The 68th IEEE
Vehicular Technology Conference

Programme

21 - 24 September 2008

Telus Convention Center

Calgary, Canada

Welcome from the General Co-Chairs

On behalf of the Conference Organising Committee, we would like to welcome you to the 68th Semi-Annual IEEE Vehicular Technology (the VTC 2008-Fall) Conference in Calgary. The Committee received 900 technical papers globally, of which 424 were accepted with 420 camera-ready papers registered. Many high-quality papers had to be rejected in this difficult and imperfect process. We want to thank the authors of both accepted and rejected papers for their efforts, and encourage all of them to continue with the tradition of coming back with new submissions next year. We wish to thank the many colleagues on the TPC who handled heavy paper processing loads, and particularly to the TPC co-chairs. We also wish to thank the representatives of TPC co-chairs for the major tracks as well as the track chairs. We hope and expect that the value you, the attendees and the authors, get from this conference will be substantial and will further accelerate technical progress and the development in the industry. We would like to convey our appreciation to the keynote speakers, special session organizers, session chairs, authors and reviewers of technical papers, tutorial speakers and all the delegates for their contributions.

For those who are visiting for the first time, the City of Calgary is nestled in the foothills of Canada's Rocky Mountains. It has a population of over one million and is situated within an hour's drive of Banff National Park, one of the most beautiful parts of the Rocky Mountains.

Abu B. Sesay & Wael Badawy, *General Co-Chairs*
VTC2008-Fall

Welcome from the TPC Co-Chairs

On behalf of the Technical Program Committee (TPC), it is with great pleasure that we welcome you all to the 68th IEEE Vehicular Technology Conference: VTC2008-Fall in Calgary, Alberta, Canada.

We have received a total of 904 paper submissions, out of which 424 papers have been accepted and 420 papers have eventually been published in the Conference Proceedings. These 420 papers have been arranged into 83 regular technical sessions and 1 special session. In addition, we have organized 3 tutorials and a professors' panel. We also have 3 plenary addresses to be given by renowned experts in the field, invited from industry and academia.

The technical program that we have prepared is the result of a great effort of the members of the TPC comprised of renowned experts in their respective fields. The submitted papers were reviewed by the members of the TPC and many independent reviewers from all over the world. Each accepted paper received at least 3 independent reviews. This extensive review process has ensured the very high quality of the technical program.

We seize this opportunity to thank all the Track Chairs, members of the technical program committee and the technical reviewers for all their effort and contributions to the technical program. We thank all the authors for submitting their research results to the VTC2008-Fall. Special thanks go to all our invited speakers for coming to the VTC2008-Fall, in spite of their very busy schedules. Lastly, thank you to all the members of the VTC2008-Fall Organizing Committee and the IEEE Vehicular Technology Society's officers and staff for their efforts and hard work in organizing every detail of the Conference. Specifically, we would like to acknowledge James Irvine for all his support and guidance during every stage of the conference preparation process.

Once again, we welcome you all to the VTC2008-Fall and trust you will not only appreciate the technical program, but also find some time to visit the many tourist attractions within Calgary and its adjoining areas.

Have a productive and enjoyable conference!

Abraham O. Fapojuwo and Witold A. Krzymień,
TPC Co-Chairs, VTC2008-Fall

Welcome from the VTS President

On behalf of the IEEE Vehicular Technology Society, it is my great pleasure to welcome you to the IEEE 68th Vehicular Technology Conference in Calgary.

Calgary is very well located for seeing some of the best that Canada has to offer, and I hope that you will be able to take some time to explore the city and the surrounding area. However, it was not the scenery which attracted us here – a key factor in the choice of the city as the venue for VTC2008-Fall was the enthusiasm of the local VTS members, who were committed to showing the world what Calgary and Alberta had to offer. From the very initial stages of venue selection, local members have been extremely helpful in all aspects of the organisation of the conference, and I would like to thank them all for their valuable assistance. Particular thanks must go to General Chair Ibrahim Gedeon, Chief Technology Officer of TELUS, and General Co-Chairs Abu Sesay and Wael Badawy and their team, who have done a great job in organising the event, along with TPC Co-chairs Witold Krzymien and Abraham Fapojuwo and their team, who did an excellent job on paper review and providing you with an outstanding technical programme.

VTC is the Society's main conference, and it split between two venues each year in order to provide maximum opportunity for people to attend. However, it is not the Society's only conference. We also jointly run the International Symposium on Wireless Communication Systems (ISWCS), the Joint Rail Conference, and the Vehicle Power and Propulsion Conference (VPPC), and technically co-sponsor about 20 other conference each year across our core theme of enabling mobility. If you would like to find out more about the Society, our new web site has just gone live at www.vtsociety.org

Finally I would like to thank all of you for travelling to and participating in the conference. I wish you an enjoyable and stimulating visit.

James Irvine, *President*
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1: MIMO - I

1. **Adaptive MIMO Transmission Scheme for Spatially Correlated Broadband BICM-OFDM Systems**
   Dachuan Yao, University of Duisburg-Essen, Germany; Alfonso Camargo, University of Duisburg-Essen, Germany; and Andreas Czylwik, University of Duisburg-Essen, Germany
2. **Algorithm for Detecting the Number of Transmit Antennas in MIMO-OFDM Systems: Receiver Integration**
   Eckhard Ohlmer, TU Dresden, Germany; Ting-Jung Liang, TU Dresden, Germany; and Gerhard Fettweis, TU Dresden, Germany
3. **An Analytical Approach to V-BLAST Detection with Optimal Ordering for Two Input Multiple Output Systems**
   Wei Peng, Tohoku University, Japan; Shaodan Ma, The University of Hong Kong, Hong Kong; Tung-sang Ng, The University of Hong Kong, Hong Kong; Jiangzhou Wang, Kent University, United Kingdom ; and Fumiyuki Adachi, Tohoku University, Japan
4. **An Implementation of GSG with Parallel Outputs targeting MIMO Detector**
   Soo Yun Hwang, Electronics and Telecommunications Research Institute, Korea; Gi Yoon Park, Electronics and Telecommunications Research Institute, Korea; Hyeong Jun Park, Electronics and Telecommunications Research Institute, Korea; and Kyoung Son Jhang, Chungnam National University, Korea
5. **Diversity-Multiplexing Tradeoff With Arbitrary Doppler Spectrum**
   Hui Tong, Alcatel Shanghai Bell, China; and Seyed Zekavat, Michigan Technological University, USA

Monday September 22 10.30-12.00

1B: Resource Allocation & Mobility Management I

Chair: Geoffrey Messier, University of Calgary

1. **Joint Channel-Aware and Queue-Aware Scheduling Algorithm for Multi-User MIMO-OFDMA Systems with Dowlink Beamforming**
   Kai Sun, Beijing University of Posts & Telecommunications, China; Ying Wang, Beijing University of Posts & Telecommunications, China; Tan Wang, Beijing University of Posts & Telecommunications, China; Zixiong Chen, Beijing University of Posts & Telecommunications, China; and Guona Hu, Beijing University of Posts & Telecommunications, China
2. **Optimal Radio Resource Partition for Joint Contention- and Connection-Oriented Multi-Channel Access in OFDMA Systems**
   Lichun Wang, National Chiao Tung University, Taiwan; and Anderson Chen, National Chiao Tung University, Taiwan
3. **Improving Mobile IPv6 Handover in Wireless Network with E-HCF**
   Anne Wei, CEDRIC, France; GouZhi Wei, University of Paris XII, France; and Benoît Geller, SATIE, France
4. **A Thorough Investigation of Mobile IPv6 for the Aeronautical Environment**
   Christian Bauer, German Aerospace Center (DLR), Germany; and Serkan Ayaz, German Aerospace Center (DLR), Germany
5. **On the Performance of Integrator Handover Algorithm in LTE Networks**
   Naizheng Zheng, Aalborg University, Denmark; and Jeroen Wigard, Nokia Siemens Networks, Denmark

Monday September 22 10.30-12.00

1C: Coding - I

1. **A Two-Stage Algorithm to Reduce Encoding Delay of Turbo Source Coding**
   Javad Haghighat, McGill University, Canada; and David Plant, McGill University, Canada
2. **Construction of Regular Quasi-Cyclic Protograph LDPC codes based on Vandermonde Matrices**
   Nicholas Bonello, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
3. **Log-likelihood Metrics based on Two-Symbol-Interval Observations for LDPC Codes with BDPSK Transmission**
   Elisa Mo, National University of Singapore, Singapore; and Pooi Yuen Kam, National University of Singapore, Singapore
4. **Novel Algebraic Constructions of Nonbinary Structured LDPC Codes over Finite Fields**
   Keke Liu, Beijing Institute of Technology, P. R. China; Zesong Fei, Beijing Institute of Technology, P. R. China; and Jingming Kuang, Beijing Institute of Technology, P. R. China
5. **Over-Complete Mapping Aided, Soft-Bit Assisted Iterative Unequal Error Protection H.264 Joint Source and Channel Decoding**
   Nasruminallah Nasruminallah, University of Southampton, UK; Muhammad El-Hajjar, University of Southampton, UK; Noor S Othman, University of Southampton, UK; Anh Pham Quang, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK

Monday September 22 10.30-12.00

1D: WIMAX - I

1. **Broadcasting VBR Traffic in a WiMAX Network**
   Patrick Hosein, Huawei Technologies, USA
2. **Effect of Distributed Subcarrier Permutation on Adaptive Beamforming in WiMAX Networks**
   Masood Maqbool, ENST (Télécom ParisTech), France; Marceau Coupechoux, ENST (Télécom ParisTech), France; and Philippe Godlewski, ENST (Télécom ParisTech), France
3. **Optimal Linear-Time Algorithm for Uplink Scheduling of Packets with Hard or Soft Deadlines in WiMAX**
   Arezou Mohammadi, Queen's University, Canada; Selim Akl, Queen's University, Canada; and Firouz Behnamfar, Canada
4. **Performance Evaluation of Mobile WiMAX with Dynamic Overhead**
   Yuehong Gao, Norwegian University of Science and Technology, Norway; Li Chen, Beijing University of Posts and Telecommunications, P.R.China; Xin Zhang, Beijing University of Posts and Telecommunications, P.R.China; and Yuming Jiang, Norwegian University of Science and Technology, Norway
5. **RF Optimization of WiMAX Systems**
   Rajesh Pazhyannur, Motorola, Inc., USA; Tony Dean, Motorola, Inc., USA; Swaminathan Anantha, Motorola, Inc., USA; and Richa Dham, Motorola, Inc., USA

Monday September 22 10.30-12.00

1E: 3G & Beyond - I

1. **Performance Analysis of Power Saving Mechanism with Adjustable DRX Cycles in 3GPP LTE**
   Lei Zhou, Beijing University of Posts & Telecommunications, China; Haibo Xu, Beijing University of Posts & Telecommunications, China; Hui Tian, Beijing University of Posts & Telecommunications, China; Youjun Gao, Beijing University of Posts & Telecommunications, China; Lei Du, DoCoMo Beijing Communications Laboratories, China; and Lan Chen, DoCoMo Beijing Communications Laboratories, China
2. **LTE-Advanced – Evolving LTE towards IMT-Advanced**
   Stefan Parkvall, Ericsson Research, Sweden; Erik Dahlman, Ericsson Research, Sweden; Anders Furuskär, Ericsson Research, Sweden; Ylva Jading, Ericsson Research, Sweden; Magus Olsson, Ericsson Research, Sweden; Stefan Wänstedt, Ericsson Research, Sweden; and Kambiz Zangi, Ericsson Research, Sweden
3. **Joint Time-Frequency Domain Proportional Fair Scheduler with HARQ for 3GPP LTE Systems**
   Kian Chung Beh, University of Bristol, UK; Simon Armour, University of Bristol, UK; and Angela Doufexi, University of Bristol, UK
4. **Dual Tunnelling Mechanism for Mobile IP based 3G LTE-WLAN Handover**
   Kyung-yul Cheon, ETRI, Korea; Mijeong Yang, ETRI, Korea; Aesoon Park, ETRI, Korea; Yeon-jung Kim, ChungNam National University, Korea; Younghwan Choi, ChungNam National University, Korea; and Sang-Ha Kim, ChungNam National University, Korea
5. **Adaptive Transmission Bandwidth Based Packet Scheduling for LTE Uplink**
   Francesco Davide Calabrese, Aalborg university, Denmark; Claudio Rosa, Nokia Siemens Networks, Denmark; Mohmmad Anas, Aalborg University, Denmark; Per Henrik Michaelsen, Nokia Siemens Networks, Denmark; Klaus I. Pedersen, Nokia Siemens Networks, Denmark; and Preben E. Mogensen, Nokia Siemens Networks, Denmark

Monday September 22 10.30-12.00

1F: Cooperative Relay Networks - I

1. **A Novel Coding Scheme Based on GLD Codes for Cooperative Relay Networks**
   Changcai Han, School of Information Engineering, Beijing University of Posts and Telecommunications, China; Xiaoxiang Wang, School of Information Engineering, Beijing University of Posts and Telecommunications, China; Weiling Wu, School of Information Engineering, Beijing University of Posts and Telecommunications, China; and Jianhua Zhang, School of Information Engineering, Beijing University of Posts and Telecommunications, China
2. **A Novel Distributed Space-Time Block Coding Protocol for Cooperative Wireless Relay Networks**
   Hamed Rasouli, Ryerson University, Canada; and Alagan Anpalagan, Ryerson University, Canada
3. **Raptor Code for Downlink Cooperative Wireless Cellular Networks**
   Hongtao Zhang, Beijing University of Posts and Telecommunications, China; and Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan
4. **Transmission Strategies for Parallel Relay Networks Based on Superposition Coding**
   Jianzhong Huang, Xidian University, China; Yang Yang, Xidian University, China; Peng Wang, City University of Hong Kong, Hong Kong; Ping Li, City University of Hong Kong, Hong Kong; and Xinmei Wang, Xidian University, China
5. **Incremental Network Coding in Cooperative Transmission Wireless Networks**
   Dereje H. Woldegebreal, University of Paderborn, Germany; Stefan Valentin, University of Paderborn, Germany; and Holger Karl, University of Paderborn, Germany

Monday September 22 10.30-12.00

1H: OFDM - I

1. **SNR Estimation in OFDMA/TDD Based WiBro System**
   Hyeong-Sook Park, ETRI, Korea; and Youn-Ok Park, ETRI, Korea
2. **Subcarrier, Bit and Power Allocation for Multiuser OFDM-based Multi-Cell Cognitive Radio Systems**
   Yonghong Zhang, The University of British Columbia, Canada; and Cyril Leung, The University of British Columbia, Canada
3. **Investigation on Transmit Diversity for Synchronization Channel in OFDM Based Evolved UTRA Downlink**
   Satoshi Nagata, NTT DoCoMo, Inc., Japan; Yoshihisa Kishiyama, NTT DoCoMo, Inc., Japan; Motohiro Tanno, NTT DoCoMo, Inc., Japan; Kenichi Higuchi, Tokyo University of Science, Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan
4. **Optimization of Time Domain Windowing and Guardband Size for Cellular OFDM Systems**
   Jian Luo, Fraunhofer Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer Heinrich-Hertz-Institut, Germany; and Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany
5. **Correlated Scrambling Scheme for Time-Frequency Diversity in OFDM Single-Frequency-Network Systems**
   Hsien-Wen Chang, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; Chorng-Ren Sheu, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; Ming-Chien Tseng, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; and Ching-Yung Chen, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan

Monday September 22 13.30-15.00

2A: MIMO - II

1. **Distributed Space-Time Block Coded OFDM with Subcarrier Grouping**
   Nam H. Vien, University of Saskatchewan, Canada; Ha H. Nguyen, University of Saskatchewan, Canada; and Tho Le-Ngoc, McGill University, Canada
2. **Performance Analysis of Space-Time Block Codes in MIMO Fading Channels with Discrete Adaptive MQAM**
   Taehoon Kim, Information and Communications University, Korea; and Youngnam Han, Information and Communications University, Korea
3. **Performance of Soft Decision Metrics and Diversity Combining with Imperfect Channel Estimation**
   Mikael Gidlund, Nera Networks AS, Norway; and Gang Wang, Philips Research, The Netherlands
4. **Space-Time Block Coded-Joint Transmit/Receive Antenna Diversity using more than 4 Receive Antennas**
   Hiromichi Tomeba, Tohoku University, Japan; Kazuaki Takeda, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan
5. **Spatial Correlation Effects on MAP-PSP Decoding of Multiple STTCs**
   Usa Vilaipornsawai, McGill University, Canada; and Harry Leib, McGill University, Canada

