MIMO, cognitive radio, and relay-assisted communications. The main focus will be on noncooperative techniques, although recent advances in the field of cooperative game theory will be also included in the discussion to provide a different perspective in the class of problems.

P1: Plenary Lecture: Towards Emerging 5G Wireless Broadband Systems

The continued demand for ubiquitous connectivity to a plethora of services as well as the expected explosive growth of mobile access to the Internet and other applications (e.g., 3D Internet, augmented reality, social networking, Internet of Things) is fueling the demand for new wireless networks that can realize seamless connectivity amongst different technologies. Mobile data traffic has been particularly increasing every year and this trend is forecast to continue, with an expected 1000x traffic load increase by year 2020! To address this, operators around the world are now starting to deploy 4th Generation or 4G systems. Unfortunately, the overall network capacity improvement brought by 4G systems is still far away from meeting the growing demands and the expected 1000x growth in mobile data traffic by 2020. In this talk, we shall discuss the challenges and opportunities in next-generation wireless communications and networking. We also describe some of the potential solutions that are needed to meet the challenging demands of beyond 4G or 5G wireless systems. Advanced technologies that can dramatically increase the network capacity to address the 1000x increase in mobile traffic challenge, as well as, guarantee ubiquitous connection and uniform coverage for a high-level user experience, will be particularly emphasized.

R1: Resource allocation

Resource Allocation for Type-I HARQ-based Wireless Networks with Finite-Length Codes

Sébastien Marcille (Telecom Paristech & Thales Communications, France); Philippe Ciblat (Telecom ParisTech, France); Christophe J. Le Martret (Thales Communications & Security & Signal Processing and Multimedia Dept., France)
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Joint Base Station Association and Power Allocation for Uplink Sum-Rate Maximization

Krishna Chitti (University of Stuttgart, Germany)
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Distributionally Robust Joint Power and Admission Control via SOCP Deflation

Ya-Feng Liu (Chinese Academy of Sciences, P.R. China); Enbin Song (Sichuan University/University of Minnesota, P.R. China)
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Primal Decomposition based Decentralized Weighted Sum Rate Maximization with QoS Constraints for Interfering Broadcast Channel

Jarkko Kaleva (University of Oulu, Finland); Antti Tölli (University of Oulu, Finland); Markku Juntti (University of Oulu, Finland)
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A Dual Stochastic DFP algorithm for Optimal Resource Allocation in Wireless Systems

Aryan Mokhtari (University of Pennsylvania, USA); Alejandro Ribeiro (University of Pennsylvania, USA)
pp. 21-25

Joint allocation of computation and communication resources in multiuser mobile cloud computing

Sergio Barbarossa (University of Rome, Italy); Stefania Sardellitti (University of Cassino, Italy); Paolo Di Lorenzo (University of Rome La Sapienza, Italy)
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Optimal Power Allocation for the Chance-Constrained Vector Broadcast Channel and Rank-One Channel Approximation

Andreas Gründinger (Technische Universität München, Germany); Romain Bethenod (Technische Universität München, Germany); Michael Joham (Technische Universität München, Germany); Maximilian Riemensberger (Technische Universität München, Germany); Wolfgang Utschick (Technische Universität München, Germany)
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Predicting a User's Next Cell With Supervised Learning Based on Channel States

Xu Chen (Princeton University, USA); Francois Meriaux (SUPELEC, France); Stefan Valentin (Bell Labs & Alcatel-Lucent Deutschland AG, Germany)
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S1: Relaying

Bidirectional Relay Communication with Additional Private Message

Konstantinos Benidis (Technical University of Munich, Germany); Rafael F. Schaefer (Technische Universität München, Germany); Holger Boche (Technical University Munich, Germany)
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MIMO Four-Way Relaying

Huaping Liu (Peking University, P.R. China); Fan Sun (Aalborg University, Denmark); Elisabeth de Carvalho (Aalborg University, Denmark); Petar Popovski (Aalborg University, Denmark); Henning Thomsen (Aalborg University, Denmark); Yuping Zhao (Peking University, P.R. China)
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Non-cooperative Broadcast Game for Distributed Decision Map Selection of Relay Wireless Network Coding Processing

Tomas Hynek (Czech Technical University in Prague, Czech Republic); Jan Sykora (Czech Technical University in Prague, Czech Republic)
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On the Performance of Two-Way Half-Duplex and One-Way Full-Duplex Relaying

Hirley Alves (University of Oulu & Federal University of Technology of Parana - Brazil, Finland); Daniel Benevides da Costa (Federal University of Ceara (UFC) & Area: Telecommunications, Brazil); Richard Demo Souza (Federal University of Technology - Paraná (UTFPR), Brazil); Matti Latva-aho (UoOulu, Finland)
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Distributed Bayesian Detection for the Butterfly Network

Joakim Jaldén (KTH Royal Institute of Technology, Sweden); Tobias J. Oechtering (KTH Royal Institute of Technology & School of Electrical Engineering, EE, Sweden)
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Relay-aided interference alignment for bidirectional communications in multi-pair multi-relay networks

Rakash SivaSiva Ganesan (TU Darmstadt, Germany); Hussein A Al-Shatri (University of Rostock, Germany); Tobias Weber (Uni Rostock, Germany); Anja Klein (TU Darmstadt, Germany)
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R2: Cooperative communications

Analysis of Cooperative HARQ with Opportunistic Routing

Amogh Rajanna (University of Minnesota, Twin Cities, USA); Mostafa Kaveh (University of Minnesota, USA)
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Exact Outage Probability of Two Nodes for Cooperative Networks using GF(4)

Jin-Taek Seong (Gwangju Institute of Science and Technology, Korea); Heung-No Lee (Gwangju Institute of Science and Technology, Korea)
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Antenna Selection for Uplink CoMP in Dense Small-cell Clusters

Khalid Zeineddine (Northwestern University & Nokia Siemens Networks, USA); Michael Honig (Northwestern University, USA); Shirish Nagaraj (Nokia Siemens Networks, USA); Philip J Fleming (Nokia Siemens Networks USA, USA)
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DSTBC based DF Cooperative Networks in the Presence of Timing and Frequency Offsets

Ali A Nasir (Australian National University, Australia); Hani Mehrpouyan (California State University, USA); Salman Durrani (The Australian National University, Australia); Steven D Blostein (Queen's University, Canada); Rodney Andrew Kennedy (The Australian National University, Australia); Björn Ottersten (University of Luxembourg, Luxembourg)
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Cooperative Networks over Generalized Gamma Fading Channels with Multiple Antennas

