



## MAC Track

Monday 6 April, 11:10 - 13:00, Corso A

### **MAC 1: 802.11**

MAC 1.1: A Selective Delayed Channel Access (SDCA) for the High-Throughput IEEE 802.11n  
Dionysios Skordoulis, Qiang Ni, Charilaos Zarakovitis, Brunel University, United Kingdom

MAC 1.2: Supporting MAC Layer Multicast in IEEE 802.11n: Issues and Solutions  
Xiaoli Wang, Lan Wang, Yingjie Wang, Yongsheng Zhang, DOCOMO Beijing Labs, China; Akira Yamada, DOCOMO, Japan

MAC 1.3: Performance Analysis of the TXOP Scheme in IEEE 802.11e WLANs with Bursty Error Channels  
Geyong Min, Jia Hu, University of Bradford, United Kingdom; Weijia Jia, City University of Hong Kong, Hong Kong; Mike E. Woodward, University of Bradford, United Kingdom

MAC 1.4: EDCA-TM: IEEE 802.11e MAC Enhancement for Wireless Multi-Hop Networks  
Min-Soo Kim, Deepesh Man Shrestha, Young-Bae Ko, Ajou University, South Korea

MAC 1.5: Improving the IEEE 802.11 MAC Layer Handoff Latency to Support Multimedia Traffic  
Yogesh Powar, Varsha Apte, IIT Bombay, India

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### **MAC 2: 802.11 and VANETs**

MAC 2.1: Design and Implementation of Audio Conferencing Testbed based on Wi-Fi MANET  
Wei Wang, Boon-Hee Soong, Yiu Wing Edwin Chan, Nanyang Technological University, Singapore

MAC 2.2: Improving the Channel Utilization of IEEE 802.11p/1609 Networks  
S.Y. Wang, C.L. Chou, K.C. Liu, T.W. Ho, W.J. Hung, C.F. Huang, M.S. Hsu, H.Y. Chen, C.C. Lin, National Chiao Tung University, Taiwan

MAC 2.3: Design and Analysis for an 802.11-based Cognitive Radio Network  
Anh Tuan Hoang, David Tung Chong Wong, Ying-Chang Liang, Institute for Infocomm Research, Singapore

MAC 2.4: Improvement of Multi-channel MAC Protocol for Dense VANET with Directional Antennas  
Xu Xie, Furong Wang, Kewei Li, Peng Zhang, Hao Wang, Huazhong University of Science and Technology, China

MAC 2.5: On the Use of Control Packets for Intelligent Flooding in VANETs  
Giovanni Ciccacese, Mario De Blasi, Pierluigi Marra, Cosimo Palazzo, Luigi Patrono, University of Salento, Italy

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**MAC 3: LTE**

MAC 3.1: A Game Theoretical Formulation for Proportional Fairness in LTE Uplink Scheduling  
Elias Yaacoub, Zaher Dawy, American University of Beirut, Lebanon

MAC 3.2: Interference Avoidance with Dynamic Inter-Cell Coordination for Downlink LTE System  
Mahmudur Rahman, Halim Yanikomeroglu, Carleton University, Canada; William Wong, Communications Research Centre of Canada, Canada

MAC 3.3: Lab Performance Analysis of a 4G LTE Prototype  
Shirish Nagaraj, Sanjeev Garg, Frank Liang, Weidong Yang, John Haug, K. V. Pradap, Nitin Mangalvedhe, Motorola, United States

MAC 3.4: Uplink Buffer Status Reporting for Delay Constrained Flows in 3GPP Long Term Evolution  
K. V. Pradap, Vinod Kumar Ramachandran, Suresh Kalyanasundaram, Motorola, India

MAC 3.5: Principle and Performance of TTI Bundling For VoIP in LTE FDD Mode  
Haiming Wang, Jing Han, Nokia Device R&D/Wireless System Research, China

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**MAC 4: Cellular Relay**

MAC 4.1: MAC v. PHY: How to Relay in Cellular Networks  
Zinan Lin, InterDigital, United States; Mohammed Sammour, InterDigital, Canada; Sana Sfar, Gregg Charlton, Prabhakar Chitrapu, Alex Reznik, InterDigital, United States