Monday September 22 13.30-15.00

2B: Scheduling - I

Chair: Hong-Chuan Yang , University of Victoria

1. **A Novel User Scheduling Strategy for Multiuser MIMO Systems with Random Unitary Beamforming**
   Peng Lu, University of Victoria, Canada; and Hongchuan Yang, University of Victoria, Canada
2. **Allocation Fairness for MIMO Precoded UTRA-LTE TDD System**
   Yuanye Wang, AAU, Denmark; Muhammad Rahman, Ericsson, Sweden; Suvra Das, Tata, India; Troels Sørensen, AAU, Denmark; and Preben Mogensen, AAU, Denmark
3. **Combined Proportional Fair and Maximum Rate Scheduling for Virtual MIMO**
   Yong Li, Beijing University of Posts and Telecommunications, China; Wenbo Wang, Beijing University of Posts and Telecommunications, China; Xiang Zhang, Beijing University of Posts and Telecommunications, China; and Mugen Peng, Beijing University of Posts and Telecommunications, China
4. **Efficient Resource Allocation for Power Minimization in MIMO-OFDM Downlink**
   Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore
5. **Evaluation of Outage Restricted Distributed MIMO Multi-Hop Networks by the Improved Approximative Power Allocation**
   Dirk Wübben, University of Bremen, Germany

Monday September 22 13.30-15.00

2C: Modulation - I

1. **Design of Signal Constellations in the Presence of Phase Noise**
   Yang Li, Tsinghua University, China; Shuzheng Xu, Tsinghua University, China; and Huazhong Yang, Tsinghua University, China
2. **High Rank Modulation Investigation for PO-CI/MC-CDMA Systems**
   Yanyan Zhang, Beijing University of Posts and Telecommunications, China; Yang Zhao, Beijing University of Posts and Telecommunications, China; Liang Ge, Beijing University of Posts and Telecommunications, China; and Xiaofeng Tao, Beijing University of Posts and Telecommunications, China
3. **Joint Adaptive Modulation and Diversity Combining with Feedback Error Compensation**
   Seyeong Choi, Texas A&M University at Qatar, Qatar; Mohamed-Slim Alouini, Texas A&M University at Qatar, Qatar; Khalid A. Qaraqe, Texas A&M University at Qatar, Qatar; and Hong-Chuan Yang, University of Victoria, Canada
4. **MMSE Detection based on Noise Statistics with Random Noise Variance**
   Xinning Wei, Institute of Communications Engineering, University of Rostock, Germany; and Tobias Weber, Institute of Communications Engineering, University of Rostock, Germany
5. **Adaptive Modulation for Wireless Multihop Systems with Regenerative Relays**
   Andreas Mueller, University of Stuttgart, Germany; and Joachim Speidel, University of Stuttgart, Germany

Monday September 22 13.30-15.00

2D: WLAN - I

Chair: Patrick Mitran, University of Waterloo

1. **An Efficient Admission Control Algorithm for IEEE 802.11e WLAN**
   Min Li Huang, Information and Communications University, Korea; Seungbeom Lee, Information and Communications University, Korea; and Sin-Chong Park, Information and Communications University, Korea
2. **Extended WDB Algorithm for QoS Enhancement in IEEE 802.11e WLAN**
   Jing Chi, Beijing University of Posts and Telecommunications, China; Meina Song, Beijing University of Posts and Telecommunications, China ; and Junde Song, Beijing University of Posts and Telecommunications, China
3. **Spatial Reuse DCF for Enhancing Throughput and Performance Analysis**
   Sunghun Kim, Information and Communications University, Korea; Jongsub Cha, Electronics and Telecommunications Research Institute, Korea; and Joongsoo Ma, Information and Communications University, Korea
4. **QoE-aware Admission Control for Multimedia Applications in IEEE 802.11 Wireless Networks**
   Kandaraj Piamrat, INRIA , France; Adlen Ksentini, IRISA, France; César Viho, IRISA, France; and Jean-Marie Bonnin, Telecom Bretagne, France
5. **Multimedia Mobility Service Solution**
   Marius Corici, Fraunhofer FOKUS Institute, Germany; Alin Murarasu, Fraunhofer FOKUS Institute, Germany; Suwon Lee, Samsung Advanced Institute of Technology (SAIT), Korea; Xiaoyu Liu, Samsung Advanced Institute of Technology (SAIT), Korea; Stefan Arbanowski, Fraunhofer FOKUS Institute, Germany; and Thomas Magedanz, Fraunhofer FOKUS Institute, Germany

Monday September 22 13.30-15.00

2E: 3G & Beyond - II

1. **Uplink Power Control in LTE – Overview and Performance, Subtitle: Principles and Benefits of Utilizing rather than Compensating for SINR Variations**
   Arne Simonsson, Ericsson Research, Sweden; and Anders Furuskär, Ericsson Research, Sweden
2. **Vertical Handover Platform over Applying the Open API for WLAN and 3G LTE Systems**
   Yousun Hwang, ETRI, South Korea; and Aesoon Park, ETRI, South Korea
3. **Combined Admission Control and Scheduling for QoS Differentiation in LTE Uplink**
   Mohmmad Anas, Aalborg University, Denmark; Claudio Rosa, Nokia Siemens Networks, Denmark; Francesco Davide Calabrese, Aalborg University, Denmark; Klaus Ingemann Pedersen, Nokia Siemens Networks, Denmark; and Preben Elgaard Mogensen, Nokia Siemens Network, Denmark
4. **A Markovian Model for HSDPA TNL Congestion Control Performance Analysis**
   Thushara Weerawardane, University of Bremen, Germany; Ranjit Perera, University of Moratuwa, Sri Lanka; Andreas Timm-Giel, University of Bremen, Germany; and Carmelita Görg, University of Bremen, Germany
5. **Providing Quality of Service for Voice-over-IP over TD-SCDMA HSDPA**
   Wei Hong, Beijing University of Posts and Telecommunications, China; Chunjing Hu, Beijing University of Posts and Telecommunications, China; Wenbo Wang, Beijing University of Posts and Telecommunications, China; and Jing Han, Beijing University of Posts and Telecommunications, China

Monday September 22 13.30-15.00

2F: Cooperative Relay Networks - II

1. **On the Performance of Selection Relaying**
   Abdulkareem Adinoyi, Carleton University, Canada; Yijia Fan, Princeton University, USA; Halim Yanikomeroglu, Carleton University, Canada; and H. Vincent Poor, Princeton University, USA

2. **Cooperative MAC Scheme for Multi-Hop Multi-Channel Wireless Mesh Networks**
   Xing-Jian Zhu, Beijing University of Posts and Telecommunications, China; and Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan
3. **A Collaborative Cooperation Scheme using Hierarchical Modulation**
   SunYoung Lee, Yonsei University, Korea; and KeumChan Whang, Yonsei University, Korea
4. **Mobile Cooperative WLANs - MAC and Transceiver Design, Prototyping, and Field Measurements**
   Stefan Valentin, University of Paderborn, Germany; Hermann S. Lichte, University of Paderborn, Germany; Daniel Warneke, University of Paderborn, Germany; Thorsten Biermann, University of Paderborn, Germany; Rafael Funke, University of Paderborn, Germany; and Holger Karl, University of Paderborn, Germany
5. **Power Control Algorithm of Ranging Process in IEEE 802.16 Relay System**
   Doohwan Lee, The University of Tokyo, Japan; and Hiroyuki Morikawa, The University of Tokyo, Japan

Monday September 22 13.30-15.00

2H: OFDM - II

1. **Pilot Structure for high Data Rate in OFDM/OQAM-IOTA System**
   Tae-woong Yoon, Sungkyunkwan University, Korea; Se-bin Im, Sungkyunkwan University , Korea; Sung-Hyun Hwang, Electronics and Telecommunications Research Institute(ETRI), Korea; and Hyung-jin Choi, Sungkyunkwan University , Korea
2. **Pilot-based Compensation of Frequency-Selective I/Q Imbalances in Direct-Conversion OFDM Transmitters**
   Yaning Zou, Tampere University of Technology, Finland; Mikko Valkama, Tampere University of Technology, Finland; and Markku Renfors, Tampere University of Technology, Finland
3. **Probability of Error Analysis of 4-QAM OFDM Systems with Random Residual Frequency Offset**
   P.C. Weeraddana, Asian Institute of Technology, Thailand; R.M.A.P. Rajatheva, Asian Institute of Technology, Thailand; and Hlaing Minn, University of Texas, Dallas, USA
4. **Selective Mapping with Symbol Re-mapping for OFDM/TDM Using MMSE-FDE**
   Haris Gacanin, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan
5. **Adjustable Comb-Type Pilot Arrangement in Wireless OFDM**
   Chia-Chang Hu, National Chung Cheng University, Taiwan; and Fu-How Chen, National Chung Cheng University, Taiwan

Monday September 22 15.30-17.00

3A: Spatial Multiplexing

Chair: Hufei Zhu, Huawei Technologies Co., Ltd.

1. **Reducing the Computational Complexity for BLAST by Using a Novel Fast Algorithm to Compute an Initial Square-root Matrix**
   Hufei Zhu, Huawei Technology Co., Ltd., China; Wen Chen, Shanghai Jiao Tong University, China; Dageng Chen, Huawei Technologies Co., Ltd., China; Yinggang Du, Huawei Technologies Co., Ltd., China; and Jianmin Lu, Huawei Technologies Co., Ltd., China
2. **A Grouped-Iterative Framework for MIMO Detection**
   Di-You Wu, National Chiao Tung University, Taiwan; and Lan-Da Van, National Chiao Tung University, Taiwan
3. **Enhanced Group Detection with a New Receiver Combiner for Spatial Multiplexing MIMO systems**
   Jeongsik Jeong, Korea University, Korea; Heunchul Lee, Korea University, Korea; Sung-Hyun Moon, Korea University, Seoul; and Inkyu Lee, Korea University, Korea
4. **Optimum Linear Detection of a Modified V-BLAST System with Delay Offsets**
   Huajiong Lin, University of Electronic Science and Technology of China, China; Youxi Tang, University of Electronic Science and Technology of China, China; Lu Guan, University of Electronic Science and Technology of China, China; and Kai Deng, University of Electronic Science and Technology of China
5. **Soft-output MIMO MMSE V-BLAST Detector under Imperfect Channel Estimation**
   Jun Wang, University of Electronic Science and Technology of China, China; Oliver Yu Wen, Nextwave Calgary Office, Canada; and Shaoqian Li, University of Electronic Science and Technology of China, China

Monday September 22 15.30-17.00

3B: Performance Analysis - I

Chair: Li-Chun Wang, National Chiao-Tung University

1. **A System Level Performance Study on Symbol-Wise XOR based Bi-Directional Relaying**
   Jianming Wu, Fujitsu Lab., Japan; Shunji Miyazaki, Fujitsu Lab., Japan; Kazuhisa Obuchi, Fujitsu Lab., Japan; and Tomohiko Taniguchi, Fujitsu Lab., Japan
2. **System Performance Analysis of Single-Path and Cooperative MIMO Relaying**
   Peter Rost, Technische Universität Dresden, Germany; Fredirk Boye, Technische Universität Dresden, Germany; and Gerhard Fettweis, Technische Universität Dresden, Germany
3. **Meta-heuristics Methods for a NP-Complete Networking Problem**
   Floriano De Rango, University of Calabria, Italy; Amilcare Francesco Santamaria, University of Calabria, Italy; Mauro Tropea, University of Calabria, Italy; and Salvatore Marano, University of Calabria, Italy
4. **Throughput Evaluation of Fixed Beams in a TD-SCDMA HSDPA System Using Different CQI Feedback Algorithms**
   Chen Bo, Beijing University of Posts and Telecommunications, China; Hou Xiaolin, Beijing University of Posts and Telecommunications, China; and Shichuan Ma, University of Nebraska-Lincoln, USA
5. **Development of a Motorway Simulator for Vehicular Multimedia Communications**
   Bilal Qazi, University of Leeds, UK; Hamada Alshaer, University of Leeds, UK; and Jaafar Elmirghani, University of Leeds, UK

Monday September 22 15.30-17.00

3C: Channel Estimation - I

1. **A Signal Perturbation Free Transmit Scheme for MIMO Channel Estimation**
   Feng Wan, Concordia University, Canada; Wei-Ping Zhu, Concordia University, Canada; and M.N.S. Swamy, Concordia University, Canada

2. **An Interpolation Based Channel Estimation Method for MIMO OFDM Systems**
   Chengyu Lin, Shanghai Jiao Tong University, China; Feng Yang, Shanghai Jiao Tong University, China; Wenjun Zhang, Shanghai Jiao Tong University, China; and Youyun Xu, Shanghai Jiao Tong University, China
3. **Downlink Channel Estimation Model for 802.16e OFDMA System**
   Senjie Zhang, Intel Communications Technology Lab, P.R.China; Yanchun Li, Huazhong University of Science and Technology, P.R.China; Wei Chen, Beijing University of Posts and Telecommunications, P.R.China; and Xiaoyun Wu, Intel Communications Technology La
4. **Efficient Channel Estimation Schemes for MIMO OFDM Systems with NULL Subcarriers**
   Jian Luo, Fraunhofer Heinrich-Hertz-Institut, Germany; Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany; and Wilhelm Keusgen, Fraunhofer Heinrich-Hertz-Institut, Germany
5. **General MMSE Channel Estimation for MIMO-OFDM Systems**
   Zhendong Luo, Alcatel-Lucent, China; and Dawei Huang, Alcatel-Lucent, Australia

Monday September 22 15.30-17.00

3D: Wireless Sensor Networks

1. **A Simple Outlier Data Rejection Algorithm for An RSSI-based ML Location Estimation in Wireless Sensor Networks**
   Daisuke Anzai, Osaka City University, Japan; and Shinsuke Hara, Osaka City University, Japan
2. **An Energy Efficient Cross-Layer Design for Healthcare Monitoring Wireless Sensor Networks**
   Huaqing Wang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China; Yue OuYang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China; and Guixia Kang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China
3. **Distributed Incremental Quantization and Estimation for Wireless SensorNetworks**
   Li Zhang, Tsinghua University, China; and Xian-Da Zhang, Tsinghua University, China
4. **DNIB: Distributed Neighborhood Information Based TDMA Scheduling for Wireless Sensor Networks**
   Ines Slama, Telecom Sudparis, France; Bharat Shrestha, Asian Institute of Technology, Thailand ; Badii Jouaber, Telecom Sudparis, France; Djamal Zeghlache, Telecom Sudparis, France; and Tapio J. Erke, Asian Institute of Technology, Thailand
5. **On the Asymptotic Analysis of Average Interference Power Generated by a Wireless Sensor Network**
   Muhammad Aljuaid, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada

Monday September 22 15.30-17.00

3E: Cognitive Radio - I

Chair: Hong-Chuan Yang, University of Victoria

1. **A Distributed Algorithm for Resource Allocation in OFDM Cognitive Radio Systems**
   Yonghong Zhang, The University of British Columbia, Canada; and Cyril Leung, The University of British Columbia, Canada
2. **Autonomous Distributed Power Control for Cognitive Radio Networks**
   Sooyeol Im, Information and Communications University, Korea; Hyoungsuk Jeon, Information and Communications University, Korea; and Hyuckjae Lee, Information and Communications University, Korea
3. **Resource Allocation for Downlink Spectrum Sharing in Cognitive Radio Networks**
   Patrick Mitran, University of Waterloo, Canada; Long Le, University of Waterloo, Canada; Catherine Rosenberg, University of Waterloo, Canada; and Andre Girard, GERAD, Canada
4. **Semi Dynamic Parameter Tuning for Optimized Opportunistic Spectrum Access**
   Afef Ben Hadj Alaya-Feki, Orange Labs R&D, France; Berna Sayrac, Orange Labs R&D, France; Eric Moulines, Telecom ParisTech, France; and Alain Le Cornec, Orange Labs R&D, France
5. **Mathematical Analysis of Secondary User Traffic in Cognitive Radio System**
   Junghyun Heo, POSDATA, Korea; Jungchae Shin, Kyungpook National University, Korea; Jihee Nam, Kyungpook National University, Korea; Yutae Lee, Dong-eui University, Korea; Joon Goo Park, Kyungpook National University, Korea; and Ho-Shin Cho, Kyungpook National University, Korea