Salama Said Ikki (Newcastle University & School of Electrical and Electronic Engineering, United Kingdom); Raed Mesleh (University of Tabuk, Saudi Arabia); Said Boussakta (Newcastle University, United Kingdom)
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A Markov Model for Carrier Sense Multiple Access in Coded Wireless Packet Networks

Maximilian Riemensberger (Technische Universität München, Germany); Wolfgang Utschick (Technische Universität München, Germany)
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Combined Adaptive Lattice Reduction-Aided Detection and Antenna Shuffling for DSTTD-OFDM Systems

Ngoc Phuc Le (University of Wollongong, Australia); Le Chung Tran (University of Wollongong, Australia); Farzad Safaei (ICT Research Institute, University of Wollongong, Australia)
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R3: Cognitive radio

An Investigation of Inter-cell Subcarrier Collisions in OFDM-Based Cognitive Radio Networks

Sabit Ekin (Texas A&M University, USA); Mohamed M. Abdallah (Texas A&M University at Qatar & Cairo University, Cairo, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Erchin Serpedin (Texas A&M University, USA)
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Exploiting Cognitive Cyclostationary Noise Subspace for Noncognitive Spectrum Sensing

Josep Font-Segura (Technical University of Catalonia, Spain); Gregori Vazquez (Technical University of Catalonia, Spain); Jaume Riba (UPC, Spain)
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Sensing-Throughput Tradeoff for Cognitive Radios

Michele Guerrini (University of Perugia, Italy); Luca Rugini (University of Perugia, Italy); Paolo Banelli (University of Perugia, Italy)
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Cognitive Access Algorithms For Multiple Access Channels

Yichuan Hu (University of Pennsylvania, USA); Alejandro Ribeiro (University of Pennsylvania, USA)
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Cognition-Based Dynamic Spectrum Access and Interference Coordination for Heterogeneous Networks

Ioannis Tzelatis (University of Patras, Greece); Kostas Berberidis (University of Patras, Greece)
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Decentralized Spectrum Learning and Access Adaptive to Channel Availability Distribution in Primary Network

Marjan Zandi (University of Ontario Institute of Technology, Canada); Min Dong (University of Ontario Institute of Technology, Canada); Ali Grami (University of Ontario Institute of Technology, Canada)
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Spectrum Sensing in Time-Varying Channels Using Multiple Antennas

Daniel Romero (University of Vigo, Spain); Roberto López-Valcarce (Universidad de Vigo, Spain)
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Hierarchical spectrum sharing using interference tweets

Emiliano Dall'Anese (University of Minnesota, USA); Antonio G. Marques (Universidad Rey Juan Carlos, Spain); Georgios B. Giannakis (University of Minnesota, USA)
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Non-convex Power Allocation Games in MIMO Cognitive Radio Networks

Xiaoge Huang (University of Valencia, Spain); Baltasar Beferull-Lozano (Universidad de Valencia, Spain); Carmen Botella (University of Valencia, Spain)
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P2: Plenary Lecture: Rényi information dimension and degrees of freedom in vector interference channels

We present a unified framework for the study of degrees of freedom (DoF) in interference channels and elucidate the role played by singularity in achieving full degrees of freedom. Specifically, we continue the Wu-Shamai-Verdú program on characterizing the degrees of freedom in constant interference channels (ICs) through Rényi information dimension. We present a general formula for the DoF of vector ICs, encompassing multiple-input multiple-output (MIMO) ICs, time- and/or frequency-selective ICs, and combinations thereof, as well as constant single-antenna ICs, as considered by Wu, Shamai, and Verdú. As in the case of constant single-antenna ICs, achieving full DoF requires the use of singular input distributions. Strikingly, in the vector case it suffices to enforce singularity on the joint distribution of individual transmit vectors. This can be realized through signaling in subspaces of the ambient signal space, which is in accordance with the idea of interference alignment, and, most importantly, allows the scalar components of the transmit vectors to have non-singular distributions. Based on this observation, we systematically develop the role played by singularity - either in terms of input distributions or in terms of channel coefficients - in achieving full degrees of freedom in ICs. We conclude by showing how the DoF-formula we obtain leads to a unified framework for interference alignment.

R4: Distributed processing over adaptive networks

Reduced-Complexity Distributed Least-Squares Estimation over Adaptive Networks

Reza Arablouei (University of South Australia, Australia); Kutluyıl Doğançay (University of South Australia, Australia); Stefan Werner (Aalto University, Finland)
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A Censoring Strategy for Decentralized Estimation in Energy-Constrained Adaptive Diffusion Networks

Rocío Arroyo-Valles (Universidad Carlos III de Madrid, Spain); Sina Maleki (TU Delft, The Netherlands); Geert Leus (Delft University of Technology, The Netherlands)
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Reputation Design for Adaptive Networks with Selfish Agents

Chung-Kai Yu (University of California, Los Angeles, USA); Mihaela van der Schaar (University of California, Los Angeles (UCLA), USA); Ali H. Sayed (University of California, Los Angeles, USA)
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Reducing Aggregation Bias and Time in Gossiping-based Wireless Sensor Networks

Zhiliang Chen (TU Darmstadt, Germany); Alexander Kuehne (TU Darmstadt, Germany); Anja Klein (TU Darmstadt, Germany)
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Decentralized Dynamic Optimization Through the Alternating Direction Method of Multipliers

Qing Ling (University of Science and Technology of China, P.R. China); Alejandro Ribeiro (University of Pennsylvania, USA)
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On the Performance of Average Consensus in Mobile Wireless Sensor Networks

Valentin Schwarz (Vienna University of Technology, Austria); Gerald Matz (Vienna University of Technology, Austria)
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Parallel Stochastic Decomposition Algorithms for Multi-Agent Systems

Yang Yang (The Hong Kong University of Science and Technology, Hong Kong); Gesualdo Scutari (State University of New York at Buffalo, USA); Daniel P Palomar (Hong Kong University of Science and Technology, Hong Kong)
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Impact of Reporting-Channel Coding on the Performance of Distributed Sequential Sensing

Sachin Chaudhari (Aalto University School of Electrical Engineering, Finland); Visa Koivunen (Aalto University, Finland)
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S2: Feedback in wireless systems