MAC 4.2: Opportunistic Power Scheduling for OFDMA Cellular Networks with Scheduling at Relay Stations  
Byung-Gook Kim, Jang-Won Lee, Yonsei University, Korea, Republic of

MAC 4.3: Downlink Performance and Optimization of Relay-Assisted Cellular Networks  
Shiang-Jiun Lin, Wern-Ho Sheen, Chia-Chi Huang, National Chiao Tung University, Taiwan

MAC 4.4: Load Based Relay Selection Algorithm for Fairness in Relay Based OFDMA Cellular Systems  
Lin Xiao, Laurie Cuthbert, Queen Mary University of London, United Kingdom

MAC 4.5: A Relay Assignment Algorithm With Interference Mitigation For Cooperative Communication  
Peng Zhang, Zhengguang Xu, Furong Wang, Xu Xie, Lai Tu, Huazhong University of Science and Technology, China

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**MAC 5: Cellular**

MAC 5.1: An Efficient Mechanism for Power Control Optimization in MBMS Enabled UTRAN  
Christos Bouras, Antonios Alexiou, Vasileios Kokkinos, Research Academic Computer Technology Institute and Univ. of Patras, Greece

MAC 5.2: Complementary Resource Allocation for Variable-Size VoIP Packet in E-UTRA  
Jianchi Zhu, Xiaoming She, Lan Chen, DOCOMO Beijing Communications Laboratories Co.,Ltd, China

MAC 5.3: Decentralized Intercell Interference Coordination in Uplink Cellular Networks using Adaptive Sub-band Exclusion  
Min Suk Kang, Bang Chul Jung, KAIST Institute, Korea, Republic of

MAC 5.4: On the Impact of Mobility on Outage Probability in Cellular Networks

Jean-Marc Kelif, Orange Labs, France; Marceau Coupechoux, TELECOM ParisTech-CNRS LTCl, France

MAC 5.5: Dynamic Topology Control for Multi-hop Relaying in a Cellular TDD-OFDMA System

Hey J. Kang, Hyun S. Ryu, Chung G. Kang, Korea University, Korea, Republic of

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### **MAC 6: Cognitive Radio Networks 1**

MAC 6.1: A Channel Selection Mechanism based on Incumbent Appearance Expectation for Cognitive Networks

Kaveh Ghaboosi, Centre for Wireless Communications, University of Oulu, Finland; Allen B. MacKenzie, Luiz A. DaSilva, Abdallah S. Abdallah, Virginia Tech, United States; Matti Latva-aho, Centre for Wireless Communications, University of Oulu, Finland

MAC 6.2: Distributed Spectrum Sensing in Cognitive Radio Networks

Zhiqiang Li, F. Richard Yu, Minyi Huang, Carleton University, Canada

MAC 6.3: A POMDP-based Spectrum Handoff Protocol for Partially Observable Cognitive Radio Networks

Rui-Ting Ma, Yu-Pin Hsu, Kai-Ten Feng, National Chiao Tung University, Taiwan

MAC 6.4: Adaptive Channel Searching Scheme for Cooperative Spectrum Sensing in Cognitive Radio Networks

Chen Guo, Tao Peng, Postbox 93, Beijing University of Posts and Communications, China; Yuan Qi, Beijing University of Posts and Communications, China; Wenbo Wang, Postbox 93, Beijing University of Posts and Communications, China

MAC 6.5: Dynamic Spectrum Access in Cognitive Radio based Tactical Networks

Shamik Sengupta, Stevens Institute of Technology, United States; Mainak Chatterjee, University of Central Florida, United States; Kevin Kwiat, Air Force Research Laboratory, United States

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### **MAC 7: Cognitive Radio Networks 2**

MAC 7.1: Joint Cross-Layer Scheduling and Spectrum Sensing for OFDMA Cognitive Radio Systems

Rui Wang, Dr., Hong Kong; and Vincent K. N. Lau, Associate Professor, Hong Kong

MAC 7.2: Joint Power and Rate Control Considering Fairness for Cognitive Radio Network

Yajun Zhu, Beijing University of Posts and Telecommunications, China; Zhenqiang Sun, China Telecom Beijing Research Institute, China; Wei Wang, Tao Peng, Wenbo Wang, Beijing University of Posts and Telecommunications, China