Monday September 22 15.30-17.00

3F: Cooperative Relay Networks - III

1. **Adaptive Relay Selection for Regenerative OFDMA Relay Networks with Fairness Constraints**
   Harin Jeong, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea
2. **Opportunistic Cooperation Based on Delayed Retransmissions for a Multi-user Uplink System**
   Jinsu Kim, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea
3. **Fairness-oriented Scheduling with Equilibrium for Multihop Relaying Networks Based on OFDMA**
   Tong Wu, Beijing University of Posts and Telecommunications, China; Gen Li, Beijing University of Posts and Telecommunications, China; Ying Wang, Beijing University of Posts and Telecommunications, China; Jing Huang, Beijing University of Posts and Telecommunications, China; Xinmin Yu, Beijing University of Posts and Telecommunications, China; and Hui Tian, Beijing University of Posts and Telecommunications, China
4. **The Subchannel-Allocation for OFDMA Relaying Downlink Systems with Total Power Constraint**
   Ryoulhee Kwak, Stanford University, USA; and John M. Cioffi, Stanford University, USA
5. **A Dynamic Resource Allocation Scheme for Fairness Guarantee using Cooperative Diversity in OFDMA Systems**
   Junwoo Jung, Ajou University, Republic of Korea; Hyungwon Park, Ajou University, Republic of Korea; Jaesung Lim, Ajou University, Republic of Korea; and Soonchul Park, Kyungpook National University, Republic of Korea

Monday September 22 15.30-17.00

3H: Equalization - I

1. **Block Equalization and Generalized MLSE Arbitration for the HSPA WCDMA Uplink**
   Gregory E. Bottomley, Ericsson Inc., United States of America
2. **CMA and Soft Decision-Directed Scheme for Semi-Blind Beamforming of QAM Systems**
   Sheng Chen, University of Southampton, United Kingdom; Wang Yao, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom

3. **Combined Channel Estimation and Turbo Equalization on Wireless Channels**
   Fu-Sheng Shiao, University of Canterbury, New Zealand; Desmond Taylor, University of Canterbury, New Zealand; and Philippa Martin, University of Canterbury, New Zealand
4. **DS-CDMA MMSE Turbo Equalization using 2-step Maximum Likelihood Channel Estimation**
   Yohei Kojima, Tohoku University, Japan; Kazuaki Takeda, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan
5. **Sampling Rate Selection Path Diversity for a RAKE Receiver in DS/SS**
   Yohei Suzuki, Keio University, Japan; Anas Bostamam, Keio University, Japan; Mamiko Inamori, Keio University, Japan; and Yukitoshi Sanada, Keio University, Japan

Tuesday 23 September 2008

Tuesday September 23 9.15-10.45

4A: MIMO - III

Chair: Carl-Erik Sundberg, DoCoMo USA Labs

1. **Reduced-Complexity Adaptive Receiver Algorithms for 4G SU-MIMO Systems**
   Ozgun Bursalioglu, University of Southern California, Los Angeles, USA; Haralabos Papadopoulos, DoCoMo USA Labs, USA; and Carl-Erik Sundberg, DoCoMo USA Labs, USA
2. **A Flexible Tree Searching Scheme for MIMO Detection**
   Chunlin Yan, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; Wei Wang, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; Zhan Zhang, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; and Hidetoshi Kayama, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China
3. **A Hybrid ML Decoding Scheme for Multiple Input Multiple Output Signals on Partitioned Tree**
   Jongho Oh, Korea Advanced Institute of Science and Technology, Republic of Korea; Iickho Song, Korea Advanced Institute of Science and Technology, Republic of Korea; Juho Park, Korea Advanced Institute of Science and Technology, Republic of Korea; Min A Jeong, Mokpo National University, Republic of Korea; and Myeong Soo Choi, Mokpo National University, Republic of Korea
4. **A Metric-First Scheme for MIMO Signal Decoding with Branch Length Threshold**
   Seong Ro Lee, Mokpo National University, Korea; Taehun An, KAIST, Korea; Hyun Gu Kang, KAIST, Korea; and Iickho Song, KAIST, Korea
5. **A Novel Architecture of Sphere Decoder for Low Complexity and High Throughput**
   Jin Lee, Information and Communications University, Korea; and Sin-Chong Park, Information and Communications University, Korea

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4B: Resource Allocation & Mobility Management II

Chair: Erwu Liu, Imperial College London

1. **A Heuristic Scheduling Scheme in Multiuser OFDMA Networks**
   Zheng Sun, Beijing University of Posts and Telecommunications, China; Zhiqiang He, Beijing University of Posts and Telecommunications, China; Ruochen Wang, Beijing University of Posts and Telecommunications, China; and Kai Niu, Beijing University of Posts and Telecommunications, China
2. **Block Waterfilling with Power Borrowing for Multicarrier Communications**
   Seung-Woo Ko, Yonsei University, Korea; and Seong-Lyun Kim, Yonsei University, Korea
3. **Dynamic Spectrum Allocation in Wireless Cognitive Sensor Networks: Improving Fairness and Energy Efficiecy**
   Sang-Seon Byun, Norwegian University of Science and Technology, Norway; Ilangko Balasingham, Norwegian University of Science and Technology, Norway; and Xuedong Liang, Rikshospitalet University Hospital, Norway
4. **Maximum Utility Principle Slide Handover Strategy for Multi-antenna Cellular Architecture**
   Xiaodong Xu, Wireless Technology Innovation Institute, China; Zhijie Hao, WTI, China; Xiaofeng Tao, WTI, China; Ying Wang, WTI, China; and Zhongqi Zhang, WTI, China
5. **Media Access for Multiple Applications from a Single User in Wireless Communication Systems**
   Koudjo Mawuefam Koumadi, Information and Communication University, South Korea; Yonghoon Choi, Information and Communication University, South Korea; and Youngnam Han, Information and Communication University, South Korea

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4C: Coding - II

1. **Analysis of Circular Buffer Rate Matching for LTE Turbo Code**
   Jung-Fu (Thomas) Cheng, Ericsson Inc, USA; Ajit Nimbalker, Motorola, USA; Yufei Blankenship, Motorola, USA; Brian Classon, Motorola, USA; and Keith Blankenship, Motorola, USA
2. **Error Detection Reliability of LTE CRC Coding**
   Jung-Fu (Thomas) Cheng, Ericsson Inc, USA; and Havish Koorapaty, Ericsson Inc, USA
3. **Performances of Punctured Tail-biting Convolutional Codes Using Initial State Estimation**
   Nam Yul Yu, Lakehead University, Canada
4. **Two-Level Early Stopping Algorithm for LTE Turbo Decoding**
   Jung-Fu (Thomas) Cheng, Ericsson Inc, USA
5. **Performance Evaluation of TCAM based Pattern-Matching Algorithm**
   Jung-Sik Sung, ETRI, Korea; Taeck-Geun Kwon, Chungnam National University, Korea; and Jaedoo Huh, ETRI, Korea

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4D: WIMAX - II

1. **A Layer 2 Scheme of Inter-RAT Handover between UMTS and WiMAX**
   Bin Liu, ENST - Paris - Ecole Nationale Supérieure des Télécommunications, France; Philippe Martins, ENST - Paris - Ecole Nationale Supérieure des Télécommunications, France; Abed Ellatif Samhat, France Telecom Research and Development, France; and Philippe Bertin, France Telecom Research and Development, France
2. **Channel Aware Scheduling for Multiple Service Flows in OFDMA Based Mobile WiMAX Systems**
   Tara Ali Yahiya, Pierre et Marie Curie University, France; André-Luc Beylot, ENSEEIHT, France; and Guy Pujolle, Pierre et Marie Curie University, France

3. **Coexistence Study in the 2500-2690 MHz Band between WiMAX and WCDMA Systems**
   Ruiming Zheng, Beijing University of Posts and Telecommunications, P.R. China; Xin Zhang, Beijing University of Posts and Telecommunications, P.R. China; Xi Li, Beijing University of Posts and Telecommunications, P.R. China; Yang Hai, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China
4. **Listening Interval Spreading Approach (LISA) for Handling Burst Traffic in IEEE 802.16e Wireless Metropolitan Area Networks**
   Shiann-Tsong Sheu, National Central University, Taiwan; Yen-Chieh Cheng, National Central University, Taiwan; Lu-wei Chen, National Central University, Taiwan; Jung-Shyr Wu, National Central University, Taiwan; and Johnson Chang, Institute for Information
5. **Performance Comparison of IEEE 802.16e andIEEE 802.20 Systems under Different Frequency Reuse Schemes**
   Haiyan Luo, Institute of Information and Communication Engineering, Zhejiang University, China; Zhaoyang Zhang, Institute of Information and Communication Engineering, Zhejiang University, China; Huiling Jia, College of Information and Electronics, Zhejiang University, China; Guanding Yu, Institute of Information and Communication Engineering, Zhejiang University, China; and Shiju Li, Institute of Information and Communication Engineering, Zhejiang University, China

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4E: 3G & Beyond - III

1. **Design of Session and Bearer Control Signaling in 3GPP LTE System**
   Jaewook Shin, ETRI, Korea; Kwangryul Jung, ETRI, Korea; and Aesoon Park, ETRI, Korea
2. **On UMTS-LTE Physical Uplink Shared and Control Channels**
   Amir Dabbagh, Motorola, USA; Rapeepat Ratasuk, Motorola, USA; and Amitava Ghosh, Motorola, USA
3. **Uplink Interference Control in UTRAN LTE Based on the Overload Indicator**
   Carlos Ubeda Castellanos, Aalborg University, Denmark; Francesco Davide Calabrese, Aalborg University, Denmark; Klaus I. Pedersen, Nokia Siemens Networks, Denmark; and Claudio Rosa, Nokia Siemens Networks, Denmark
4. **CAZAC Sequence Hopping for Physical Uplink Control Channel of LTE**
   Feng Lu, KDDI R&D Laboratories, Inc., Japan; Toshihiko Komine, KDDI R&D Laboratories, Inc., Japan; Toshinori Suzuki, KDDI R&D Laboratories, Inc., Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan
5. **Multi-Gigabit MAC Structure Design for IMT-Advanced Wireless Nomadic Access**
   Yooseung Song, ETRI, Korea; Jee-yon Choi, ETRI, Korea; Yunjoo Kim, ETRI, Korea; Hyungu Park, ETRI, Korea; and Sok-kyu Lee, ETRI, Korea

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4F: Cooperative Relay Networks - IV

1. **Performance of Relay-Aided DS-CDMA Experiencing Propagation Pathloss and Nakagami Fading**
   Wei Fang, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom
2. **Performance of Relay-Aided DS-CDMA Downlink Systems Communicating over Nakagami-m Fading Channels**
   Wei Fang, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom
3. **Packet Scheduling Algorithms with Fairness Control for CDMA Reverse Link**
   Jaehwi Shin, KT, Korea; Youngnam Han, Information and Communications University, Korea; and Seokhun Kim, KT, Korea
4. **CDMA Code-Based Bandwidth Request Mechanism in IEEE 802.16j Mobile Multi-Hop Relay (MMR) Systems**
   Sang-Wook Kwon, KAIST, Repubic of Korea; and Dong-Ho Cho, KAIST, Repubic of Korea
5. **Channel Code Division Multiple Access and its Multilevel Structured LDPC Based Instantiation**
   Nicholas Bonello, University of Southampton, UK; Rong Zhang, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK

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4G: Vehicular Electronics & Communications

Chair: James Gover, Kettering University

1. **A New SC/MMSE Turbo Equalization for MC-CDMA to use in Inter-Vehicle Communication**
   Noriaki Hiraiwa, Nagoya University, Japan; Atsunori Sakata, Nagoya University, Japan; Takaya Yamazato, Nagoya University, Japan; and Masaaki Katayama, Nagoya University, Japan
2. **A Cosimulation Framework for a Distributed System of Systems**
   Bernd Müller-Rathgeber, Technische Universität München, Germany; and Holm Rauchfuss, Technische Universität München, Germany
3. **Efficient In-Vehicle Delayed Data Authentication Based on Compound Message Authentication Codes**
   Dennis K. Nilsson, Chalmers University of Technology, Sweden; Ulf E. Larson, Chalmers University of Technology, Sweden; and Erland Jonsson, Chalmers University of Technology, Sweden
4. **An Approach to using Honeypots in In-Vehicle Networks**
   Vilhelm Verendel, Chalmers University of Technology, Sweden; Dennis K. Nilsson, Chalmers University of Technology, Sweden; Ulf E. Larson, Chalmers University of Technology, Sweden; and Erland Jonsson, Chalmers University of Technology, Sweden
5. **Route-based Vehicular Traffic Management for Wireless Access in Vehicular Environments**
   Kevin Collins, Dublin City University, Ireland; and Gabriel-Miro Muntean, Dublin City University, Ireland

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4H: Equalization - II

1. **An Improved Frequency-domain Interference Cancellation with DFE for CDMA**
   Liang Ren, Beijing University of Posts and Telecommunications, China; Guoping Xu, Beijing University of Posts and Telecommunications, China; and Lin Sang, Beijing University of Posts and Telecommunications, China
2. **Efficient Channel Estimation for Iterative MIMO SC-FDE Systems**
   Joao Silva, IT, Portugal; Rui Dinis, ISR, Portugal; and Nuno Souto, IT, Portugal
3. **Implementation of Single Carrier Packet Transmission with Frequency Domain Equalization**
   Valentin Gheorghiu, Tohoku University, Japan; Suguru Kameda, Tohoku University, Japan; Tadashi Takagi, Tohoku University, Japan; Kazuo Tsubouchi, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan
4. **Space-Frequency Equalization for Broadband Single Carrier MIMO Systems**
   Gayathri Kongara, University of Canterbury, New Zealand; Desmond Taylor, University of Canterbury, New Zealand; and Philippa Martin, University of Canterbury, New Zealand

5. **Subblock Processing for Frequency-domain Turbo Equalization Under Fast Fading Environments**
Keiichi Kambara, Hokkaido University, Japan; Hiroshi Nishimoto, Hokkaido University, Japan; Toshihiko Nishimura, Hokkaido University, Japan; Takeo Ohgane, Hokkaido University, Japan; and Yasutaka Ogawa, Hokkaido University, Japan

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5A: MIMO - IV

1. **Efficient User Selection and Generalized Beamforming for Multi-user MIMO Downlink**
An Liu, School of EECS, Peking University, China; Wu Luo, School of EECS, Peking University, China; and Haige Xiang, School of EECS, Peking University, China
2. **Rate-Invariant User Preselection for Complexity Reduction in Multiuser MIMO Systems**
Christian Guthy, Technische Universität München, Germany; Wolfgang Utschick, Technische Universität München, Germany; Josef A. Nossek, Technische Universität München, Germany; Guido Dietl, DoCoMo Communication Laboratories Europe GmbH, Germany; and Gerhard Bauch, DoCoMo Communication Laboratories Europe GmbH, Germany
3. **Regularized Channel Distribution Inversion (RCDI) and Parameterization in the MIMO Broadcast Channel**
Adam Anderson, University of California, San Diego, USA; James Zeidler, University of California, San Diego, USA; and Michael Jensen, Brigham Young University, USA
4. **Stable Transmission in the Frequency-Selective MIMO Broadcast Channel**
Yan Shi, Brigham Young University, USA; and Michael Jensen, Brigham Young University, USA
5. **User Ordering and Subchannel Selection for Power Minimization in MIMO Broadcast Channels using BD-GMD**
Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore

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5B: Scheduling - II

1. **A Dynamic PF Scheduler to Improve the Cell Edge Performance**
Ning Xu, Motorola Labs, China; Guillaume Vivier, Motorola Labs, France; Wen Zhou, Motorola Labs, China; and Yongquan Qiang, Motorola Labs, China
2. **A Temporal Round Robin Scheduler**
Zekeriya Uykan, Nokia Siemens Networks, Finland
3. **Efficient Semi-Persistent Scheduling for VoIP on EUTRA Downlink**
Yong Fan, Tampere University of Technology, Finland; Petteri Lunden, Nokia Research Center, Finland ; Markku Kuusela, Nokia Research Center, Finland; and Mikko Valkama, Tampere University of Technology, Finland
4. **Fairness Assessment of the Adaptive Token Bank Fair Queuing Scheduling Algorithm**
Feroz Bokhari, Carleton University, Canada; Halim Yanikomeroglu, Carleton University, Canada; William Wong, Communication Research Center Canada, Canada; and Mahmudur Rahman, Carleton University, Canada
5. **Frequency Semi-Selective Scheduling for a DFT-SOFDM based Uplink**
Arvind Krishnamoorthy, Motorola, USA; Philippe Sartori, Motorola, USA; Kevin Baum, Motorola, USA; Vijay Nangia, Motorola, USA; and Brian Classon, Motorola, USA

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5C: Modulation - II

1. **Exact Expression and a Simple Tight Upper Bound for the SER of Odd CAP/QAM Constellation**
Mojtaba Vaezi, Ericsson, Iran; and Jamal Habibi Markani, Ericsson, Iran
2. **Implementation and Experimental Results of Rotational OFDM Transmission ~ Rotational OFDM Performance with Turbo Decoder ~**
Noriaki Miyazaki, KDDI R&D Laboratories, Japan; Yasuyuki Hatakawa, KDDI R&D Laboratories, Japan; and Toshinori Suzuki, KDDI R&D Laboratories, Japan
3. **Performance Analysis of a System using Coordinate Interleaving and Constellation Rotation in Rayleigh Fading Channels**
Nauman F. Kiyani, Delft University of Technology, Netherlands; Jos H. Weber, Delft University of Technology, Netherlands; Alenka G. Zajic, Georgia Institute of Technology, USA; and Gordon L. Stuber, Georgia Institute of Technology, USA
4. **Performance Analysis of M-PAM and M-QAM with Selection Combining in Independent but Non-Identically Distributed Rayleigh Fading Paths**
Bao Vo Nguyen Quoc, University of Ulsan, Korea; Hyung Yun Kong, University of Ulsan, Korea; and Seong Wook Hong, University of Ulsan, Korea
5. **Spiral QAM: A Novel Modulation Scheme Robust in the Presence of Phase Noise**
Byung-Jae Kwak, ETRI, Korea; Nah-Oak Song, MMPC, KAIST, Korea; Bumsoo Park, ETRI, Korea; and Dong Seung Kwon, ETRI, Korea

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5D: WLAN - II

1. **An Analysis of Different Backoff Functions for an IEEE 802.11 WLAN**
Dongxia Xu, NICTA, Australia; Taka Sakurai, University of Melbourne, Australia; and Hai L. Vu, Swinburne University of Technology, Australia
2. **Game-theoretic EDCA in IEEE 802.11e WLANs**
Liqiang Zhao, State Key Laboratory of Integrated Services Networks, Xidian University, China; Li Cong, State Key Laboratory of Integrated Services Networks, Xidian University, China; Hailin Zhang, State Key Laboratory of Integrated Services Networks, Xidian University, China; Wei Ding, Centre for Wireless Network Design, University of Bedfordshire, UK; and Jie Zhang, Centre for Wireless Network Design, University of Bedfordshire, UK
3. **IEEE 802.11n MAC Improvements: A MAC and PHY Cross-Layer Model to Estimate the Throughput**
Roger Hoefel, Federal University of Rio Grande do Sul (UFRGS), Brazil
4. **Research on Multi-slot Virtual Collision Mechanism for IEEE 802.11 DCF**
Kai Kang, Tsinghua University, China; Hongqi Jiang, Tsinghua University, China; and Xiaokang Lin, Tsinghua University, China
5. **A Novel Frequency Channel Allocation Method for 2.4 GHz Wireless LAN**
Kenya Yonezawa, KDDI R&D Laboratries Inc., Japan; and Takashi Inoue, KDDI R&D Laboratries Inc., Japan

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5E: 3G & Beyond - IV

1. **Experimental Results of E-UTRA Downlink with Variable RB Allocation**
   Yoshiaki Ofuji, NTT DoCoMo, Inc., Japan; Naoto Okubo, NTT DoCoMo, Inc., Japan; Sadayuki Abeta, NTT DoCoMo, Inc., Japan; and Takehiro Nakamura, NTT DoCoMo, Inc., Japan
2. **Verifying 3G License Requirements - Some Preliminary Swedish Results**
   Claes Beckman, University of Gävle, Sweden; Elena Belkow, PTS, Sweden; Lars Eklund, PTS, Sweden; Urban Landmark, PTS, Sweden; and Per Wirdemark, Canaima Communications, Sweden
3. **Resource Allocation and Control Signaling in the WINNER Flexible MAC Concept**
   Mikael Sternad, Signals and Systems, Uppsala University, Sweden; Tommy Svensson, Dept. of Signals and Systems, Chalmers University of Technology, Sweden; and Martin Döttling, Nokia Siemens Networks, Germany
4. **Experimental Results of E-UTRA Uplink with Variable RB Allocation**
   Naoto Okubo, NTT DOCOMO, Inc., Japan; Yoshiaki Ofuji, NTT DOCOMO, Inc., Japan; Sadayuki Abeta, NTT DOCOMO, Inc., Japan; and Takehiro Nakamura, NTT DOCOMO, Inc., Japan
5. **A Novel Resource Allocation Method for HSUPA with Successive Interference Cancellation**
   Wei Bai, Beijing University of Posts and Telecoms(BUPT), China; Yuehong Gao, Beijing University of Posts and Telecoms(BUPT), China; Jing Liu, Beijing University of Posts and Telecoms(BUPT), China; Xin Zhang, Beijing University of Posts and Telecoms(BUPT), China; and Dacheng Yang, Beijing University of Posts and Telecoms(BUPT), China

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5F: Cooperative Relay Networks - V

1. **A Comparison of Broadcast Strategy in MIMO Relay Networks**
   Jianing Li, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China; Jianhua Zhang, Beijing University of Posts and Telecommunications (BUPT), China; Lei Guan, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China; and Yu Zhang, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China
2. **Adaptive Selection Cooperation Scheme using Prediction-Based Decision in Ad-hoc Networks**
   Yu Wang, Samsung Electronics, Korea; Dongwoo Lee, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea
3. **An Improved Hybrid ARQ Scheme in Cooperative Wireless Networks**
   Kun Pang, The University of Sydney, Australia; Yonghui Li, The University of Sydney, Australia; and Branka Vucetic, The University of Sydney, Australia
4. **Beamforming Methods for Multiuser Relay Networks**
   Wei Chen, Beijing University of Posts and Telecommunications, P.R.China; Hongming Zheng, Intel Communications Technology Lab, P.R.China; Yanchun Li, Huazhong University of Science and Technology, P.R.China; Senjie Zhang, Intel Communications Technology Lab, P.R.China; and Xiaoyun Wu, Intel Communications Technology La, Beijing, P.R.China
5. **Cooperative Diversity for Virtual MIMO System in the Presence of Spatial Correlated Fading Model**
   Hongtao Zhang, Beijing University of Posts and Telecommunications, China; Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan; and Thomas Michael Bohnert, Siemens Ltd., Germany

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5G: Interference Cancellation - I

1. **Channel Estimation and ICI Cancellation for OFDM Systems in Doubly-selective Channels**
   Liang Ruan, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; Yanyan Zhang, Beijing University of Posts and Telecommunications, China; and Minghua Xia, Electronics and Telecommunication Research Institute (ETRI), Korea
2. **MAP Receiver with Spatial Filters for Suppressing Cochannel Interference in MIMO-OFDM Mobile Communications**
   Lisheng Fan, Tokyo Institute of Technology, Japan; Kazuhiko Fukawa, Tokyo Institute of Technology, Japan; and Hiroshi Suzuki, Tokyo Institute of Technology, Japan
3. **On the Design of a MIMO-SIC Receiver for LTE Downlink**
   Carles Navarro Manchón, Aalborg University, Denmark; Luc Deneire, Aalborg University, Denmark; Preben Mogensen, Aalborg University, Denmark; and Troels Bundgaard Sørensen, Aalborg University, Denmark
4. **Timing Offset Interference Canceller in Multi-link Transmission for OFDM-based Cellular Radio Communications**
   Kenji Hoshino, Softbank Mobile Corp., Japan; Atsushi Nagate, Softbank Mobile Corp., Japan; and Teruya Fujii, Softbank Mobile Corp., Japan
5. **A New Design of Iterative Detection and Decoding with Soft Interference Cancellation**
   Junyoung Nam, ETRI, Korea; Seong Rag Kim, ETRI, Korea; Jeongseok Ha, ICU, Korea; and Jae Young Ahn, ETRI, Korea

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5H: FP7 WHERE Special Session

1. **Combining Wireless Communications and Navigation — The WHERE Project**
   Ronald Raulefs, DLR, Germany; and Simon Plass, DLR, Germany
2. **Decoupling Estimators in Mobile Cooperative Positioning for Heterogeneous Networks**
   Joao Figueiras, Aalborg University, Denmark; Simone Frattasi, Aalborg University, Denmark; and Hans-Peter Schwefel, Aalborg University, Denmark
3. **Direct Location Estimation using Single-Bounce NLOS Time-Varying Channel Models**
   Konstantinos Papakonstantinou, Eurecom, France; and Dirk Slock, Eurecom, France
4. **Hybrid Data Fusion and Cooperative Schemes for Wireless Positioning**
   Stephan Sand, German Aerospace Center (DLR), Germany; Christian Mensing, German Aerospace Center (DLR), Germany; Yi Ma, University of Surrey, United Kingdom; Rahim Tafazolli, University of Surrey, United Kingdom; Xuefeng Yin, Aalborg University, Denmark; Joao Figueiras, Aalborg University, Denmark; Jimmy Nielsen, Aalborg University, Denmark; and Bernard Fleury, Aalborg University, Denmark
5. **Service Suitability Based RAT Selection for Beyond 3G Systems**
   Jonathan Rodriguez, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Valdemar Monteiro, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Joaquim Bastos, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Atílio Gameiro, Instituto de Telecomunicações, Pólo de Aveiro, Universidade de Aveiro, Portugal; Orlando Cabral, Instituto de Telecomunicações, Universidade da Beira Interior, Portugal; and Fernando Velez, Instituto de Telecomunicações, Universidade da Beira Interior, Portugal

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6A: MIMO - V

1. **Cluster-Based Transmit Diversity Scheme for MIMO OFDM Systems**
   Jungwon Lee, Marvell Semiconductor, Inc., USA; Yakun Sun, Marvell Semiconductor, Inc., USA; Rohit Nabar, Marvell Semiconductor, Inc., USA; and Hui-Ling Lou, Marvell Semiconductor, Inc., USA
2. **Discrete-Rate Adaptive Multiuser Scheduling for MIMO-OFDM Systems**
   Mohammad Torabi, Ecole Polytechnique de Montreal, Canada; Wessam Ajib, University of Quebec a Montreal, Canada; and David Haccoun, Ecole Polytechnique de Montreal, Canada
3. **Dynamic MIMO Multiple-Carrier Multiple-Access: Adaptive Radio-Resource Allocation Under Realistic Constraints**
   Zhan Zhang, DoCoMo Beijing Communication Labs., China; Jian Ping Chen, DoCoMo Beijing Communication Labs, China; and Hidetoshi Kayama, DoCoMo Beijing Communication Labs, China
4. **Zero-Forcing Beamforming Codebook Design for MU-MIMO OFDM Systems**
   erdem Bala, Interdigital Communications, USA; Kyle Pan, Interdigital Communications, USA; Robert Olesen, Interdigital Communications, USA; and Donald Grieco, Interdigital Communications, USA
5. **Maximum Likelihood Detection for Cooperative Diversity in MIMO Relay Channels**
   G.V.V. Sharma, IIT Bombay, India; Vijay Ganwani, IIT Bombay, India; Uday B. Desai, IIT Bombay, India; and S.N. Merchant, IIT Bombay, India

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6B: Performance Analysis - II

Chair: Fumiyuki Adachi, Tohoku University

1. **Beam Selection Gain from Butler Matrices**
   Dongwoon Bai, Harvard University, USA; Saeed Ghassemzadeh, AT&T Labs. - Research, USA; Robert Miller, AT&T Labs. - Research, USA; and Vahid Tarokh, Harvard University, USA
2. **On the Optimal Receive Soft Antenna Selection for Reliable Communications in MIMO Interference Channels**
   Javad Ahmadi-Shokouh, University of Waterloo, Canada; S. Hamidreza Jamali, University of Waterloo, Canada; Safieddin Safavi-Naeini, University of Waterloo, Canada; and Mohammad Fakharzadeh, University of Waterloo, Canada
3. **Performance Analysis on Maximum Likelihood Detection for Two Input Multiple Output Systems**
   Wei Peng, Tohoku University, Japan; Shaodan Ma, Tohoku University, Hong Kong; Tung-sang Ng, The University of Hong Kong, Hong Kong; Jiangzhou Wang, Kent University, United Kindom; and Fumiyuki Adachi, Tohoku University, Japan
4. **Performance of Dedicated Indoor MIMO HSDPA Systems**
   Karl Molnar, Ericsson Inc., USA; and Stephen Grant, Ericsson Inc., USA
5. **Polynomial Expression for Distribution of the Smallest Eigenvalue of Wishart Matrices**
   Haochuan Zhang, Beijing University of Posts and Telecommunications, China; Fangfang Niu, Beijing University of Posts and Telecommunications, China; Hongwen Yang, Beijing University of Posts and Telecommunications, China; Xin Zhang, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China

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6C: Channel Estimation - II

1. **A Data-aided Channel Estimation Method Based on CAZAC**
   Miao Lu, Beijing University of Posts and Telecommunications, China; Dongmei Luo, Qingdao Hismile College, China; Bo Chen, Beijing University of Posts and Telecommunications, China; Xiaolin Hou, Beijing University of Posts and Telecommunications, China; and Xin Zhang, Beijing University of Posts and Telecommunications, China
2. **An Iterative Channel Estimation Method using Superimposed Training in OFDM Systems**
   Jinesh Nair, IIT Kharagpur, India; and Ratnam V Raja Kumar, IIT Kharagpur, India
3. **Blind Polynomial Channel Estimation for OFDM Systems**
   Yihai Zhang, University of Victoria, Canada; Wu-Sheng Lu, University of Victoria, Canada; and Aaron Gulliver, University of Victoria, Canada
4. **Channel Estimation for RLS-Based Linearly Constrained Minimum Variance Receivers**
   César Medina, PUC-Rio, Brazil; and Raimundo Sampaio-Neto, PUC-Rio, Brazil
5. **Doubly-Selective Channel Estimation for Packet OFDM Systems with Virtual Subcarriers**
   Xiaolin Hou, DoCoMo Beijing Labs, China; Zhan Zhang, DoCoMo Beijing Labs, China; and Hidetoshi Kayama, DoCoMo Beijing Labs, China