Rate Loss Analysis of Transmitter Cooperation with Distributed CSIT

Paul de Kerret (EURECOM, France); Jakob Hoydis (Alcatel-Lucent Bell Labs, Germany); David Gesbert (Eurecom Institute, France)
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MIMO BC with Imperfect and Delayed Channel State Information at the Transmitter and Receivers

Jinyuan Chen (EURECOM, France); Petros Elia (EURECOM, France)
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Time-Related MISO Wiretap Channel with Delayed CSIT

Mari Kobayashi (Supelec, France); Sheng Yang (Supélec, France); Giovanni Geraci (University of New South Wales, Australia)
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Interference Channels with Bursty Traffic and Delayed Feedback

I-Hsiang Wang (EPFL, Switzerland); Suhas Diggavi (University of California Los Angeles, USA)
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Reliability of the Gaussian Broadcast Channel with Common Message and Feedback

Youlong Wu (Telecom ParisTech, France); Paolo Minero (University of Notre Dame, USA); Michele A Wigger (Telecom ParisTech, France)
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On Multiple Access Channels with Delayed CSI at Transmitters

Abdellatif Zaidi (Université Paris-Est Marne La Vallée, France); Shlomo (Shitz) Shamai (The Technion, Israel)
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Relays for Interference Management: Feedback, Amplification and Neutralization

Anas Chaaban (RUB, Germany); Soheyl Gharekhloo (Ruhr Universität Bochum, Germany); Aydin Sezgin (RUB & Digital Communication Systems, Germany)
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R5: Collaborative sensing and sparse signal recovery

Distortion Minimization via Multiple Sensors under Energy Harvesting Constraints

Athipat Limmanee (The University of Melbourne, Australia); Subhrakanti Dey (Uppsala University, Sweden); Anders Ahlen (Uppsala University, Sweden)
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Optimal Training Design for Channel Estimation in OFDM/OQAM Cooperative Systems

Christos Mavrokefalidis (University of Patras, Greece); Eleftherios Kofidis (University of Piraeus, Greece); Athanasios A. Rontogiannis (National Observatory of Athens, Greece); Sergios Theodoridis (University of Athens, Greece)
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Soft-Decision Sequential Sensing for Optimization of Interweave Cognitive Radio Networks

Luis M. Lopez-Ramos (Universidad Rey Juan Carlos, Spain); Antonio G. Marques (Universidad Rey Juan Carlos, Spain); F. Javier Ramos (Rey Juan Carlos University, Spain)
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Energy Efficient Sequential Detection Using Feedback Aided Censoring

Michael Fauß (Technische Universität Darmstadt, Germany); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)
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Cooperative allocation for underlay cognitive radio systems

Mylene Pischella (CNAM, France); Didier Le Ruyet (CNAM, France)
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High-Resolution Cyclic Spectrum Reconstruction from sub-Nyquist Samples

Seyed Alireza Razavi (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland); Danijela Cabric (University of California Los Angeles, USA)
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A Compressed Sensing Based Method with Support Refinement for Impulse Noise Cancellation in DSL

Ahmed A. Quadeer (The Hong Kong University of Science & Technology, Hong Kong); Muhammad S. Sohail (King Fahd University of Petroleum & Minerals, Saudi Arabia); Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA)
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Enhancing energy efficient network operation in multi-RAT cellular environments through sparse optimization

Emmanuel Pollakis (Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Germany); Renato Luis Garrido Cavalcante (Fraunhofer Heinrich Hertz Institute, Germany); Slawomir Stanczak (Fraunhofer Heinrich Hertz Institute & Technische Universität Berlin, Germany)
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R6: Secrecy in communications

Enhancing Secrecy with Sectorized Transmission in Decentralized Wireless Networks

Xi Zhang (Hong Kong University of Science and Technology, Hong Kong); Xiangyun Zhou (The Australian National University, Australia); Matthew R McKay (Hong Kong University of Science and Technology, Hong Kong)
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Secrecy in the 2-User Symmetric Deterministic Interference Channel with Transmitter Cooperation

Parthajit Mohapatra (Indian Institute of Science, India); Chandra R Murthy (Indian Institute of Science, India)
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On the Effects of Colluded Statistical Attacks in Cooperative Spectrum Sensing

Chung-Kai Yu (University of California, Los Angeles, USA); Mihir Laghate (University of California, Los Angeles, USA); Ali H. Sayed (University of California, Los Angeles, USA); Danijela Cabric (University of California Los Angeles, USA)
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User Selection Schemes for Multiuser MISO Downlink with Eavesdropping

Sotiris Karachontzitis (University of Patras, Greece); Ioannis Krikidis (University of Cyprus, Cyprus); Kostas Berberidis (University of Patras, Greece)
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Adaptive limited feedback for MISO wiretap channels with cooperative jamming

Minyan Pei (National University of Defense Technology, P.R. China); Dongtang Ma (National University of Defense Technology, P.R. China); Ji-Bo Wei (National University of Defense Technology, P.R. China)
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P3: Plenary Lecture: Generalized Frequency Division Multiplexing - Signal Design in Time and Frequency

Harnessing the complexity of equalization has been one major aspect for moving from single-carrier to spread-spectrum modulation. With the introduction of OFDM the complexity of demodulation has been reduced enough to cope with the implementation of MIMO systems. In addition, OFDM has enabled to design systems with flexible bandwidth requirements, adding subcarriers as needed. Examples of systems exploiting this feature are e.g. LTE or 802.11. Also, OFDMA allows for flexible resource sharing. However, OFDM comes at a price of requiring synchronous subcarrier spacing, and synchronous timing of multiple OFDMA sub-channels. The out-of-band power emission follows the sinc-function which poses a problem in particular when needing to design signals with a discontinuous spectrum and deep power notches in frequency. Reigning the overhead of the OFDM cyclic prefix comes at the cost of a long symbol duration, which again requires many subcarriers. Subcarrier spacing, however, dramatically limits the allowable phase noise for implementation. FBMC (Filter Bank Multi Carrier) is an alternative to OFDM which has attracted increasing attention for overcoming some challenges. GFDM is a novel multi-dimensional modulation technique in frequency and time (and space) which allows for overcoming many of the challenges posed by OFDM. By tail-biting the symbol filtering compact data bursts can be optimized for spectral shaping. In this talk an introduction and overview of GFDM will be given, including current state-of-the-art research results. It's flexibility of designing the modulation in time and in frequency opens-up new possibilities, making it a contender in particular for multiple-access systems with highly heterogeneous user requirements.