MAC 7.3: Joint Scheduling and Cooperative Sensing in Cognitive Radios: A Game Theoretic Approach

Chunhua Sun, ECE Department, HKUST, Clear Water Bay, Kowloon, HongKong, Hong Kong; Wei Chen, Department of Electronic Engineering, Tsinghua University, Beijing, China; Khaled Ben Letaief, ECE Department, HKUST, Clear Water Bay, Kowloon, HongKong, Hong Kong

MAC 7.4: Opportunistic Underlay Transmission in Multi-carrier Cognitive Radio Systems

Kyuhoo Son, KAIST, Korea, Republic of; Bang Chul Jung, KAIST Institute for Information Technology Convergence, Korea, Republic of; Song Chong, Dan Keun Sung, KAIST, Korea, Republic of

MAC 7.5: Cross-Layered Design of Spectrum Sensing and MAC for Opportunistic Spectrum Access  
Shoukang Zheng, Ying-Chang Liang, Institute for Infocomm Research, Singapore; Pooi Yuen Kam, National University of Singapore, Singapore; Anh Tuan Hoang, Institute for Infocomm Research, Singapore

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**MAC 8: Cognitive Radio Networks 3**

MAC 8.1: Solution of Information Exchange for Cooperative Sensing in Cognitive Radios  
Qun Pan, Yongyu Chang, Ruiming Zheng, Xin Zhang, Yafeng Wang, Dacheng Yang, Beijing University of Posts and Telecommunications, China

MAC 8.2: Power, Sensing Time, and Throughput Tradeoffs in Cognitive Radio Systems: A Cross-Layer Approach  
Karama Hamdi, Khaled Ben Letaief, HKUST, Hong Kong

MAC 8.3: Increase the End-to-End Throughput of a Cognitive Radio Chain by Considering the Primary Usage Pattern and Transmission Scheduling  
Guang Lei, Chunjing Hu, Wei Wang, Tao Peng, Wenbo Wang, Wireless Signal Processing and Network Lab, Beijing University of Posts and Telecommunications, China

MAC 8.4: Prioritized Spectrum Sensing in Cognitive Radio Based on Spatiotemporal Statistical Fusion  
Xiao Yu Wang, Alexander Wong, Pin-Han Ho, University of Waterloo, Canada

MAC 8.5: A Resource Allocation Algorithm for Real-Time Streaming in Cognitive Networks  
Diego Piazza, Politecnico di Milano, Italy; Pamela Cosman, Laurence B. Milstein, UCSD, United States; Guido Tartara, Politecnico di Milano, Italy

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**MAC 9: WLAN 1**

MAC 9.1: Study of Power Saving Scheme Suitable for Wireless LAN in Multimedia Communication  
Takefumi Hiraguri, Masakatsu Ogawa, Makoto Umeuchi, Tetsu Sakata, NTT, Japan

MAC 9.2: The Combined Effect of Signal Strength and Traffic Type on WLAN Performance  
Nurul Sarkar, Auckland University of Technology, New Zealand; Kevin Sowerby, The University of Auckland, New Zealand

MAC 9.3: CSMAC: A New Centralized Scheduling-based MAC Protocol for Wireless LAN  
Shunyuan Ye, Thanasis Korakis, Shivendra Panwar, Polytechnic Institute of NYU, United States

MAC 9.4: M/M/1 Queuing Model for Adaptive Cross-Layer Error Protection in WLANs  
Hossein Bobarshad, Mohammad Shikh-Bahaei, King's College London, United Kingdom

MAC 9.5: Adaptive Reservation-Assisted Collision Resolution Protocol for Wireless Local Area Networks  
Jia-Shi Lin, Chien-Hua Chen, Kai-Ten Feng, National Chiao Tung University, Taiwan

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**MAC 10: WLAN 2**

MAC 10.1: C-MAC: A MAC Protocol Supporting Cooperation in Wireless LANs  
Huan Jin, Xinbing Wang, China; Hui Yu, Youyun Xu, Yunfeng Guan, Shanghai Jiaotong University, China; Xinbo Gao, Xidian University, China