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6D: Ad hoc Networks

1. **An Interference and Link-Quality Aware Routing Metric for Wireless Mesh Networks**
   Usman Ashraf, LAAS-CNRS, France; Slim Abdellatif, LAAS-CNRS, France; and Guy Juanole, LAAS-CNRS, France
2. **Performance of Efficient CBRP in Mobile Ad Hoc Networks (MANETS)**
   Jane Y. Yu, Nanyang Technological University, Singapore; Peter H.J. Chong, Nanyang Technological University, Singapore; and Mingyang Zhang, Nanyang Technological Univ, Singapore
3. **Resource Efficiency in MANETs: Effect of Spurious Timeouts and Routing Protocol Dynamics**
   Consolee Mbarushimana, Glasgow Caledonian University, UK; and Ali Shahrabi, Glasgow Caledonian University, UK
4. **Spatially Constrained Dissemination of Traffic Information in Vehicular Ad Hoc Networks**
   Attila Török, Bay Zoltan Foundation for Applied Research, Hungary; Péter Laborczi, Bay Zoltan Foundation for Applied Research, Hungary; and Gábor Gerháth, Bay Zoltan Foundation for Applied Research, Hungary
5. **Vector Routing for Delay Tolerant Networks**
   Hyunwoo Kang, Kyungpook National University, Korea; and Dongkyun Kim, Kyungpook National University, Korea

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6E: Cognitive Radio - II

Chair: Octavia Dobre, Memorial University

1. **To Reconfigure or Not to Reconfigure: Cognitive Mechanisms for Mobile Devices Decision Making**
   Andreas Merentitis, University of Athens, Greece; Eleni Patouni, University of Athens, Greece; Nancy Alonistioti, University of Athens, Greece; and Michael Doubrava, Alcatel-Lucent Deutschland AG, Germany

2. **Impact of the Primary Network Activity on the Maximum Achievable Capacity of DS-CDMA/OFDM Spectrum Sharing**
   Mohammad Khoshkholgh, Tarbiat Modares University, Iran; Keivan Navaie, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada
3. **Cooperative Spectrum Sensing with Multiples of Verification-aided Energy Detector in Cognitive Radio**
   Jun-Ho Baek, Dongguk University, Korea; and Seung-Hoon Hwang, Dongguk University, Korea
4. **Exploitation of First-Order Cyclostationarity for Joint Signal Detection and Classification in Cognitive Radio**
   Octavia A. Dobre, Memorial University of Newfoundland, Canada; Sreeraman Rajan, Defence Research and Development Canada, Canada; and Robert Inkol, Defence Research and Development Canada, Canada
5. **Enhancing Cognitive Radio Algorithms Through Efficient, Automatic Adaptation Management**
   Christian Doerr, University of Colorado at Boulder, USA; Dirk Grunwald, University of Colorado at Boulder, USA; and Douglas C. Sicker, University of Colorado at Boulder, USA

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6F: Positioning Techniques

1. **Initial In--Mine Position Estimation Using RFID Tags**
   Angus Errington, University of Saskatchewan, Canada; Brian Daku, University of Saskatchewan, Canada; and Arnfinn Prugger, Potash Corporation of Saskatchewan, Canada
2. **Practical Results of Hybrid AOA/TDOA Geo-location Estimation in CDMA Wireless Networks**
   Ali Broumandan, University of Calgary, Canada; Tao Lin, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Gérard Lachapelle, University of Calgary, Canada
3. **UWB MultiCell Indoor Localization Experiment System with Adaptive TDOA Combination**
   Guoping Zhang, Institute for Infocomm Research, Singapore; Sivanand Krishnan, Institute for Infocomm Research, Singapore; Francois Chin, Institute for Infocomm Research, Singapore; and Ko Chi Chung, National University of Singapore, Singapore
4. **A Taylor-Series-based Cognitive Location Scheme for Future Wireless Networks**
   Qimei Cui, Key Laboratory of Universal Wireless Communications Lab., Beijing University of Posts and Telecommunications, China; Yiheng Zhang, Beijing University of Posts and Telecommunications, China; and Xiaofeng Tao, Beijing University of Posts and Telecommunications, China
5. **Decentralized Positioning and Tracking Based on a Weighted Incremental Subgradient Algorithm for Wireless Sensor Networks**
   Chin-Liang Wang, National Tsing Hua University, Taiwan; and Dong-Shing Wu, National Tsing Hua University, Taiwan

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6G: Iterative Techniques

1. **A Bit-Mapping Strategy for Joint Iterative Channel Estimation and Turbo-Decoding**
   Susanne Godtmann, RWTH Aachen University, Germany; Helge Lueders, RWTH Aachen University, Germany; Gerd Ascheid, RWTH Aachen University, Germany; and Peter Vary, RWTH Aachen University, Germany
2. **Channel Coded Iterative Center-Shifting K-Best Sphere Detection for Rank-Deficient Systems**
   Li Wang, University of Southampton, UK; Lei Xu, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
3. **Iterative Channel Estimation with Robust Wiener Filtering in LTE Downlink**
   Luis Ángel Maestro Ruiz de Temiño, Aalborg University, Denmark; Carles Navarro Manchón, Aalborg University, Denmark; Christian Rom, Infineon Technologies Denmark, Denmark; Preben Mogensen, Aalborg University, Denmark; and Troels Bundgaard Sørensen, Aalborg University, Denmark
4. **Iterative Joint Optimization of Transmit/Receive Frequency-Domain Equalization in Single Carrier Wireless Communication Systems**
   Yuan Xiaogeng, Kyushu University, Japan; Osamu Muta, Kyushu University, Japan; and Yoshihiko Akaiwa, Kyushu University, Japan
5. **Iterative Weighting Factor Estimation Method for Peak Power Reduction with Adaptive Subcarrier-Phase Control in Turbo-Coded Multi-Carrier CDM Systems**
   Osamu Muta, Kyushu University, Japan; and Yoshihiko Akaiwa, Kyushu University, Japan

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6H: OFDM - III

1. **Efficient Mitigation of Frequency-Selective I/Q Imbalance in OFDM Receivers**
   Lauri Anttila, Tampere University of Technology, Finland; Mikko Valkama, Tampere University of Technology, Finland; and Markku Renfors, Tampere University of Technology, Finland
2. **A Modified Partial Transmit Sequence Scheme for PAPR Reduction in OFDM System**
   Qingsong Wen, University of Electronic Science and Technology of China, China; Yue Xiao, University of Electronic Science and Technology of China, China; Peng Cheng, University of Electronic Science and Technology of China, China; Lilin Dan, University of Electronic Science and Technology of China, China; and Shaoqian Li, University of Electronic Science and Technology of China, China
3. **Joint PAPR and PICR Design in OFDM Systems**
   Kewei Yuan, Lakehead University, Canada; and Zhiwei Mao, Lakehead University, Canada
4. **Peak-to-Average Power Ratio Reduction for Wavelet Packet Modulation Schemes via Basis Function Design**
   Ngon Thanh Le, University of Calgary, Canada; Siva Muruganathan, University of Calgary, Canada; and Abu Sesay, University of Calgary, Canada
5. **Numerical Performance Evaluation for OFDM Systems affected by Phase Noise and Channel Estimation Errors**
   Marco Krondorf, Vodafone Chair, TU Dresden, Germany; Steffen Bittner, Vodafone Chair, TU Dresden, Germany; and Gerhard Fettweis, Vodafone Chair, TU Dresden, Germany

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7A: STBC

Chair: Mikael Sternad, Uppsala University

1. **Joint Adaptive Modulation and Power Allocation for Variable-Rate Space-Time Block Codes under BER Constraints**
   Jung-Bin Kim, Hanyang University, Korea; and Dongwoo Kim, Hanyang University, Korea
2. **Multiuser Asynchronous MIMO STBC Adaptive Array Transmission Scheme in Fast Fading Channel**
   Supawan Annanab, AWCC, The University of Electro-Communications, Japan; Tomonori Tobita, AWCC, The University of Electro-Communications, Japan; Tetsuki Taniguchi, AWCC, The University of Electro-Communications, Japan; and Yoshio Karasawa, AWCC, The University of Electro-Communications, Japan
3. **Performance Enhancement of Space-Time MIMO Wireless System using Optimum Decision Algorithm**
   John An, National Taiwan Ocean University, Taiwan
4. **Performance Enhancement of STBC-OFDM from CIOD with Interference Cancellation over Time-Varying Channels**
   Namjeong Lee, Information and Communications University, Korea, South; Hoojin Lee, Freescale Semiconductor, U.S.A; Keonkook Lee, Information and Communications University, Korea, South; Eunhye Nam, Information and Communications University, Korea, South; Joonhyuk Kang, Information and Communications University, Korea, South; and Youngok Kim, Kwangwoon University, Korea, South
5. **STBC MIMO OFDM Systems with Implementation Impairments**
   Deepaknath Tandur, Katholieke Universiteit Leuven, Belgium; and Marc Moonen, Katholieke Universiteit Leuven, Belgium

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7B: Modeling & Simulation - I

1. **A New Path Loss Predicting Strategy for Radio Network Planning**
   Nanning Yuan, Wireless Theories and Technologies Lab. of BUPT, P. R. China; Zaixue Wei, Wireless Theories and Technologies Lab. of BUPT, P. R. China; Xin Zhang, Wireless Theories and Technologies Lab. of BUPT, P. R. China; and Dacheng Yang, Wireless Theories and Technologies Lab. of BUPT, P. R. China
2. **Accounting for Wind Effects on Fixed Wireless Channels in Suburban Macrocell Environments**
   Anthony Liou, University of British Columbia, Canada; Wadah Muneer, University of British Columbia, Canada; Kyle Sivertsen, University of British Columbia, Canada; and David Michelson, University of British Columbia, Canada
3. **Downtilted Base Station Antennas – A Simulation Model Proposal and Impact on HSPA and LTE Performance**
   Fredrik Gunnarsson, Ericsson Research, Sweden; Martin Johansson, Ericsson Research, Sweden; Anders Furuskär, Ericsson Research, Sweden; Magnus Lundevall, Ericsson Research, Sweden; Arne Simonsson, Ericsson Research, Sweden; Ericsson Research, Sweden; and Mats Blomgren, Ericsson Research, Sweden
4. **Influence of Temporal and Spatial Sampling Parameters on Electromagnetic Field Measurements**
   Daniel Sebastiao, IST/IT - Technical University of Lisbon, Portugal; Diana Ladeira, IST/IT - Technical University of Lisbon, Portugal; Monica Antunes, IST/IT - Technical University of Lisbon, Portugal; and Luis M. Correia, IST/IT - Technical University of IST/IT - Technical University of Lisbon, Portugal
5. **A Four-state Markov Model Based on Measurements for Evaluating the Packet-level Performance of VANET**
   Lintao Yang, Wuhan University, China; Hao Jiang, Wuhan University, China; Cheng-cheng Guo, Wuhan University, China; Yu-hao Wang, Nanchang University, China; Jing Wu, Wuhan University, China; and Li-jia Chen, Wuhan University, China

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7C: Precoding

1. **Channelization Issues with Fairness Considerations for MU-MIMO Precoding Based UTRA-LTE/TDD Systems**
   Muhammad Rahman, Ericsson, Sweden; Yuanye Wang, AAU, Denmark; Suvra Das, Tata, India; Troels Sørensen, AAU, Denmark; and Preben Mogensen, AAU, Denmark
2. **Multiuser Trellis Shaping for Space-Time Codes in Vector Gaussian Broadcast Channel**
   Tsuguhide Aoki, Yokohama National University, Japan; and Ryuji Kohno, Yokohama National University, Japan
3. **Novel BD MU-MIMO Pre-coding Methods to Suppress Noise and Balance Receive Antennas**
   Xuelin Feng, Key Laboratory of Universal Wireless Communications (Beijing University of Posts and Telecommunications), Ministry of Education, P. R. China; Lihua Li, Key Laboratory of Universal Wireless Communications (Beijing University of Posts and Telecommunications), Ministry of Education, P. R. China; Xiaofeng Tao, Wireless Technology Innovation Institute, P. R. China; and Xiaohui Yang, Samsung Electronics(Beijing), P. R. China
4. **A New Two-Step Precoding based on Rotation Transformations in Closed-loop MIMO Systems**
   Heunchul Lee, Korea University, Korea; Seok-Hwan Park, Korea University, Korea; and Inkyu Lee, Korea University, Korea
5. **Robustness of Reduced Feedback Precoding in Frame-Based MIMO Systems**
   Geoffrey W.K. Colman, Communications Research Centre, Canada; and Tricia J. Willink, Communications Research Centre, Canada

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7D: Heterogeneous & Multihop Wireless Networks

Chair: Peter Chong, Nanyang Technological University

1. **Context Aware Vertical Soft Handoff Algorithm for Heterogeneous Wireless Networks**
   Kemeng Yang, Monash University, Australia; Iqbal Gondal, Monash University, Australia; and Bin Qiu, Monash University, Australia
2. **On the Packet Reordering of mSCTP for Vertical Handover in Heterogneous Wireless Networks**
   Dong Phil Kim, Kyungpook National University, Korea; Seok Joo Koh, Kyungpook National University, Korea; and Victor Leung, The University of British Columbia, Canada
3. **Throughput Enhancement in Heterogeneous Mobile Networks Using nSCTP**
   Peyman Behbahani, City University, London, UK; Veselin Rakocevic, City University, London, UK; and Joachim Habermann, University of Applied Sciences, Germany
4. **Improving TCP Performance over Multi-hop Wireless Networks**
   Beizhong Chen, Rutgers University, USA; Ivan Marsic, Rutgers University, USA; and Ray Miller, Bell Labs, USA
5. **Joint Disjoint Path Routing and Channel Assignment in Multi-radio Multi-channel Wireless Mesh Networks**
   Ngoc Thai Pham, Computer Network Lab, Inje University, Korea; and Won-Joo Hwang, Computer Network Lab, Inje University, Korea

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7E: MBMS / MBWA

1. **A Bandwidth Estimation Model for Multiplexed E-MBMS Services**
   Yu Chen, Alcatel Shanghai Bell, China
2. **Analysis of Novel User Detection Scheme Based on Polling for E-MBMS Networks**
   Yu Sheng, Beijing University of Posts and Telecommunications, China; Xin Guo, Beijing University of Posts and Telecommunications, China; Mugen Peng, Beijing University of Posts and Telecommunications, China; and Wenbo Wang, Beijing University of Posts and Telecommunications, China
3. **Efficient Assignment of Multiple MBMS Sessions in B3G Networks**
   Antonios Alexiou, Research Academic Computer Technology Institute, Patras, Greece; Christos Bouras, Research Academic Computer Technology Institute, Patras, Greece, Greece; Vasileios Kokkinos, Research Academic Computer Technology Institute, Patras, Greece; and Evangelos Rekkas, Research Academic Computer Technology Institute, Patras, Greece
4. **First-Ever Report on MBWA System Field Trial: Interference Issue in Sectored Cell Layout**
   Noboru Izuka, Softbank Telecom, Japan; Yasuyoshi Asano, Softbank Telecom, Japan; Yoshiharu Yamazaki, Softbank Telecom, Japan; Hiroshi Oguma, Tohoku University, Japan; Suguru Kameda, Tohoku University, Japan; Tadashi Takagi, Tohoku University, Japan; and K. Tsubouchi, Tohoku University, Japan
5. **Preamble Design and System Acquisition in Ultra Mobile Broadband Communication Systems**
   Michael Mao Wang, Qualcomm, USA; Sandeep Aedudodla, Qualcomm, USA; Aamod Khandekar, Qualcomm, USA; Ravi Palanki, Qualcomm, USA; and Avneesh Agrawal, Qualcomm, USA

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7F: Synchronization - I

1. **A New Time Synchronization Technique for OFDM Systems**
   Khalid Almuzaini, University of Victoria, Canada; and T. Aaron Gulliver, University of Victoria, Canada
2. **Joint Carrier Synchronization and Equalization for OFDM Systems Over Multipath Fading Channel**
   Chih-Feng Wu, National Taiwan University, Taipei, Taiwan; Muh-Tian Shiue, National Central University, Chung-Li, Taiwan; and Chorng-Kuang Wang, National Taiwan University, Taipei, Taiwan
3. **Joint Timing Synchronization and Channel Estimation for OFDM Systems via MMSE Criterion**
   Yanyan Zhang, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; and Minghua Xia, Electronics and Telecommunication Research Institute (ETRI), China
4. **Blind Estimation and Compensation of Frequency-Flat I/Q Imbalance Using Cyclostationarity**
   Chia-Pang Yen, InterDigital Communications LLC., USA; Yingming Tsai, InterDigital Communications LLC., USA; Guodong Zhang, InterDigital Communications LLC., USA; and Robert Olesen, InterDigital Communications LLC., USA
5. **Code Aided Joint Frame Synchronization and Channel Estimation for Uplink MC-CDMA in the Presence of Narrowband Interference**
   Mohamed Marey, Ghent University, Belgium; Mamoun Guenach, Alcatel-Lucent Bell Labs, Belgium; and Heidi Steendam, Ghent University, Belgium