R7: Interference alignment and mitigation

Min-Maxing Interference Alignment Algorithm as a Semidefinite Programming Problem

Mohammed El-Absi (University of Duisburg-Essen, Germany); Mohamed El-Hadidy (University of Duisburg-Essen, Germany); Thomas Kaiser (Universität Duisburg-Essen, Germany)
pp. 290-294

An Interference Alignment Algorithm for Structured Channels

Christian Lameiro (University of Cantabria, Spain); Óscar González (University of Cantabria, Spain); Ignacio Santamaría (University of Cantabria, Spain)
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Interference Alignment with Hybrid Optimization and Receiver Cooperation

Jhanak Parajuli (Jacobs University Bremen, Germany); Giuseppe Abreu (Jacobs University Bremen, Germany)
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Degrees of Freedom of Certain Interference Alignment Schemes with Distributed CSI

Paul de Kerret (EURECOM, France); Maxime Guillaud (Vienna University of Technology, Austria); David Gesbert (Eurecom Institute, France)
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Successive Interference Cancellation in Uplink Cellular Networks

Matthias Wildemeersch (University of Twente & Institute for Infocomm Research (I2R), The Netherlands); Tony Q. S. Quek (Singapore University of Technology and Design (SUTD) & Institute for Infocomm Research, Singapore); Marios Kountouris (Supélec, France); Cornelis H Slump (University of Twente, The Netherlands)
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Investigation on Interference Rejection Combining Receiver in Heterogeneous Networks for LTE-Advanced Downlink

Yusuke Ohwatari (NTT DOCOMO, INC., Japan); Akihito Morimoto (NTT DOCOMO, INC., Japan); Nobuhiko Miki (Kagawa University, Japan); Yukihiko Okumura (NTT DOCOMO, INC., Japan)
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Interference Mitigation using Channel Shortening Pre-filter for SIMO-OFDM Systems

Istdeo Singh (Indian Institute of Technology Madras, India); K Giridhar (Indian Institute of Technology, Madras, India)
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A Stochastic Weighted MMSE Approach to Sum Rate Maximization for a MIMO Interference Channel

Meisam Razaviyayn (University of Minnesota, USA); Maziar Sanjabi Boroujeni (University of Minnesota, USA); Zhi-Quan Luo (University of Minnesota, USA)
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Long-term Transmit Point Association for Coordinated Multipoint Transmission by Stochastic Optimization

Ruoyu Sun (University of Minnesota, USA); Hadi Baligh (Huawei Canada, Canada); Zhi-Quan Luo (University of Minnesota, USA)
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S3: Function Computation in Wireless Networks

Utilising convolutions of random functions to realise function calculation via a physical channel

Stephan Sigg (National Institute of Informatics, Germany); Predrag Jakimovski (Karlsruhe Institut für Technologie (KIT), Germany); Yusheng Ji (National Institute of Informatics, Japan); Michael Beigl (KIT & TecO, Germany)
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Network Decomposition for Function Computation

Changho Suh (KAIST, Korea); Michael Gastpar (EPFL & University of California, Berkeley, Switzerland)
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Distributed subspace projection over wireless sensor networks with unreliable links

Daniel Alonso-Román (Universidad de Valencia, Spain); Fernando Camaró-Nogués (Universidad de Valencia & Group of Information and Communication Systems, Spain); César Asensio-Marco (Universidad de Valencia, Spain); Baltasar Beferull-Lozano (Universidad de Valencia, Spain)
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R8: Relay communications I

Downlink Throughput Enhancement of an OFDMA Cellular System with Closed-Access Indoor Relays

Karthik Kuntikana Shrikrishna (Indian Institute of Technology Madras, India); Bhaskar Ramamurthi (Indian Institute of Technology, India)
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Low-Complexity SNR-Based Channel Pairing in Multichannel MABC-Based Two-Way Relaying

Fangzhi Zuo (University of Ontario Institute of Technology, Canada); Min Dong (University of Ontario Institute of Technology, Canada)
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Optimal Joint Cooperative Beamforming and Artificial Noise Design for Secrecy Rate Maximization in AF Relay Networks

Ye Yang (Xidian University, P.R. China); Qiang Li (The Chinese University of Hong Kong, Hong Kong); Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong); Jianhua Ge (Xidian University, P.R. China); MeiLu Lin (Xidian University, P.R. China)
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On the Performance of Spectrum Sharing Two-Way Relay Networks with Distributed Beamforming

Ali Afana (Concordia University, Canada); Ali Ghrayeb (Texas A&M University at Qatar, Qatar); Vahid Asghari (University of Quebec, INRS-EMT, Canada); Sofiene Affes (INRS-EMT, Canada)
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Adaptive Self-interference Cancellation in Wideband Full-Duplex Decode-and-Forward MIMO Relays

Emilio Antonio-Rodríguez (Aalto University, Finland); Roberto López-Valcarce (Universidad de Vigo, Spain); Taneli Riihonen (Aalto University School of Electrical Engineering, Finland); Stefan Werner (Aalto University, Finland); Risto Wichman (Aalto University School of Electrical Engineering, Finland)
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Filter-and-Forward Beamforming in Asynchronous Relay Networks

Nils Bornhorst (Technische Universität Darmstadt, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)
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Decoding Options for Trellis Codes in the Two-Way Relay Channel

Carmine Vitiello (University of Pisa, Italy); Stephan F. Pfletschinger (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Marco Luise (University of Pisa & WISER srl, Italy)
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Relay Selection Problem in Wireless Networks: A Solution Concept Based on Stochastic Bandits and Calibrated Forecasters

Setareh Maghsudi (Technische Universität Berlin, Germany); Slawomir Stanczak (Fraunhofer Heinrich Hertz Institute & Technische Universität Berlin, Germany)
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Performance Analysis of Relay Selection Schemes in OFDM-Based Underlay Cognitive Networks

Hela Chamkhia (Qatar University, Qatar); Mazen Omar Hasna (Qatar University, Qatar)
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R9: Estimation and detection techniques

New Expression for the Functional Transformation of the Vector Cramer-Rao Lower Bound

Ali A Nasir (Australian National University, Australia); Hani Mehrpouyan (California State University, USA); Rodney Andrew Kennedy (The Australian National University, Australia)
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Joint Data and Channel Estimation Using Semi-Blind MLSE Algorithms