MAC 10.2: Distributed Interference-Aware Scheduling Schemes for High-Density WLAN  
Hongda Xiao, Yao Hua, Zhisheng Niu, Tsinghua University, China

MAC 10.3: Joint Distributed Transmit Power Control and Dynamic Channel Allocation for Scalable WLANs  
Jiayuan Chen, University College London, United Kingdom; Sverrir Olafsson, BT, United Kingdom; Yang Yang, University College London, United Kingdom; Xuanye Gu, BT, United Kingdom

MAC 10.4: Throughput Analysis of Cooperative Access Protocol for Multi-Rate WLANs  
Samir Sayed, Yang Yang, UCL, United Kingdom; Honglin Hu, Shanghai Research Center for Wireless Communications (WiCO), China

MAC 10.5: Queue and Channel State Awareness for Maximum Throughput Access Control in CSMA/CA-based Wireless LANs  
Rodolfo Oliveira, Univ. Nova de Lisboa, Portugal; Iordanis Koutsopoulos, University of Thessaly, Greece

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### **MAC 11: Sensor Networks**

MAC 11.1: CA-MAC: Context Adaptive MAC Protocol for Wireless Sensor Networks  
Kyung Tae Kim, Won Jun Choi, Hee Yong Youn, SungKyunKwan University, Korea, Republic of

MAC 11.2: Packet Size Optimization for Goodput and Energy Efficiency Enhancement in Slotted IEEE 802.15.4 Networks  
Yan Zhang, Feng Shu, IMEC-NL, Netherlands

MAC 11.3: Packet Transmission Scheduling Algorithm for Wireless Sensor Networks with Energy Limited Mobile Sink  
Ali Sharifkhani, Norman C. Beaulieu, University of Alberta, Canada

MAC 11.4: Novel Metric for Identifying Energy-Vulnerable Nodes and Corresponding Proactive Schemes in Wireless Sensor Network  
Joan Cortes, John Dunlop, Qi Wang, University of Strathclyde, United Kingdom

MAC 11.5: On Function Computation via Wireless Sensor Multiple-Access Channels  
Mario Goldenbaum, Slawomir Stanczak, Michal Kaliszan, Fraunhofer German-Sino Lab for Mobile Communications (MCI), Germany

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### **MAC 12: RFID and Sensor Networks**

MAC 12.1: Analysis of RFID Mutual Authentication Protocols  
Charng Rang Guo, Defence Science & Technology Agency, Singapore

MAC 12.2: DiSEL: A Distance Based Slot Selection Protocol for Framed Slotted ALOHA RFID Systems  
Ilker Onat, Ali Miri, University of Ottawa, Canada

MAC 12.3: Multichannel Slotted-Aloha Anticollision Protocol for Active RFID Systems  
Won-Ju Yoon, Sang-Hwa Chung, Shin-Jun Park, Su-Young Kang, Pusan National University, Korea, Republic of

MAC 12.4: Asynchronous Location Tracking Algorithms for Distributed Power-saving Wireless Sensor Networks

Chien-Hua Chen, Kai-Ten Feng, National Chiao Tung University, Taiwan

MAC 12.5: EEFF: A Cross-Layer Designed Energy Efficient Fast Forwarding Protocol for Wireless Sensor Networks

Tao Zhang, Lijun Chen, Daoxu Chen, Li Xie, Nanjing University, China

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**MAC 13: OFDMA 1**

MAC 13.1: A Novel Framework for Dynamic Spectrum Management in MultiCell OFDMA Networks Based on Reinforcement Learning

Francisco Bernardo, Ramón Agustí, Jordi Pérez-Romero, Oriol Sallent, Universitat Politècnica de Catalunya, Spain

MAC 13.2: An Efficient Subcarrier and Power Allocation Algorithm for Uplink OFDMA-based Cognitive Radio Systems

Zhihua Tang, Guo Wei, Wireless Information Network Lab, China

MAC 13.3: Centralized Proportional Fair (PF) Scheduling with Concurrent Transmission Enabled in Wireless Multi-hop OFDMA Networks

Wei Ni, Haifeng Wang, Zhenhong Li, Nokia, China

MAC 13.4: Cross-Layer Design for Single-Cell OFDMA Systems with Heterogeneous QoS and Partial CSIT