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7G: Limited Feedback Schemes

Chair: Karl Molnar, Ericsson

1. **Adaptive CQI Feedback and Efficient CQI Update Scheme for Codebook Based MU-MIMO in E-UTRA**
   Jianchi Zhu, DoCoMo Beijing Communications Laboratories Co., Ltd, China; Xiaoming She, DoCoMo Beijing Communications Laboratories Co., Ltd, China; Jingxiu Liu, DoCoMo Beijing Communications Laboratories Co., Ltd, China; and Lan Chen, DoCoMo Beijing Communications, China
2. **Downlink Limited Feedback Transmission Schemes for Asymmetric MIMO Channels**
   Mohsen Eslami, University of Alberta, Canada; and Witold A. Krzymien, University of Alberta, Canada
3. **Per-subcarrier Antenna Selection with Power Constraints in OFDM Systems**
   Magnus Sandell, Toshiba Research Europe Ltd, United Kingdom; and Justin Coon, Toshiba Research Europe Ltd, United Kingdom
4. **Random Beamforming in Spatially Correlated Multiuser MISO Channels**
   Jae-Yun Ko, Seoul National University, Korea; and Yong-Hwan Lee, Seoul National University, Korea
5. **Two-Way Relaying with Multiple Antennas using Covariance Feedback**
   Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore

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7H: OFDM - IV

1. **A Revenue-Based Low-Delay and Efficient Downlink Scheduling Algorithm in OFDMA Systems**
   Ruochen Wang, Beijing University of Posts and Telecommunications, China; Zhiqiang He, Beijing University of Posts and Telecommunications, China; Zheng Sun, Beijing University of Posts and Telecommunications, China; Shan Lu, Beijing University of Posts and Telecommunications, China; and Kai Niu, Beijing University of Posts and Telecommunications, China
2. **Cooperative Communication in Space-Time-Frequency Coded MB-OFDM UWB**
   Le Chung Tran, University of Luebeck, Germany; Alfred Mertins, University of Luebeck, Germany; and Tadeusz A. Wysocki, University of Nebraska-Lincoln, USA
3. **Power Controlled Random Access in Multi-Cell OFDMA Uplink**
   Denis Kolyuzhnov, Jacobs University Bremen, Germany; Abdurazak Mudesir, Jacobs University Bremen, Germany; and Harald Haas, University of Edinburgh, United Kingdom
4. **Asymmetry Balancing for Channel Asymmetry Support in OFDMA-TDD Cellular Networks**
   Ellina Foutekova, University of Edinburgh, Edinburgh, UK; Sinan Sinanovic, University of Edinburgh, Edinburgh, UK; and Harald Haas, University of Edinburgh, Edinburgh, UK
5. **CQI Feedback Reduction based on Spatial Correlation in OFDMA System**
   Woongsup Lee, KAIST, Korea; and Dong-Ho Cho, KAIST, Korea

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8A: Antennas

1. **A Dual-band HF / UHF Antenna for RFID Tags**
   Lukas W. Mayer, Vienna University of Technology, Austria; and Arpad L. Scholtz, Vienna University of Technology, Austria
2. **Single-Feed Dual-Band Stacked Patch Antenna for Orthogonal Circularly Polarized GPS and SDARS Applications**
   Kevin Geary, HRL Laboratories, LLC, USA; James Schaffner, HRL Laboratories, LLC, USA; Hui-Pin Hsu, HRL Laboratories, LLC, USA; Hyok Song, HRL Laboratories, LLC, USA; Joseph Colburn, HRL Laboratories, LLC, USA; and Eray Yasan, OnStar Corporation, USA
3. **Single-Port Circular-Patch Polarization Diversity Antenna**
   Ali Khaleghi, Rikshospitalet University and Norwegian University of Science and Technology (NTNU), Norway
4. **The Design of UWB Bandpass Filter-Combined Ultra-Wide Band Antenna**
   Jung Nam Lee, Hanbat National University, Korea(south); Jin Hee Yoo, Hanbat National University, Korea(south); Ji Hae Kim, Hanbat National University, Korea(south); Jong Kweon Park, Hanbat National University, Korea(south); and Jin Suk Kim, Hanbat National University, Korea(south)
5. **Waveform Optimization in UWB Antenna systems based on Prolate Spheroidal Wave Signal Spaces**
   Pedro Luis Carro, University of Zaragoza, Spain; Jesus de Mingo, University of Zaragoza, Spain; and Paloma García, University of Zaragoza, Spain

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8B: Performance Analysis - III

1. **Performance Analysis of ICI Elimination by Information Aid for Aviation Mobile Broadband Communication**
   Xian Wu, Beijing University of Aeronautics and Astronautics, P.R. China; Jun Zhang, Beijing University of Aeronautics and Astronautics, P.R. China; and Zhongkan Liu, Beijing University of Aeronautics and Astronautics, P.R. China
2. **Performance Evaluation in All-Wireless Wi-Fi Networks**
   Goncalo Carpinteiro, Instituto Superior Técnico / Instituto de Telecomunicações Techincal University of Lisbon, Portugal; and Luis Correia, Instituto Superior Técnico / Instituto de Telecomunicações Techincal University of Lisbon, Portugal
3. **Performance Evaluation of 6-Sector-Site Deployment for Downlink UTRAN Long Term Evolution**
   Sanjay Kumar, Aalborg University, Denmark; Istvan Kovács, Nokia Siemens Networks, Aalborg, Denmark; Guillaume Monghal, Aalborg University, Denmark; Klaus Pedersen, Nokia Siemens Networks, Aalborg, Denmark; and Preben Mogensen, Nokia Siemens Network, Aalborg University, Denmark
4. **Performance Evaluation of Multipath Cellular Networks in Obstacle Mobility Model for Downlink Packet Video Communication**
   Abdullah Yusuf, Monash University, Australia; and Manzur Murshed, Monash University, Australia
5. **Complexity-Performance Trade-Offs in a Single Carrier Transmission with Iterative Equalization**
   Toni Levanen, Tampere University of Technology (TUT), Finland; and Markku Renfors, Tampere University of Technology (TUT), Finland

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8C: Channel Estimation - III

Chair: Greg Bottomley, Ericsson

1. **A Frequency-Domain Correlation Matrix Estimation Algorithm for MIMO-OFDM Channel Estimation**
   Feng Wan, Concordia University, Canada; Wei-Ping Zhu, Concordia University, Canada; and M.N.S. Swamy, Concordia University, Canada
2. **Channel Prediction and Predictive Vector Quantization Aided Channel Impulse Response Feedback for SDMA Downlink Preprocessing**
   Du Yang, Communications Research Group, School of ECS, University of Southampton, U.K.; Wei Liu, Communications Research Group, School of ECS, University of Southampton, U.K.; Lie.-Liang Yang, Communications Research Group, School of ECS, University of Southampton, U.K.; and Lajos Hanzo, Communications Research Group, School of ECS, University of Southampton, U.K.
3. **Improving MIMO Channel Estimation Through Training Symbols Redundancy**
   Victor Vergara, University of New Mexico, USA; Silvio Barbin, Centro de Pesquisas Renato Archer, Brazil; and Ramiro Jordan, University of New Mexico, USA
4. **Multiple Carrier Frequency Offset and Channel State Estimation in the Fading Channel**
   Brad Zarikoff, Simon Fraser University, Canada; and James Cavers, Simon Fraser University, Canada
5. **SVD-based Frequency Domain Equalizer for MIMO-CDMA Systems Using Virtual Antennas**
   Hui Lu, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; Qixing Wang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China

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8D: WIMAX - III

Chair: Sudhan Majhi, University of Michigan - Dearborn

1. **Dynamic Priority-based Resource Allocation for Uplinks in IEEE 802.16 Wireless Communication Systems**
   Chih-Ming Yen, National Chiao Tung University, ROC; Chung-Ju Chang, National Chiao Tung University, ROC; Fang-Ching Ren, Industrial Technology Research Institute, ROC; and Jian-Ann Lai, National Chiao Tung University, ROC
2. **Efficient Authentication Architecture for Frequency Overlay in WiBro-Evolution System**
   Sun-Hwa Lim, Electronics and Telecommunications Research Institute (ETRI), Korea; Sang-ho Lee, Electronics and Telecommunications Research Institute (ETRI), Korea
3. **Evaluation of Mobile WiMAX System Performance**
   Chunchang Tian, Beijing University of Posts and Telecommunications, china; Jing Jin, Beijing University of Posts and Telecommunications, China; and Xin Zhang, Beijing University of Posts and Telecommunications, China
4. **On Design of TDD for Joint Uplink and Downlink Resource Allocation in OFDMA-based WiMax**
   Tijani Chahed, TELECOM SudParis, France; Salah Eddine Elayoubi, Orange Labs, France; and Eitan Altman, INRIA, France
5. **Pricing of Real-Time Applications in WiMAX Systems**
   Aymen Belghith, TELECOM Bretagne, France; Loutfi Nuaymi, TELECOM Bretagne, France; and Patrick Maille, TELECOM Bretagne, France

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8E: 3G & Beyond - V

1. **Spatial Division Multiple Access with Smart Antennas in TD-SCDMA HSDPA**
   Liang Hong, Beijing University of Posts and Telecommunications, China; Jie Cui, Beijing University of Posts and Telecommunications, China; Bo Chen, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Beijing University of Posts and Telecommunications, China; Shuhui Liu, Beijing University of Posts

and Telecommunications, China ; and Dacheng Yang, Beijing University of Posts and Telecommunications, China

2. **Reducing Feedback Requirements of the Multiple Weight Opportunistic Beamforming Scheme via Selective Multiuser Diversity**
   Marios Nicolaou, University of Bristol, United Kingdom; Angela Doufexi, University of Bristol, United Kingdom; and Simon Armour, University of Bristol, United Kingdom
3. **Directional Diversity Reception for Hierarchically Modulated T-DMB System**
   JaeHwui Bae, ETRI, Republic of Korea; YoungSu Kim, ETRI, Republic of Korea; Ju-yeun Kim, ETRI, Repulic of Korea; JongSoo Lim, ETRI, Republic of Korea; Soo In Lee, ETRI, Republic of Korea; and Dong-Seog Han, Kyungpook National University, Republic of Korea
4. **Multi-user MISO Broadcast Channel with User-Cooperating Decoder**
   HyukJoon Kwon, Stanford University, USA; and John Cioffi, Stanford University, USA
5. **A Cell Search Scheme for TD-SCDMA Using Multi-Cell Joint Detection**
   Danyu Zheng, Beijing University of Posts and Telecommunications, China; Zheng Jiang, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China

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8F: Mobile Satellite Systems

1. **Factor Graphs for Satellite Broadcast Scheduling Problems**
   Jung-Chieh Chen, National Kaohsiung Normal University, Taiwan; Chao-Kai Wen, MediaTek Inc., Taiwan; and Pangan Ting, Industrial Technology Research Institute, Taiwan
2. **On the Capacity of Generalized Fading/Shadowing Channels**
   Petros Bithas, National Observatory of Athens, Greece; P. Takis Mathiopoulos, National Observatory of Athens, Greece; and Stavros Kotsopoulos, University of Patras, Greece
3. **Performance Evaluation of Satellite-based Search and Rescue Services: Galileo vs. Cospas-Sarsat**
   Andreas Lewandowski, Dortmund University of Technology, Germany; Brian Niehoefer, Dortmund University of Technology, Germany; and Christian Wietfeld, Dortmund University of Technology, Germany
4. **Resources Allocation and Performance Analysis in S-UMTS Network**
   Nawel Zangar, Université de Versailles, France; Sami Tabbane, Sup'Com Higher School Tunis - Tunis, Tunisia; and Samir Tohmé, Université de Versailles, France
5. **Zero-Knowledge Beamforming for Mobile Satellite Phased Array Antenna**
   Mohammad Fakharzadeh, University of Waterloo, Canada; S. Hamidreza Jamali, University of Waterloo, Canada; Kiarash Narimani, University of Waterloo, Canada; Pedram Mousavi, University of Waterloo, Canada; Safieddin Safavi-Naeini, University of Waterloo, Canada; and Javad Ahmadi-Shokouh, University of Waterloo, Canada

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8G: Transportation

Chair: Bih-Yuan Ku, National Taipei University of Technology

1. **A Cooperative Reflect Transmission Scheme using Road Infrastructure in Vehicle-PEdestrian Communications**
   Ryohta Yamaguchi, Kansai University, Japan; Daisuke Ikeda, Kansai University, Japan; Yuki Nakanishi, Kansai University, Japan; Tomotaka Wada, Kansai University, Japan; and Hiromi Okada, Kansai University, Japan
2. **A Mobile Sensor System and Its Performance of Traffic Monitoring**
   Xu Li, Shanghai Jiao Tong University, China; Hongyu Huang, Shanghai Jiao Tong University, China; Minglu Li, Shanghai Jiao Tong University, China; Xinhua Lin, Shanghai Jiao Tong University, China; Wei Shu, The University of New Mexico, USA; and Min-You Wu, Shanghai Jiao Tong University, China
3. **An Adaptive Vehicle Route Management Solution Enabled by Wireless Vehicular Networks**
   Kevin Collins, Dublin City University, Ireland; and Gabriel-Miro Muntean, Dublin City University, Ireland
4. **An Extended Collision Judgment Algorithm for Vehicular Collision Avoidance Support System (VCASS) in Advanced ITS**
   Tetuya Maruoka, Kansai University, Japan; Yasuhiro Sato, Kansai University, Japan; Shinji Nakai, Kansai University, Japan; Tomotaka Wada, Kansai University, Japan; and Hiromi Okada, Kansai University, Japan
5. **Empirical Study on Ultra-Wideband Vehicle Radar**
   Isamu Matsunami, Kitakyushu University, Japan; Youichiro Nakahata, Kitakyushu University, Japan; Katsushi Ono, Kitakyushu University, Japan; Yuusei Noguchi, Kitakyushu University, Japan; and Akihiro Kajiwara, Kitakyushu University, Japan

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8H: OFDM - V

1. **OFDM-Based Millimeter Wave System for High Data Rate WPAN Applications**
   Pascal Pagani, France Telecom / Orange Labs, France; Maxim Piz, IHP Microelectronics, Germany; Isabelle Siaud, France Telecom / Orange Labs, France; Eckhard Grass, IHP Microelectronics, Germany; Wei Li, France Telecom / Orange Labs, USA; Klaus Tittelbach Helmrich, IHP Microelectronics, Germany; Anne-Marie Ulmer-Moll, France Telecom / Orange Labs, France; and Frank Herzel, IHP Microelectronics, Germany
2. **On the Study of End-to-End IQ Imbalance Problem in OFDM Systems**
   Chia-Horng Liu, Telecommunication Laboratories, Taiwan
3. **Fast Frequency Hopping OFDM with QR-based Receivers**
   Poramate Tarasak, Institute for Infocomm Research, Singapore; Zhewei Lin, Institute for Infocomm Research, Singapore; Xiaoming Peng, Institute for Infocomm Research, Singapore; and Francois Chin, Institute for Infocomm Research, Singapore
4. **Layered OFDMA Radio Access for IMT-Advanced**
   Motohiro Tanno, NTT DoCoMo, Inc., Japan; Yoshihisa Kishiyama, NTT DoCoMo, Inc., Japan; Hidekazu Taoka, NTT DoCoMo, Inc., Japan; Nobuhiko Miki, NTT DoCoMo, Inc., Japan; Kenichi Higuchi, Tokyo University of Science, Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan
5. **Optimal Fractional Frequency Reuse (FFR) in Multicellular OFDMA System**
   Mohamad Assaad, SUPELEC, France