Chia-Lung Wu (Royal Institute of Technology, Sweden); Ming Xiao (Royal Institute of Technology, Sweden); Mikael Skoglund (KTH Royal Institute of Technology, Sweden)
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Line Spectrum Estimation from Broadband Power Detection Bits

Omar Mehanna (University of Minnesota, USA); Nikolaos D Sidiropoulos (University of Minnesota, USA); Efthymios Tsakonas (KTH, Sweden)
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Robust Detection Under Communication Constraints

Gökhan Gül (Darmstadt University of Technology, Germany); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)
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An Optimal Error Nonlinearity for Robust Adaptation Against Impulsive Noise

Sara Al-Sayed (TU Darmstadt, Germany); Abdelhak M Zoubir (Technische Universität Darmstadt, Germany); Ali H. Sayed (University of California, Los Angeles, USA)
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On the Performance of Joint Linear Minimum Mean Squared Error (LMMSE) Filtering and Parameter Estimation

Siouar Bensaid (EURECOM, France); Dirk Slock (Eurecom, France)
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Cyclic Spectrum Reconstruction and Cyclostationary Detection from Sub-Nyquist Samples

Deborah Cohen (Technion - Israel Institute of Technology, Israel); Eric Rebeiz (UCLA, USA); Yonina C. Eldar (Technion-Israel Institute of Technology, Israel); Danijela Cabric (University of California Los Angeles, USA)
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An Improved SVD-based Wall Clutter Mitigation Method for Through-the-Wall Radar Imaging

Fok Hing Chi Tivive (University of Wollongong, Australia); Abdesselam Bouzerdoun (University of Wollongong, Australia)
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Joint Activity and Data Detection for Machine to Machine Communication via Bayes Risk Optimization

Fabian Monsees (University of Bremen & Institute for Telecommunications and High-Frequency Techniques (ITH), Germany); Carsten Bockelmann (University of Bremen, Germany); Armin Dekorsy (University of Bremen & Institute for Telecommunications and High-Frequency Techniques, Germany)
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P4: Plenary Lecture: Linear Transceiver Design for Interference Alignment: Feasibility and Computation

Consider a multiple input-multiple output (MIMO) interference channel whereby each transmitter and receiver are equipped with multiple antennas. An effective approach to practically achieving high system throughput is to deploy linear transceivers (or beamformers) that can optimally exploit the spatial characteristics of the channel. The recent work of Cadambe and Jafar suggests that optimal beamformers should maximize the total degrees of freedom and achieve interference alignment in the high signal to noise ratio (SNR) regime. In this talk, we examine several issues related to the design of a linear interference alignment scheme including its computational complexity, feasibility and practical algorithms to maximize the channel throughput.

R10: Beamforming

Two-Dimensional Direction of Arrival Estimation Method for A Mixture of Noncoherent and Coherent Narrowband Signals

Hao Tao (Xi'an Jiaotong University, P.R. China); Jingmin Xin (Xi'an Jiaotong University, P.R. China); Jiasong Wang (State Key Laboratory of Astronautic Dynamics, P.R. China); Nanning Zheng (Xi'an Jiaotong University, P.R. China); Akira Sano (Keio University, Japan)
pp. 440-444

Predistortion and Precoding Vector Assignment in Codebook-based Downlink Beamforming

Yong Cheng (Technische Universität Darmstadt, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)
pp. 445-449

Overloaded Satellite Receiver Using SIC with Hybrid Beamforming and ML Detection

Zohair Abu-Shaban (University of Luxembourg & Interdisciplinary Centre for Security, Reliability and Trust, Luxembourg); Hani Mehrpouyan (California State University, USA); Joel Grotz (Newtec Cy., Belgium); Björn Ottersten (University of Luxembourg, Luxembourg)
pp. 450-454

Distributed Transmit Beamforming with 1-bit Feedback for LoS-MISO Channels

Ahmed Farhan Hanif (Institut Mines-Telecom, Telecom SudParis, France); Hamidou Tembine (Supelec, France); Mohamad Assaad (Supelec, France); Djamal Zeghlache (Institut Mines-Telecom, Telecom SudParis & UMR 5157 CNRS - Samovar, France)
pp. 455-459

Adaptive Transmission Schemes for MISO Spectrum Sharing Systems

Zied Bouida (Concordia University, Canada); Ali Ghrayeb (Texas A&M University at Qatar, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
pp. 460-464

A Riemannian Distance for Robust Downlink Beamforming

Lijin Xu (McMaster University, Canada); Kon Max Wong (McMaster University, Canada); Jian-Kang Zhang (McMaster University, Canada); Dana Ciochina (TU Darmstadt, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)
pp. 465-469

Computationally Efficient Method for Joint Azimuth-Elevation Direction Estimation With L-Shaped Array

Wang Guangmin (Xi'an Jiaotong University, P.R. China); Jingmin Xin (Xi'an Jiaotong University, P.R. China); Nanning Zheng (Xi'an Jiaotong University, P.R. China); Akira Sano (Keio University, Japan)
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General-rank Transmit Beamforming for Multi-group Multicasting Networks Using OSTBC

Ka Lung Law (Communication Systems Group, Darmstadt University of Technology, Germany); Xin Wen (Darmstadt University of Technology, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)
pp. 475-479

S4: Cooperative sensor networks: hardware implementations, demonstrations, and measurements

Random Matrices and the Impact of Imperfect Channel Knowledge on Cooperative Base Stations

Konstantinos Manolakis (Technische Universität Berlin, Germany); Christian Oberli (Pontificia Universidad Católica de Chile, Chile); Volker Jungnickel (Fraunhofer Heinrich Hertz Institute, Germany)
pp. 480-484

Measurement of Backscatter RFID-Transponders

Thomas Ussmueller (Friedrich Alexander University of Erlangen-Nuremberg, Germany); Daniel Brenk (University of Erlangen-Nuremberg, Germany); Jochen Essel (University of Erlangen-Nuremberg, Germany); Juergen Heidrich (University of Erlangen-Nuremberg, Germany); Chia-Yu Hsieh (University of Erlangen-Nuremberg, Germany); Georg Fischer (Friedrich-Alexander-Universität Erlangen-Nürnberg & Eesy-id, Germany); Robert Weigel (University of Erlangen-Nuremberg, Germany)
pp. 485-489

DPCF-M: A Medium Access Control Protocol for Dense Machine-to-Machine Area Networks with Dynamic Gateways