Charilaos Zarakovitis, Qiang Ni, Dionysios Skordoulis, Brunel University, United Kingdom

MAC 13.5: Distributed Probabilistic Scheduling in OFDMA Uplink using Subcarrier Sensing

Elias Yaacoub, Zaher Dawy, American University of Beirut, Lebanon

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**MAC 14: OFDMA 2**

MAC 14.1: Dynamic Subcarrier Controlled TDMA/OFDM Multi-hop Wireless Network for Improving End to End Throughput

Takeo Fujii, The University of Electro-Communications, Japan

MAC 14.2: Efficient Scheduling Algorithms for Multi-service Multi-slot OFDMA Networks

Ahmed N. Zaki, Abraham O. Fapojuwo, The University of Calgary, Canada

MAC 14.3: Improved Schemes for Subcarrier, Bit, and Power Allocation in Multiuser OFDM Systems

Wei-Cheng Pao, Yung-Fang Chen, Jia-Hong Lai, National Central University, Taiwan

MAC 14.4: Multi-User Dynamic (Re)transmission Scheduler for OFDMA Systems

Emilio Calvanese Strinati, Dimitri Ktenas, CEA-LETI, MINATEC, France

MAC 14.5: On QoS-Guaranteed Downlink Cooperative OFDMA Systems with Amplify-and-Forward Relays: Optimal Schedule and Resource Allocation

Danhua Zhang, Youzheng Wang, Jianhua Lu, Tsinghua University, China

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**MAC 15: OFDMA 3**

MAC 15.1: On the Impact of Uplink Scheduling on Intercell Interference Variation in MIMO OFDM Systems

Gabor Fodor, Per Skillermark, Anders Furuskär, Ericsson Research, Sweden; Jinghong Yang, Royal Institute of Technology (KTH), Sweden

MAC 15.2: Resource Allocation Optimization for OFDM-based Amplify-and-Forward Multi-relay System  
Yicheng Lin, Wenbo Wang, Bin Fan, Beijing University of Posts and Telecommunications, China; Lin Huang, Orange Labs, France Telecom R&D, Beijing, China; Kan Zheng, Beijing University of Posts and Telecommunications, China

MAC 15.3: User Resource Structure Design with Enhanced Diversity for OFDMA in Time-Varying Channels

Hlaing Minn, University of Texas at Dallas, United States; Chia-Chin Chong, DOCOMO USA Labs, United States

MAC 15.4: Reduced Feedback and Signaling Schemes for Sum-Rate Maximization in OFDMA systems  
Naveen Arulsevan, Suresh Kalyanasundaram, Motorola, India

MAC 15.5: Queue-Aware Subchannel and Power Allocation for Downlink OFDM-Based Cognitive Radio Networks

Long Bao Le, Massachusetts Institute of Technology, United States; Patrick Mitran, Catherine Rosenberg, University of Waterloo, Canada

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**MAC 16: Resource Allocation in OFDMA**

MAC 16.1: Resource Allocation for Guaranteed Service in OFDMA-based Systems

Nararat Ruangchaijatupon, The Graduate University for Advanced Studies, Japan; Yusheng Ji, National Institute of Informatics, Japan

MAC 16.2: Resource Allocation for OFDM-based Cognitive Radio Multicast Networks

Duy Ngo, Chintha Tellambura, University of Alberta, Canada; Ha Nguyen, University of Saskatchewan, Canada

MAC 16.3: Resource Allocation for OFDMA Relay-Enhanced System with Cooperative Selection Diversity  
Liping Wang, Yusheng Ji, National Institute of Informatics, Japan; Fuqiang Liu, Tongji University, China

MAC 16.4: Resource Allocation in Multiuser OFDMA System: Feasibility and Optimization Study  
Naveed UI Hassan, Mohamad Assaad, SUPELEC, France

MAC 16.5: Resource Allocation with Fairness Consideration in OFDMA-based Relay Networks  
Zhihua Tang, Guo Wei, Wireless Information Network Lab, China

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**MAC 17: Cooperative Networks**

MAC 17.1: Markov Decision Process Frameworks for Cooperative Retransmission in Wireless Networks  
Ghasem Naddafzadeh Shirazi, NUS, Singapore; Peng-Yong Kong, Chen-Khong Tham, I2R, Singapore