Wednesday 24 September 11:15-12:45

9A: Transmit Processing

Chair: Stefan Parkvall, Ericsson

1. **A Computationally Efficient Stack-Based Iterative Precoding for Multiuser MIMO Broadcast Channel**
   Kyungho Park, Information and Communications University, Korea, South; Jongsub Cha, ETRI, Korea, South; and Joonhyuk Kang, Information and Communications University, Korea, South
2. **An Overview of Cyclic Delay Diversity and its Applications**
   Simon Plass, German Aerospace Center (DLR), Germany; Armin Dammann, German Aerospace Center (DLR), Germany; and Stephan Sand, German Aerospace Center (DLR), Germany
3. **Diversity-Embedded Space-Time Codes with Sigma Mapping of QAM Constellations**
   Ha X. Nguyen, University of Saskatchewan, Canada; Ha H. Nguyen, University of Saskatchewan, Canada; and Tho Le-Ngoc, McGill University, Canada
4. **Multiuser Transmission in Cellular Systems with Different Sector Configurations**
   Ines Riedel, Technische Universität Dresden, Germany; René Habendorf, Technische Universität Dresden, Germany; Ernesto Zimmermann, Technische Universität Dresden, Germany; and Gerhard Fettweis, Technische Universität Dresden, Germany
5. **Recursive Receivers for Space-Time Trellis Coded OFDM Systems over Time-Varying Block Fading Channels**
   Der-Feng Tseng, National Taiwan University of Science and Technology, Taiwan; and Chia-Ming Lee, National Taiwan University of Science and Technology, Taiwan

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9B: Scheduling - III

1. **Scheduling in OFDM Wireless Networks without Tradeoff between Fairness and Throughput**
   Cedric Gueguen, UPMC University Paris 06, France; and Sebastien Baey, UPMC University Paris 06, France
2. **Throughput Analysis of Opportunistic Scheduling under Rayleigh Fading Environment**
   Erwu Liu, Imperial College, UK; and Kin Leung, Imperial College, UK
3. **Throughput Analysis of DS-CDMA Wireless Packet Access using Frequency-domain Equalization and Random TPC**
   Haruki Ito, Tohoku University, Japan; Eisuke Kudoh, Tohoku University, Japan; Zhisen Wang, Dalian Polytechnic University, China; and Fumiyuki Adachi, Tohoku University, Japan
4. **Backoff Strategies in Hiperlan\2 with Error Control Protocol**
   Abdelsalam Amer, Uinversity of Victoria, Canada; Fayez Gebali, Uinversity of Victoria, Canada; and Yousry Abdel-Hamid, Uinversity of Victoria, Canada
5. **Evaluation of Key Techniques for Packet Traffics in Multi-carrier LCR TDD Systems**
   Shuhui Liu, Beijing University of Posts and Telecommunications, China; Jie Cui, Beijing University of Posts and Telecommunications, China; and Yongyu Chang, Beijing University of Posts and Telecommunications, China

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9C: Radio Propagation Measurements

1. **A Wideband Channel Sounder for Car-to-Car Radio Channel Measurements at 5.7 GHz and Results for an Urban Scenario**
   Panagiotis Paschalidis, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Mike Wisotzki, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Andreas Kortke, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Wilhelm Keusgen, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; and Michael Peter, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany
2. **Radio Channel Measurements and Characterization inside Aircrafts for In-Cabin Wireless Networks**
   Nektarios Moraitis, National Technical University of Athens, Greece; and Philip Constantinou, National Technical University of Athens, Greece
3. **Wideband Car-to-Car Radio Channel Measurements and Model at 5.9 GHz**
   Jürgen Kunisch, IMST GmbH, Germany; and Jörg Pamp, IMST GmbH, Germany
4. **Wideband MIMO Car-to-Car Radio Channel Measurements at 5.3 GHz**
   Olivier Renaudin, Université catholique de Louvain (UCL), Belgium; Veli-Matti Kolmonen, TKK Helsinki University of Technology, Finland; Pertti Vainikainen, TKK Helsinki University of Technology, Finland; and Claude Oestges, Université catholique de Louvai (UCL), Belgium
5. **Outdoor-Indoor Propagation Measurements and Link Performance in the VHF/UHF Bands**
   Margot Karam, Motorola Labs, USA; William Turney, Motorola Labs, USA; Kevin Baum, Motorola Labs, USA; Philippe Sartori, Motorola Labs, USA; Laddie Malek, Motorola Labs, USA; and Isselmou Ould-Dellahy, Motorola Labs, USA

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9D: CDMA / Mesh Networks

1. **An Efficient Hardware Simulator for the Design of a WCDMA Interference Cancellation Repeater**
   Moohong Lee, KAIST, Korea; Byungjik Keum, KAIST, Korea; Yunmok Son, KAIST, Korea; Hwang Soo Lee, KAIST, Korea; Ju Tae Song, , SK Telesys, Korea ; and Joo-Wan Kim, SK Telesys, Korea
2. **On the Impact of Coarse Synchronization on the Performance of Broadcast/Multicast Single Frequency Network Operation in WCDMA**
   Christoph Joetten, Qualcomm CDMA Tecnologies GmbH, Germany; Christian Sgraja, Qualcomm CDMA Tecnologies GmbH, Germany; and Josef Blanz, Qualcomm CDMA Tecnologies GmbH, Germany
3. **Spectral-Efficiency of Time-Frequency-Domain Spread Multicarrier DS-CDMA in Frequency-Selective Nakagami-m Fading Channels**
   Peng Pan, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Youquang Zhang, Beihang University, China
4. **A Packet Combining Demodulation Scheme for Multi-hop Wireless Systems using Network Coding**
   Nobuaki Otsuki, NTT Access Network Service Systems Laboratories, NTT Corporation, Japan; Yusuke Asai, NTT Access Network Service Systems Laboratories, NTT Corporation, Japan; Takeo Ichikawa, NTT Access Network Service Systems Laboratories, NTT Corporation; and Masato Mizoguchi, NTT Network Inovation Laboratories, NTT Corporation, Japan
5. **Efficient Overlay Multicast Strategy for Wireless Mesh Networks**
   Cuitao Zhu, Huazhong University of Science and Technology, China; Di Wu, Huazhong University of Science and Technology, China; Wenqing Cheng, Huazhong University of Science and Technology, China; and Zongkai Yang, Huazhong University of Science and Technology, China

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9E: Systems - I

1. **Iterative Two-layer CI Phase Coding Enhancement of Uplink Broadband Wireless Access System**
   Thanh Son Le, University Graduate Center at Kjeller, Norway; Torbjørn Ekman, University Graduate Center at Kjeller, Norway; and Pål Orten, University Graduate Center at Kjeller, Norway
2. **A Design Concept for a 60 GHz Wireless In-Flight Entertainment System**
   Jian Luo, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany; and Michael Peter, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany
3. **A Robust AMC that Guarantees Packet Error Rate and Its Evaluation under a Handover Scenario in OFDM-Based Evolved UTRA Downlink**
   Seok Ho Won, ETRI, Korea
4. **An Optimal Satisfaction Model for Universal Service Terminal System**
   Yuhan Jin, Beijing University of Posts and Telecommunications, China; Hui Tian, Beijing University of Posts and Telecommunications, China; and Zemin Liu, Beijing University of Posts and Telecommunications, China
5. **Efficient Reliable Data Collection in Wireless Sensor Networks**
   Ren Liu, CSIRO, Australia; John Zic, CSIRO, Australia; Iain Collings, CSIRO, Australia; Yi Fei Dong, University of New South Wales, Australia; and Sanjay Jha, University of New South Wales, Australia

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9F: Cooperative Relay Networks - VI

1. **Cooperative Phase Sweep Amplify-and-Forward Transmission**
   Geoffrey Messier, University of Calgary, Canada; Sebastian Magierowski, University of Calgary, Canada; and Jean-Francois Bousquet, University of Calgary, Canada
2. **Diversity Combining of Signals with Different Modulation Levels in Cooperative Relay Networks**
   Akram Bin Sediq, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada
3. **Joint Power-Distortion Optimization in a One-helper Problem**
   Hamid Behroozi, Queen's University, Canada; and M. Reza Soleymani, Concordia University, Canada
4. **Optimized Amplify-and-Forward Relaying for Vehicular Ad-Hoc Networks**
   Haci Ilhan, Istanbul Technical University, Turkey; Ibrahim Altunbas, Istanbul Technical University, Turkey; and Murat Uysal, University of Waterloo, Canada
5. **Training Power Optimization for Amplify-and-Forward Cooperative Systems**
   Berna Gedik, University of Waterloo, Canada; and Murat Uysal, University of Waterloo, Canada

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9G: Interference Cancellation - II

1. **Structure Analysis and SNR-Variance Evolution for Parallel Concatenated Coded IDMA Systems**
   Hao Wang, State Key Laboratory on Microwave and Digital Communications, National Laboratory for Information Science and Technology, Tsinghua University; Graduate School at Shenzhen, Tsinghua University, P.R.China; Shi Chen, Huawei Technologies Co., Ltd., P.R. China; Xiaokang Lin, Tsinghua University, Shenzhen, P.R. China
2. **MUI Cancellation for Uplink BS-CDMA in Broadband Mobile Communication Systems**
   Xiaoming Peng, I2R, Singapore; Tio Surya Dharma, NTU, Singapore; Francois Chin, I2R, Singapore; and A. S. Madhukumar, NTU, Singapore
3. **Multi-code MC-CDMA Using Joint CDTD and Inter-code Interference Cancellation**
   Kazuaki Takeda, Tohoku University, Japan; Hiromichi Tomaba, Tohoku University, Japan; Jiangzhou Wang, University of Kent, UK; and Fumiyuki Adachi, Tohoku University, Japan
4. **Novel Detection Algorithm of IDMA System under Channel Estimation Error**
   Chulhee Jang, Seoul National University, Korea; Hyunwoo Choi, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea
5. **Iterative Soft Multiuser Detection for MIMO MC-CDMA Systems**
   Zhendong Luo, Alcatel-Lucent, China; and Dawei Huang, Alcatel-Lucent, Australia

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9H: OFDM - VI

Chair: Xiaodai Dong, University of Victoria

1. **A Random Beamforming Technique in Multiuser Multi-Antenna OFDM Systems for Large System Capacity and Fairness Among Users**
   Yoshitaka Eriguchi, Tokyo University of Science, Japan; and Tomoaki Ohtsuki, Keio University, Japan
2. **Inter-cell Interference Modeling for OFDMA Systems with Beamforming**
   Yongquan Qiang, Motorola Labs, China; Guillaume Vivier, Motorola Labs, France; Jin Yang, Motorola Labs, China; and Ning Xu, Motorola Labs, China
3. **Multipath Diversity through Time Shifted Sampling for Spatially Correlated OFDM-Antenna Array Systems**
   Refik Caglar Kizilirmak, Keio University, Japan; and Yukitoshi Sanada, Keio University, Japan
4. **System-Level Evaluation of a Downlink OFDM Kalman-Based Switched-Beam System with Subcarrier Allocation Strategies**
   Raouia Nasri, Institut National de la Recherche Scientifique, Canada; Abla Kammoun, Ecole Nationale Supérieure des Télécommunications, Paris, France; Alex Stéphenne, Ericsson Canada, Montreal, Canada; and Sofiene Affes, Institut National de la Recherche Scientifique, Canada
5. **Transmit Beamforming for MIMO-OFDM Systems with Limited Feedback**
   Jiangchun Huang, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Jianhua Zhang, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Zhen Liu, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Jianing Li, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; and Xiaofan Li, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China

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10A: MIMO - VI

1. **A Study on a Novel Transmit Scheme for MIMO Channel Sounding Architecture**
   Minjae Kim, Information and Communications University, Korea; Sunghyun Kim, Information and Communications University, Korea; and Hyuckjae Lee, Information and Communications University, Korea
2. **An Experimental 8x8 System Used to Characterize the Spatial Channel at 3.5 GHz**
   Vipul Desai, Motorola Labs, USA; James Kepler, Motorola Labs, USA; Everett Stone, Motorola, USA; John Thomas, Motorola Labs, USA; and Timothy Thomas, Motorola Labs, USA
3. **Analysis of MIMO Channel Capacity Dependence on Antenna Geometry and Environmental Parameters**
   Paul Lusina, Research in Motion, Canada; and Farzaneh Kohandani, Research in Motion, Canada
4. **Channel Correlation and Cross-Polar Ratio in Multi-Polarized MIMO Channels: Analytical Derivation and Experimental Validation**
   François Quitin, Université Libre de Bruxelles, Belgium; Claude Oestges, Université catholique de Louvain, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; and Philippe De Doncker, Université Libre de Bruxelles, Belgium
5. **Eigenvalue Statistics and Spatial Characteristics in Hotspot Areas Based on Wideband MIMO Channel Measurements**
   Xinying Gao, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; and Yu Zhang, Beijing University of Posts and Telecommunications, China

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10B: Performance Analysis - IV

1. **Carrier Frequency Offset Compensation for Distributed MIMO OFDM Systems**
   Kai Deng, University of Electronic Science and Technology of China, China; Youxi Tang, University of Electronic Science and Technology of China, China; Ke Sun, University of Electronic Science and Technology of China, China; and Huajiong Lin, University of Electronic Science and Technology of China, China
2. **Combined Forward and Backward Lattice Reduction Aided MMSE Detection in MIMO Systems**
   Tadashi Fujino, University of Electro-Communications, Japan; and Tetsuyoshi Shimokawa, University of Electro-Communications, Japan
3. **Semidefinite Relaxation for Sum-rate Maximization on Gaussian Cognitive Multiple Access Channel**
   Sang-wook Han, Information and Communications University, Korea; Hoon Kim, Stanford University, USA; Koudjo Koumadi, Information and Communications University, Korea; Youngnam Han, Information and Communications University, Korea; and John Cioffi, Stanford University, USA
4. **Matched Filter based Algorithm for Blind Recognition of OFDM Systems**
   Abdelaziz Bouzegzi, CEA LETI- MINATEC, France; Philippe Ciblat, Telecom ParisTech, France; and Pierre Jallon, CEA LETI- MINATEC, France
5. **SVD Assisted Joint Transmitter and Receiver Design for the Downlink of MIMO Systems**
   Wei Liu, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom

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10C: Channel Modeling

1. **A Spatially-Correlated Tapped Delay Line Model for Body Area Networks**
   Stéphane van Roy, Université Libre de Bruxelles, Belgium; Claude Oestges, Université Catholique de Louvain, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; and Philippe De Doncker, Université Libre de Bruxelles, Belgium
2. **A Stochastic Model for Non-Stationary Outdoor K-Factor Variation**
   Geoffrey Messier, University of Calgary, Canada; and Jennifer Hartwell, TRLabs, Canada
3. **Doppler Shift Distribution With A Semi-Spheroid Model for Mobile Radio Environments**
   Shouxing Qu, Research In Motion Limited, Canada
4. **Second-Order Statistics of Polarization State Dispersion by Narrowband Ricean Fading Channels**
   Kyle Sivertsen, University of British Columbia, Canada; Anthony Liou, University of British Columbia, Canada; and David Michelson, University of British Columbia, Canada
5. **Location Variability of the Field Strength Local Median Values in the Medium Wave Band**
   Susana Lopez, University of the Basque Country UPV-EHU, Spain; Gorka Berjón, University of the Basque Country UPV-EHU, Spain; David De La Vega, University of the Basque Country UPV-EHU, Spain; Unai Gil, University of the Basque Country UPV-EHU, Spain; P. Angueira, University of the Basque Country UPV-EHU, Spain; M. M. Vélez, University of the Basque Country UPV-EHU, Spain; and J. L. Ordiales, University of the Basque Country UPV-EHU, Spain

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10D: Power Control

1. **Combination of Dynamic-TDD and Static-TDD Based on Adaptive Power Control**
   Howon Lee, KAIST, Korea; and Dong-Ho Cho, KAIST, Korea
2. **Improved Algorithm for Computation of Transmission Powers in DS-CDMA Cellular Networks with Closed-Loop Power Control**
   Luis Mendo, Polytechnic University of Madrid, Spain; and José M. Hernando, Polytechnic University of Madrid, Spain
3. **Uplink Power Control for an SC-FDMA Mobile Cellular System**
   Lei Cao, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Lei Zhong, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Haipeng Lei, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Yafeng Wang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Yongyu Chang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China
4. **Wireless Downlink Admission and Power Control under Strict Quality-of-Service Requirements**
   Mohamed Saad, University of Sharjah, United Arab Emirates
5. **A Joint Power and Rate Control Algorithm and Fairness Enhancement for Multiuser OFDM System**
   Xiaoyu Wei, Ericsson AB, Sweden; and Peter Larsson, Ericsson Research, Sweden