Francisco Vázquez-Gallego (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Jesus Alonso-Zarate (Centre Tecnològic de Telecomunicacions de Catalunya - CTTC, Spain); Iván Balboteo (Universidad Politécnica de Catalunya, Spain); Luis Alonso (Universidad Politécnica de Catalunya-BarcelonaTECH & Telecommunications and Aerospace Engineering School of Castelldefels, Spain)
pp. 490-494

On the Selection of Testbeds for the Evaluation of Sensor Network Protocols and Applications

Pablo E. Guerrero (Technische Universität Darmstadt, Germany); Iliya Gurov (Technische Universität Darmstadt, Germany); Silvia Santini (TU Darmstadt, Germany); Alejandro Buchmann (Darmstadt University of Technology, Germany)
pp. 495-499

A parasitic antenna array for directive multi-hop sensor communication

Vlasis Barousis (Athens Information Technology, Greece); Eleftherios Roumpakias (Athens Information Technology (AIT), Greece); Constantin B. Papadias (Athens Information Technology, Greece)
pp. 500-504

Robust Cooperative Sensor Network Localization via the EM Criterion in LOS/NLOS Environments

Feng Yin (Technische Universität Darmstadt, Germany); Carsten Fritsche (IFEN GmbH, Germany); Fredrik Gustafsson (Linköpings universitet, Sweden); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)
pp. 505-509

Key Issues Towards Beyond LTE-Advanced Systems with Cognitive Radio

Wei Jiang (University of Duisburg-Essen, Germany); Hanwen Cao (Universität Duisburg-Essen, Germany); Trung Thanh Nguyen (Faculty of Engineering, The University of Duisburg-Essen, Germany); Asim Burak Güven (University of Duisburg-Essen, Germany); Yue Wang (Center for Space Science and Applied Research, Chinese Academy of Sciences, P.R. China); Yuan Gao (University of Duisburg-Essen, Germany); Ammar Kabbani (University of Duisburg-Essen, Germany); Michael Wiemeler (Universität Duisburg-Essen, Germany); Theo Kreul (University of Duisburg-Essen, Germany); Feng Zheng (University of Duisburg-Essen, Germany); Thomas Kaiser (Universität Duisburg-Essen, Germany)
pp. 510-514

Reconfigurable Radio Frontends for Cooperative Sensor Networks: Tasks and Challenges

Erick González-Rodríguez (Technische Universität Darmstadt, Germany); Holger Maune (Technische Universität Darmstadt, Germany); Shen Lufei (Technische Universität Darmstadt, Germany); Ibrahim Asghar Shah (University of Kassel, Germany); Dirk Dahlhaus (University of Kassel, Germany); Klaus Hofmann (TU Darmstadt, Germany); Rolf Jakoby (TU Darmstadt, Germany)
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Joint Estimation of Carrier and Sampling Frequency Offset, Phase Noise, IQ Offset and MIMO Channel for LTE Advanced UL MIMO

Oomke Weikert (Rohde & Schwarz, Germany)
pp. 520-524

EVM and RSSI Link Quality Measurements in Frequency Selective Fading Channels

Thomas Nitsche (IMDEA Networks & Universidad Carlos III de Madrid, Spain); Joerg C. Widmer (Institute IMDEA Networks, Spain); Adrian Loch (Technische Universität Darmstadt, Germany); Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany)
pp. 525-529

CSI Feedback in OFDMA Wireless Networks with Multiple Transmitter-Receiver Pairs

Adrian Loch (Technische Universität Darmstadt, Germany); Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany); Thomas Nitsche (IMDEA Networks & Universidad Carlos III de Madrid, Spain); Joerg C. Widmer (Institute IMDEA Networks, Spain); Alexander Kuehne (TU Darmstadt, Germany); Anja Klein (TU Darmstadt, Germany)
pp. 530-534

On the Use of Instantaneous Entropy to Measure the Momentary Predictability of Human Mobility

Paul Baumann (TU Darmstadt, Germany); Silvia Santini (TU Darmstadt, Germany)
pp. 535-539

R11: Relay communications II

Partial Decode-and-Forward Rates for the Gaussian MIMO Relay Channel: Inner Approximation of Non-Convex Rate Constraints

Lorenz Weiland (Technische Universität München, Germany); Lennart Gerdes (Technische Universität München, Germany); Wolfgang Utschick (Technische Universität München, Germany)
pp. 540-544

Throughput Maximization Through Adaptive Decode-Remodulate-and-Forward Relaying Scheme

Naoufel Debbabi (Sup'Com, Tunisia); Inès Kammoun (ENIS, Tunisia); Mohamed Siala (Sup'Com, Tunisia)
pp. 545-549

A Spatial Incremental Relaying-Based User Transparent ARQ Protocol

Radwa Aly Sultan (Alexandria University, Egypt); Karim G Seddik (American University in Cairo & Alexandria University, Egypt)
pp. 550-554

Context-Aware Handover Optimization for Relay-Aided Vehicular Terminals

Qi Liao (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institute, Germany); Federico Penna (Fraunhofer Heinrich Hertz Institute, Germany); Slawomir Stanczak (Fraunhofer Heinrich Hertz Institute & Technische Universität Berlin, Germany); Zhe Ren (BMW Group Research and Technology, Germany); Peter Fertl (BMW Group Research and Technology, Germany)
pp. 555-559

Feedback Stabilization over a Gaussian Interference Relay Channel

Ibrahim Bilal (Royal Institute of Technology (KTH), Sweden); Ali A. Zaidi (Royal Institute of Technology (KTH), Sweden); Tobias J. Oechtering (KTH Royal Institute of Technology & School of Electrical Engineering, EE, Sweden); Mikael Skoglund (KTH Royal Institute of Technology, Sweden)
pp. 560-564

Opportunistic Source-Pair Selection (OSPS) Method for Multiuser Bi-directional Wireless Relaying Networks

Volkan Ozduran (Istanbul University, Turkey); John Cioffi (Stanford University, USA); Siddik Yarman (Istanbul University, Turkey)
pp. 565-569

Finite Dimension Wyner-Ziv Lattice Coding for Two-Way Relay Channel

Sinda Smirani (CEA, France); Mohammed Kamoun (CEA-LIST, France); Mireille Sarkiss (CEA LIST, France); Abdellatif Zaidi (Université Paris-Est Marne La Vallée, France); Pierre Duhamel (Lss Supelec & CNRS, France)
pp. 570-574