MAC 17.2: Multi-Service Transmission in Multiuser Cooperative Networks

Chao Yang, Wenbo Wang, Xing Zhang, Beijing University of Posts & Telecom, China

MAC 17.3: Randomized Spatial Multiplexing for Distributed Cooperative Communications  
Pei Liu, Shivendra Panwar, Polytechnic Institute of NYU, United States

MAC 17.4: A Cooperative Retransmission Scheme in Wireless Networks with Imperfect Channel State Information  
Ghasem Naddafzadeh Shirazi, NUS, Singapore; Peng-Yong Kong, Chen-Khong Tham, I2R, Singapore

MAC 17.5: Optimal Resource Allocation for Energy Efficient Transmissions with QoS Constrains in Coded Cooperative Networks  
Yan Zhang, Min Sheng, Jiandong Li, Ye Tian, Junliang Yao, Di Tang, Xidian University, China

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**MAC 18: 802.16e**

MAC 18.1: A Waiting-time Dependent Algorithm for Initial Ranging in IEEE 802.16e Networks  
Jing Chi, BUPT, China; Philippe Martins, Marceau Coupechoux, ENST, France

MAC 18.2: An Efficient QoS-based Uplink Scheduling Scheme for IEEE 802.16e Mobile Stations  
Mina Sokar, SysdSoft, Egypt; Khaled Elsayed, Cairo University, Egypt; Hossam Abdallah, SysdSoft, Egypt

MAC 18.3: Instant Weighted Probability Model to Guarantee QoS in IEEE 802.16e scenario  
Floriano De Rango, Andrea Malfitano, Salvatore Marano, University of Calabria, Italy

MAC 18.4: IEEE802.16e Cell Capacity including mobility management and QoS Differentiation  
Thierry Peyre, Rachid Elazouzi, LIA - UAPV, France

MAC 18.5: Inter-Cell Coordinated Resource Allocation for Mobile WiMAX System  
Li Chen, Wenwen Chen, Xin Zhang, Beijing University of Posts and Telecommunications, China; Yong Zhang, China Mobile Communications Corporation (CMCC), China; Cong Xiong, Dacheng Yang, Beijing University of Posts and Telecommunications, China

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**MAC 19: WIMAX 1**

MAC 19.1: Distributed Adaptive Time Slot Allocation for WiMAX Based Maritime Wireless Mesh Networks  
Peng-Yong Kong, Haiguang Wang, Yu Ge, Chee-Wei Ang, Jaya Shankar Pathmasuntharam, Wen Su, Institute for Infocomm Research, Singapore; Ming-Tuo Zhou, Hiroshi Harada, Wireless Comms Lab., NICT Singapore Office, Singapore

MAC 19.2: Resource Allocation in 802.16j Multi-hop Relay Systems with the User Resource Fairness Constraint  
Hui Zeng, Chenxi Zhu, Fujitsu Laboratories of America, United States

MAC 19.3: Impact of WiMAX Network Asymmetry on TCP  
Addisu Eshete, Norwegian University of Science Technology, Norway; Andrés Arcia, David Ros, TELECOM Bretagne, France; Jiang Yuming, Norwegian University of Science and Technology, Norway

MAC 19.4: Layered Video Resource Allocation in Mobile WiMAX Using Opportunistic Multicasting  
Chih-Wei Huang, Po-Han Wu, University of Washington, United States; Shiang-Jiun Lin, National Chiao Tung University, Taiwan; Jenq-Neng Hwang, University of Washington, United States



MAC 19.5: Network-Centric Joint Radio Resource Policy in heterogeneous WiMAX-UMTS Networks for Streaming and Elastic traffic  
Marc Ibrahim, Kinda Khawam, Samir Tohme, Universite de Versailles, France

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**MAC 20: WIMAX 2**

MAC 20.1: A Scalable Feedback Suppression Mechanism for Multicast Service in Wireless TDMA Network  
Jianfeng Chen, Ning Liao, Xiaojun Ma, Thomson, China

MAC 20.2: Receiving Power Level Prediction for WiMAX Systems on 3.5 GHz  
Snježana Rimac-Drlje, University of Osijek, Croatia; Josip Milanovic, Croatian Agency for Post and Electrical Communications, Croatia; Stanislav Strešnjak, Siemens d.d., Croatia