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10E: Systems - II

1. **Vehicular Collaborative Technique for Location Estimate Correction**
   Nabil Drawil, University of Waterloo, Canada; and Otman Basir, University of Waterloo, Canada
2. **Practical Antenna Training for Millimeter Wave MIMO Communication**
   Pengfei Xia, Samsung Electronics, USA; Huaning Niu, Intel Corp., USA; Jisung Oh, Samsung Electronics, Korea; and Chiu Ngo, Samsung Electronics, USA
3. **Intelligent Vehicle Power Control based on Prediction of Road Type and Traffic Congestions**
   Jungme Park, University of Michigan-Dearborn, USA; ZhiHang Chen, University of Michigan-Dearborn, USA; Leonadis Kiliaris, University of Michigan-Dearborn, USA; Yi L. Murphy, University of Michigan-Dearborn, USA; Ming Kuang, Ford Motor Company, USA; Anthony Phillips, Ford Motor Company, USA; and M. A. Masrur, US Army TARDEC, USA
4. **Design and Analysis of Novel Broadband EM Wave Absorbers Based on Lossy EBG Surface**
   Dong-Uk Sim, Electronics and Telecommunications Research Institute (ETRI), Korea; Jong-Hwa Kwon, Electronics and Telecommunications Research Institute (ETRI), Korea; Sang-Il Kwak, Electronics and Telecommunications Research Institute (ETRI), Korea; and Jae-Hoon Yun, Electronics and Telecommunications Research Institute (ETRI), Korea
5. **A Simple Prediction Model for Line of Sight Coverage in Urban Scenarios**
   Georg Bauer, Clausthal University of Technology, Germany; and Rolf Jakoby, Darmstadt University of Technology, Germany

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10F: Cooperative Relay Networks - VII

1. **Cooperative Transmission with Partial Channel Information in Multi-User MISO Wireless Systems**
   Keon-Wook Lee, Seoul National University, Korea; and Yong-Hwan Lee, Seoul National University, Korea
2. **Distributed Space-time Coded Transmission Achieving Full Cooperative and Multipath Diversities for Asynchronous Cooperative Communications**
   Zhimeng Zhong, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; Shihua Zhu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; Gangming Lv, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; and Tao Liu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China
3. **On the Outage Probability of Asynchronous Wireless Cooperative Networks**
   Michel Nahas, Orange Labs, France; Ahmed Saadani, Orange Labs, France; and Walid Hachem, Telecom ParisTech, France
4. **Joint Cooperative Diversity and Proportional Fair Scheduling in OFDMA Relay Systems**
   Poramate Tarasak, Institute for Infocomm Research, Singapore; and Sumei Sun, Institute for Infocomm Research, Singapore
5. **Performance Evaluation of Cooperative Relaying Networks Using 3D Ray Launching Method for Wireless Propagation Prediction**
   Hiroki Tanaka, Kyoto University, Japan; Hidekazu Murata, Kyoto University, Japan; Koji Yamamoto, Kyoto University, Japan; and Susumu Yoshida, Kyoto University, Japan

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10G: UWB - I

1. **Iterative Spreading-Sequence Acquisition in the Multiple Receive Antenna Aided DS-UWB Downlink**
   SeungHwan Won, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
2. **EXIT Chart Aided Design of DS-CDMA UltraWideBand Systems Using Iterative Decoding**
   Raja Ali Riaz, University of Southampton, UK; Muhammad El-Hajjar, University of Southampton, UK; Qasim Zeeshan Ahmed, University of Southampton, UK; Soon Xin Ng, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
3. **Further Enhancement for Active Interference Cancellation on MB-OFDM UWB Transmission**
   Poramate Tarasak, Institute for Infocomm Research, Singapore; Francois Chin, Institute for Infocomm Research, Singapore; Zhewei Lin, Institute for Infocomm Research, Singapore; and Xiaoming Peng, Institute for Infocomm Research, Singapore
4. **Integration Interval Determination in Transmitted Reference Pulse Cluster Systems for UWB Communications**
   Li Jin, University of Victoria, Canada; and Xiaodai Dong, University of Victoria, Canada
5. **Interference Mitigation for Energy Detection in a Multiband Impulse Radio UWB System**
   Maximilian Hauske, Universitaet Karlsruhe (TH), Germany; Holger Jaekel, Universitaet Karlsruhe (TH), Germany; Hanns-Ulrich Dehner, Universitaet Karlsruhe (TH), Germany; and Friedrich Jondral, Universitaet Karlsruhe (TH), Germany

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10H: Synchronization - II

1. **New Training Sequence Structure for Zero-Padded SC-FDE System in Presence of Carrier Frequency Offset**
   Ying Chen, The Australian National University, Australia; Jian Zhang, NICTA, Australia; and Dhammika Jayalath, Queensland University of Technology, Australia
2. **Calibration Issues of PHY Layer Abstractions for Wireless Broadband Systems**
   Antonio Maria Cipriano, Thales Communications, France; Raphaël Visoz, France Telecom Recherche et Developpement, France; and Thomas Sälzer, France Telecom Recherche et Developpement, France
3. **Training-Based Joint Timing and Channel Estimation for Ultra-Wideband Signals**
   Tao Liu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; and Shihua Zhu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China
4. **Decentralized Inter-Base Station Synchronization Inspired from Nature**
   Alexander Tyrrell, DoCoMo Euro-Labs, Germany; and Gunther Auer, DoCoMo Euro-Labs, Germany
5. **Anti-Collision Protocol Tuning for the ISO/IEC 18000-3 Mode 2 RFID System**
   Sung-Rok Yoon, SITI, Republic of Korea; Jung-Ho Lee, SITI, Republic of Korea; and Sin-Chong Park, SITI, Republic of Korea

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11A: MIMO - VII

1. **Evaluating Indoor versus Outdoor Infrastructure for the Delivery of Broadband MIMO-OFDM Service**
   Vincent C.W. Yeung, Marvell Canada Corporation, Canada; Geoffrey G. Messier, University of Calgary, Canada; and Henry Lai, University of Calgary, Canada
2. **Hardware Simulator for MIMO Radio Channels: Design and Features of the Digital Block**
   Sylvie Picol, IETR-INSA de Rennes, France; Gheorghe Zaharia, IETR-INSA de Rennes, France; Dominique Houzet, GIPSA-Lab, INPG, France; and Ghais El-Zein, IETR-INSA de Rennes, France
3. **On the Performance of Analytical Channel Models in Capturing Channel Correlation Structure**
   Leslie Wood, University of California, San Diego, USA; and William Hodgkiss, University of California, San Diego, USA
4. **MIMO Antenna Array Impact on Channel Capacity for a Realistic Macro-Cellular Urban Environment**
   Pedro Vieira, DEETC, Lisbon Polytechnic Institute (ISEL), Portugal; Paula Queluz, IT/IST, Technical University of Lisbon, Portugal; and António Rodrigues, IT/IST, Technical University of Lisbon, Portugal
5. **Indoor Event Detection with Eigenvector Spanning Signal Subspace for Home or Office Security**
   Shohei Ikeda, Keio University, Japan; Hiroyuki Tsuji, National Institute of Information and Communications Technology, Japan; and Tomoaki Ohtsuki, Keio University, Japan

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11B: Modeling & Simulation - II

1. **Performance of OFDM System on Link Simulation with Measured Outdoor Channels at 3.5GHz**
   Wei Li, Shanghai Research Center for Wireless Communications, P.R.China; Ping Wang, Shanghai Institute of Microsystem and Information Technology, CAS, P.R. China; Zhen Wang, Shanghai Research Center for Wireless Communications, P.R. China; and Yingzhe Li, Shanghai Institute of Microsystem and Information Technology, CAS, P.R. China
2. **WiMAX Channel Model for Mountainous Areas**
   Paola Cardamone, VTT – Technical Research Centre of Finland, Italy; Ilkka Harjula, VTT – Technical Research Centre of Finland, Finland; Federico Albiero, VTT – Technical Research Centre of Finland, Italy; Marcos Katz, VTT – Technical Research Centre of Finland, Finland; and Lorenzo Muccchi, VTT – Technical Research Centre of Finland, Finland
3. **Propagation Path Loss Modeling in Container Terminal Environment**
   Ryszard Katulski, Gdansk University of Technology, Poland; Jaroslaw Sadowski, Gdansk University of Technology, Poland; and Jacek Stefanski, Gdansk University of Technology, Poland
4. **Incabin Millimeter Wave Propagation Simulation in a Wide-Bodied Aircraft Using Ray-Tracing**
   Robert Felbecker, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; and Michael Peter, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany
5. **Reverberation Chamber Environment for Testing Communication Systems: Applications to OFDM and SC-FDE**
   Olivier Delangre, Université Libre de Bruxelles, Belgium; Philippe De Doncker, Université Libre de Bruxelles, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; Martine Lienard, Université des Sciences et Technologies de Lille, France; and Pierre Degauque, Université des Sciences et Technologies de Lille, France

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11C: Radio & Optical Channel Physics

1. **Analytical Formulas for Calculating Reflections on Finite Multilayer Structures**
   Jan-willem De Bleser, Katholieke Universiteit Leuven, Belgium; Emmanuel Van Lil, Katholieke Universiteit Leuven, Belgium; and Antoine Van de Capelle, Katholieke Universiteit Leuven, Belgium
2. **Attenuation Analysis for Optical Wireless Link Measurements under Moderate Continental Fog Conditions at Milan and Graz**
   Muhammad Saleem Awan, Graz University of Technology, Austria; Erich Leitgeb, Graz University of Technology, Austria; Carlo Capsoni, Politecnico di Milano, Italy; Roberto Nebuloni, Politecnico di Milano, Italy; Marzuki Marzuki, Graz University of Technology, Austria; Farukh Nadeem, Graz University of Technology, Austria; and Muhammad Saeed Khan, Graz University of Technology, Austria
3. **The Effect of Rain Attenuation on the Performance of BFWA around Kjeller, Norway**
   Michael Cheffena, University Graduate Center - UNIK, Norway
4. **Joint TOA and AOA/AOD Spectrum for Ultra-Wideband Indoor Double-Directional Channel Estimation**
   Naohiko Iwakiri, Tokyo Denki University, Japan; and Takehiko Kobayashi, Tokyo Denki University, Japan
5. **On Parameter Estimation for Ultra-Wideband Channels with Clustering Phenomenon**
   Wei-De Wu, National Tsing Hua University, Taiwan, R.O.C.; Chung-Hsuan Wang, National Chiao Tung University, Taiwan, R.O.C.; Chi-chao Chao, National Tsing Hua University, Taiwan, R.O.C.; and Klaus Witrisal, Graz University of Technology, Austria

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11D: Performance Improvement Techniques

Chair: Yahya Osais, Carleton University

1. **Using Cognitive Radio for Improving the Capacity of Wireless Mesh Networks**
   Ricardo Pereira, UTFPR, Brazil; Richard Demo Souza, UTFPR, Brazil; and Marcelo Eduardo Pellenz, PUC-PR, Brazil
2. **Wireless Broadband Services using Smart Caching**
   Stephan Goebbels, RWTH Aachen University, Germany
3. **The Minimum Cost Sensor Placement Problem for Directional Wireless Sensor Networks**
   Yahya Osais, Carleton University, Canada; Marc St-Hilaire, Carleton University, Canada; and F. Richard Yu, Carleton University, Canada
4. **Employing Lightweight Primitives on Low-cost RFID Tags for Authentication**
   Tieyan Li, Institute for Infocomm Research, Singapore
5. **Radio Transmitter Fingerprinting: A Steady State Frequency Domain Approach**
   Irwin Kennedy, Bell Laboratories Ireland, Ireland; Patricia Scanlon, Bell Laboratories Ireland, Ireland; Francis Mullany, Bell Laboratories Ireland, Ireland; Milind Buddhikot, Bell Laboratories, USA; Keith Nolan, CTVR, Trinity College Dublin, Ireland; and Thomas Rondeau, CTVR, Trinity College Dublin, Ireland

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11E: Implementation Aspects

Chair: Dennis Hui, Ericsson

1. **Advantages of Simple MIMO Schemes for Robust or High Data Rate Transmission Systems in Underground Tunnels**
   Yann Cocheril, INRETS, France; Charlotte Langlais, TELECOM - Bretagne, France; Marion Berbineau, INRETS, France; and Gérald Moniak, INRETS, France

2. **Impact of the Angular Velocity on the Signals Spectrum and Performance of Antenna-Array Receivers**
   Mamadou Abdoulaye Diop, INRS-EMT, Canada; Karim Cheikhrouhou, INRS-EMT, Canada; and Sofiene Affes, INRS-EMT, Canada
3. **Impact of Transmit Array Geometry on Downlink System-Level Performance of MIMO Systems**
   Afif Osseiran, Ericsson Research, Sweden; Kambiz Zangi, Ericsson Research, USA; and Dennis Hui, Ericsson Research, USA
4. **Practical Results of High Resolution AOA Estimation by the Synthetic Array**
   Ali Broumandan, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Gérard Lachapelle, University of Calgary, Canada
5. **TOA Estimation Enhancement based on Blind Calibration of Synthetic Arrays**
   Ali Broumandan, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Gérard Lachapelle, University of Calgary, Canada

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11F: Signal Processing for Location

1. **FFT Sign Search with Secondary Code Constraints for GNSS Signal Acquisition**
   Daniele Borio, University of Calgary, Canada
2. **Motion Detection of a Real Beacon using Estimator Correlator**
   Saika Sharmeen, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Michel Fattouche, University of Calgary, Canada
3. **Performance Analysis of Bandlimited TOA Estimation Using Peak Tracking**
   Ian Sharp, CSIRO ICT Centre, Australia; Kegen Yu, CSIRO ICT Centre, Australia; and Y. Jay Guo, CSIRO ICT Centre, Australia
4. **State Observation Using the Phase and the Beat Frequency of a FMCW Radar for Precise Local Positioning and Line-of-Sight Detection**
   Stephan Max, Clausthal University of Technology, Germany; Christian Bohn, Clausthal University of Technology, Germany; and Martin Vossiek, Clausthal University of Technology, Germany
5. **Using WLAN Infrastructure for Angle-of-Arrival Indoor User Location**
   Carl Wong, University of British Columbia, Canada; Richard Klukas, University of British Columbia, Canada; and Geoffrey Messier, University of Calgary, Canada

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11G: UWB - II

1. **Differential Code-Shifted Reference Ultra-Wideband (UWB) Radio**
   Hong Nie, University of Northern Iowa, USA; and Zhizhang Chen, Dalhousie University, Canada
2. **A Stochastic Model for of UWB Telemetry Data Packets with Clock Offset**
   Saeed Khalesehosseini, University of Calgary, Canada; and John Nielsen, University of Calgary, Canada
3. **Normalised Least Mean-Square Aided Decision-Directed Adaptive Detection in Hybrid Direct-Sequence Time-Hopping UWB Systems**
   Qasim Zeeshan Ahmed, University of Southampton, United Kingdom; and Lie-Liang Yang, University of Southampton, United Kingdom
4. **Reduced-Rank Detection for Hybrid Direct-Sequence Time-Hopping UWB Systems in Nakagami-m Fading Channels**
   Qasim Zeeshan Ahmed, University of Southampton, United Kingdom; and Lie-Liang Yang, University of Southampton, United Kingdom
5. **Theoretical Capacity Analysis of TH-UWB Systems for Orthogonal Pulse Based Modulation Schemes**
   Sudhan Majhi, University of Michigan-Dearborn, USA; Weidong Xiang, University of Michigan-Dearborn, USA; A. S Madhukumar, Nanyang Technological University, Singapore; and A.B Premkumar, Nanyang Technological University, Singapore