Performance Analysis of Relay Networks with Channel code in Low SNR Regime

Xuan-Thang Vu (LSS-SUPELEC & University Paris sud 11, France); Vo Nguyen Quoc Bao (Posts and Telecommunications Institute of Technology, Vietnam); Marco Di Renzo (French National Center for Scientific Research (CNRS), France); Pierre Duhamel (Lss Supelec & CNRS, France)
pp. 575-579

Novel lower bound on the Ergodic rate density of random ad-hoc networks

Yaniv George (Bar-Ilan University, Israel); Itsik Bergel (Bar Ilan University, Israel); Ephraim Zehavi (Bar-Ilan University, Israel)
pp. 580-584

R12: MIMO and multiuser communications

Sum-Rate Analysis of Spectrum Sharing Spatial Multiplexing MIMO Systems with Zero-Forcing and Multiuser Diversity

Liang Yang (Jinan University, P.R. China); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Erchin Serpedin (Texas A&M University, USA); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
pp. 585-589

Multiple Precoder Codebooks for MIMO Systems with Limited Feedback of Precoder and Bit Loading

Hung-Chun Chen (National Chiao Tung University, Taiwan); Yuan-Pei Lin (National Chiao Tung University, Taiwan)
pp. 590-593

Lattice Reduction Aided Detection in Large-MIMO Systems

Kamal Singhal (Indian Institute of Science, Bangalore, India); Tanumay Datta (Indian Institute of Science, India); A. Chockalingam (Indian Institute of Science, India)
pp. 594-598

Energy Efficiency Optimization in MIMO Broadcast Channels with Fairness Constraints

Christoph Hellings (Technische Universität München, Germany); Wolfgang Utschick (Technische Universität München, Germany)
pp. 599-603

Multicast Performance of Large-Scale Antenna Systems

Hong Yang (Bell Laboratories & Alcatel-Lucent, USA); Tom Marzetta (Bell Labs, USA); Alexei Ashikhmin (Bell Labs, Alcatel-Lucent, USA)
pp. 604-608

Achieving the Degrees of Freedom for the Two-Cell MIMO Interfering Broadcast Channel with Limited Feedback

Ahmed Medra (McMaster University, Canada); Timothy N. Davidson (McMaster University, Canada)
pp. 609-613

Energy Efficient Design in MIMO Multi-cell Systems with Time Average QoS Constraints

Subhash Lakshminarayana (SUPELEC, France); Mohamad Assaad (Supelec, France); Mérouane Debbah (Supelec, France)
pp. 614-618

Power Minimization and QoS Feasibility Region in the Multiuser MIMO Broadcast Channel with Imperfect CSI

José P González-Coma (University of A Coruña, Spain); Michael Joham (Technische Universität München, Germany); Paula M. Castro (University of A Coruña, Spain); Luis Castedo (University of A Coruña, Spain)
pp. 619-623

Adaptive V-BLAST Type Channel Equalizer Design for Cognitive MIMO-OFDM Radios

Mehmet T. Ozden (Piri Reis University, Turkey)
pp. 624-628

P5: Plenary Lecture: Feedback in Wireless Networks: Recent Results & Discoveries

Feedback has long played a major role in the development of wireless networks, from its earliest and simplest uses in protocols such as Aloha, to its more sophisticated uses in advanced multiple-antenna systems. Recent years have seen a considerable research effort in this area, both on the practical uses of feedback and on the fundamental, and sometimes surprising, properties that it can impart to networks. This talk will review some of the latter developments, notably as they relate to physical layer security, the capacities of interference channels, multi-media (i.e. finite-block-length) communication, and related problems.

R13: OFDM systems

Impact of Sampling Rate on PSD of OFDM Signal with SSOP Sidelobe Suppression

Antonio Cantoni (The University of Western Australia, Australia); Jian (Andrew) Zhang (CSIRO ICT Centre, Australia); Xiaojing Huang (CSIRO ICT Centre, Australia); Y Jay Guo (CSIRO, Australia)
pp. 629-633

Frequency-Domain Processing for Synchronization and Channel Estimation in OQAM-OFDM Systems

Christoph Thein (Leibniz Universität Hannover, Germany); Martin Fuhrwerk (Leibniz Universität Hannover, Germany); Jürgen Peissig (Leibniz Universität Hannover, Germany)
pp. 634-638

An Improved ESPRIT-Based Blind CFO Estimation for OFDM in the Presence of I/Q Imbalance

Tzu-Chiao Lin (National Taiwan University, Taiwan); Yen-Chang Pan (National Taiwan University, Taiwan); Wei-Jen Tai (National Taiwan University, Taiwan); See-May Phoong (National Taiwan University, Taiwan)
pp. 639-643

A low-complexity precoding technique for N-continuous OFDM

Yamin Zheng (Zhejiang University, P.R. China); Jie Zhong (Zhejiang University, P.R. China); Minjian Zhao (Zhejiang University, P.R. China); Ming Lei (Zhejiang University, P.R. China)
pp. 644-648

Phase Noise and Carrier Frequency Offset in OFDM systems: Joint Estimation and Hybrid Cramer-Rao Lower Bound

Omar Salim, Omar (University of Southern Queensland & USQ, Australia); Ali A Nasir (Australian National University, Australia); Hani Mehrpouyan (California State University, USA); Wei Xiang (University of Southern Queensland, Australia)
pp. 649-653

KLT-based Estimation of Rapidly Time-Varying Channels in MIMO-OFDM Systems

Pedro Suárez-Casal (University of A Coruña, Spain); José A. García-Naya (University of A Coruña, Spain); Luis Castedo (University of A Coruña, Spain); Markus Rupp (Vienna University of Technology, Austria)
pp. 654-658

S5: Physical layer security

MIMO Gaussian Broadcast Channels with Private and Confidential Messages and with Receiver Side Information

Rafael F. Schaefer (Technische Universität München, Germany); H. Vincent Poor (Princeton University, USA); Holger Boche (Technical University Munich, Germany)
pp. 659-663

Spherical Codes for the Gaussian Wiretap Channel with Continuous Input Alphabets

Joao Almeida (Faculdade de Engenharia da Universidade do Porto & Instituto de Telecomunicações, Portugal); Cristiano Torezzan (State University of Campinas, Brazil); Joao Barros (Instituto de Telecomunicações & Universidade do Porto, Portugal)
pp. 664-668

Experimental Aspects of Secret Key Generation in Indoor Wireless Environments

Alex J Pierrot (Georgia Institute of Technology, USA); Remi A Chou (Georgia Institute of Technology, USA); Matthieu Bloch (Georgia Institute of Technology & Georgia Tech Lorraine, France)
pp. 669-673

Secure Key Agreement Over Reciprocal Fading Channels in the Low SNR Regime

Mattias Andersson (KTH Royal Institute of Technology, Sweden); Ashish Khisti (University of Toronto, Canada); Mikael Skoglund (KTH Royal Institute of Technology, Sweden)
pp. 674-678

Layered Decoding and Secrecy over Degraded Broadcast Channels

Shaofeng Zou (Syracuse University, USA); Yingbin Liang (Syracuse University, USA); Lifeng Lai (Worcester Polytechnic Institute, USA); Shlomo (Shitz) Shamai (The Technion, Israel)
pp. 679-683

Secure Degrees of Freedom on Widely Linear Instantaneous Relay-Assisted Interference Channel

Zuleita Ka Ming Ho (Technical University of Dresden, Germany); Eduard Jorswieck (Dresden University of Technology, Germany)
pp. 684-688

R14: Multicarrier systems

Data Predistortion for Multicarrier Satellite Channels using Orthogonal Memory Polynomials

Roberto Piazza (University of Luxembourg, Luxembourg); Bhavani Shankar Mysore Rama Rao (Interdisciplinary Centre for Security, Reliability and Trust & University of Luxembourg, Luxembourg); Björn Ottersten (University of Luxembourg, Luxembourg)
pp. 689-693

Power Allocation Approaches for Combined Positioning and Communications OFDM Systems

Rafael Montalban (Universitat Autònoma de Barcelona, Spain); José A. López-Salcedo (Universitat Autònoma de Barcelona, Spain); Gonzalo Seco-Granados (Universitat Autònoma de Barcelona, Spain); Lee Swindlehurst (University of California at Irvine, USA)
pp. 694-698

Low complexity optimization and implementation of pulse shapes for BFDm systems

Raouia Ayadi (Ecole Supérieure des Communications de Tunis, Tunisia); Inès Kammoun (ENIS, Tunisia); Mohamed Siala (Sup'Com, Tunisia)
pp. 699-703

Analog Joint Source-Channel Coding for OFDM Systems

Óscar Fresnedo (University of A Coruña, Spain); Francisco J. Vazquez-Araujo (University of A Coruña, Spain); Luis Castedo (University of A Coruña, Spain); Javier Garcia-Frias (University of Delaware, USA)
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SDMA for FBMC with block diagonalization

Màrius Caus (Universitat Politècnica de Catalunya (UPC), Spain); Ana Perez-Neira (UPC, Spain); Marco Moretti (Università di Pisa, Italy)
pp. 709-713

A New Subspace-Based Algorithm for Blind Channel Identification in ZP-OFDM Systems Using Few Received Blocks

Yen-Chang Pan (National Taiwan University, Taiwan); See-May Phoong (National Taiwan University, Taiwan)
pp. 714-718

An Outer Loop Link Adaptation for BICM-OFDM That Learns

Sander Wahls (Princeton University, USA); H. Vincent Poor (Princeton University, USA)
pp. 719-723

R15: Localization, synchronization and implementation issues

A Multi-standard Efficient Column-layered LDPC Decoder for Software Defined Radio on GPUs

Rongchun Li (National University of Defense Technology, P.R. China); Jie Zhou (National University of Defense Technology, P.R. China); Yong Dou (National University of Defense Technology (NUDT), P.R. China); Song Guo (National University of Defense Technology, P.R. China); Dan Zou (National University of Defense Technology, P.R. China); Shi Wang (Changsha Military Delegate Bureau, P.R. China)
pp. 724-728

Optimum Frame Synchronization over Binary Symmetric Channel for Data with Known, Unequal Distribution

Boladale Isawhe (Kingston University, United Kingdom); Maria G. Martini (Kingston University, United Kingdom)
pp. 729-733

Cell Identification Performance Based on Hierarchical Synchronization Channels in Dense Small Cell Environment

Hideyuki Moroga (NTT DOCOMO, INC., Japan); Hiroki Harada (Ntt Docomo, Inc., Japan); Akihito Morimoto (NTT DOCOMO, INC., Japan); Satoshi Nagata (NTT DoCoMo, Inc., Japan); Hiroyuki Ishii (DOCOMO Innovations, Inc, Japan); Yukihiro Okumura (NTT DOCOMO, INC., Japan)
pp. 734-738

Localization in Wireless Networks via Laser Scanning and Bayesian Compressed Sensing

Sofia Nikitaki (FORTH-ICS and University of Crete, Greece); Philipp M Scholl (TU Darmstadt, Germany); Kristof Van Laerhoven (TU Darmstadt, Germany); Panagiotis Tsakalides (FORTH-ICS and University of Crete, Greece)
pp. 739-743

Kernel-based localization using fingerprinting in wireless sensor networks

Sandy Mahfouz (Université de Technologie de Troyes, France); Farah Mourad-Chehade (Université de Technologie de Troyes, France); Paul Honeine (Université de Technologie de Troyes, France); Joumana Farah (Holy-Spirit University of Kaslik, Lebanon); Hichem Snoussi (University of Technology of Troyes, France)
pp. 744-748

RSS-based Localization in Wireless Sensor Networks using SOCP Relaxation

Slavisa Tomic (Universidade Nova de Lisboa & Faculdade de Ciencia e Tecnologia, Portugal); Marko Beko (ULHT/UNINOVA & UNINOVA, Caparica, Portugal); Rui Dinis (Instituto de Telecomunicacoes & FCT-UNL, Portugal); Vlatko Lipovac (University of Dubrovnik, Croatia)
pp. 749-753

On the Coherence Properties of Random Euclidean Distance Matrices

Dionysios Kalogierias (Rutgers, The State University of New Jersey, USA); Athina Petropulu (Rutgers, The State University of New Jersey, USA)
pp. 754-758

Characterization of the Pointwise and the Peak Value Behavior of System Approximation under Thresholding

Holger Boche (Technical University Munich, Germany); Ullrich J Mönich (Massachusetts Institute of Technology, USA)
pp. 759-763

Modulation Optimization for Energy Harvesting Transmitters with Compound Poisson Energy Arrivals

Qing Bai (Technische Universität München, Germany); Josef A. Nossek (Technische Universität München, Germany)
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