MAC 20.3: New Contention Resolution Schemes for WiMAX  
Jesús Delicado, University of Castilla-La Mancha, Spain; Qiang Ni, Brunel University, United Kingdom; Francisco M. Delicado, Luis Orozco-Barbosa, University of Castilla-La Mancha, Spain

MAC 20.4: Efficient Polling Mechanism in WiMAX Network  
Fei Yin, Guy Pujolle, LIP6 - Université Pierre et Marie Curie, France

MAC 20.5: Distributed Load-Balancing in a Multi-Carrier System  
Prashanth Hande, Shailesh Patil, Hyung Myung, Qualcomm Flarion Technologies, United States

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**MAC 21: AD-Hoc**

MAC 21.1: A Proposal for High Air-Traffic Oceanic Flight Routes Employing Ad-Hoc Networks  
Ho Dac Tu, Shigeru Shimamoto, Waseda University, Japan

MAC 21.2: An Improved Multicode CDMA Transmission Method for Ad-Hoc Networks  
Jihai Zhou, Mustafa Gurcan, Imperial College London, United Kingdom

MAC 21.3: MRPC: A Multi-Rate Supported Power Control MAC Protocol for Wireless Ad-Hoc Networks  
Kuei-Ping Shih, Chau-Chieh Chang, Tamkang University, Taiwan; Yen-Da Chen, Lunghwa Univ. of Science and Technology, Taiwan

MAC 21.4: Improved Delayed ACK for TCP over Multi-Hop Wireless Networks  
Beizhong Chen, Ivan Marsic, Rutgers University, United States; Huai-Rong Shao, Samsung R&D Center, United States; Ray Miller, Bell Labs, United States

MAC 21.5: A Proposal of Wide-Band Air-to-Ground Communication at Airports Employing 5-GHz Band  
Ho Dac Tu, Shigeru Shimamoto, Waseda University, Japan

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**MAC 22: Wireless Local Systems**

MAC 22.1: A Virtual Time-Slot Allocation Throughput Enhancement Scheme with Multiple Modulations for a Multi-Gbps Millimeter-wave WPAN System  
Chin-Sean Sum, Zhou Lan, Ryuhei Funada, Junyi Wang, Tuncer Baykas, Mohammad Azizur Rahman, Hiroshi Harada, Shuzo Kato, National Institute of Information and Communications Technology, Japan

MAC 22.2: Deflect Routing for Throughput Improvement in Multi-hop Millimeter-Wave WPAN System  
Zhou Lan, Chin-Sean Sum, Junyi Wang, Tuncer Baykas, Jing Gao, NICT, Japan; Hiroyuki Nakase, Tohoku University, Japan; Hiroshi Harada, Shuzo Kato, NICT, Japan

MAC 22.3: A Throughput Balancing Problem Between Uplink and Downlink in Multi-User MIMO-based WLAN Systems

Hu Jin, Bang Chul Jung, KAIST Korea, Republic of; Ho Young Hwang, University of Waterloo, Canada; Dan Keun Sung, KAIST, Korea, Republic of

MAC 22.4: A Region-Based Downlink Scheduling Algorithm in MIMO Precoding Systems

Di Pang, Jinlong Hu, Yubo Yang, Lin Tian, Institute of Computing Technology, Chinese Academy of Sciences, China; Jihua Zhou, Chongqing Jinmei Communication Co., Ltd., China; Jinglin Shi, Institute of Computing Technology, Chinese Academy of Sciences, China

MAC 22.5: Spatial Multi-user Pairing for Uplink Virtual-MIMO Systems with Linear Receiver

Bin Fan, Wenbo Wang, Yicheng Lin, Beijing University of Posts and Telecommunications, China; Lin Huang, Orange Labs, France Telecom R&D, China; Kan Zheng, Beijing University of Posts and Telecommunications, China

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### **MAC 23: Scheduling**

MAC 23.1: OLSR-Aware Distributed Channel Access Scheduling for Wireless Mesh Networks

Miray Kas, Ibrahim Korpeoglu, Ezhan Karasan, Bilkent University, Turkey

MAC 23.2: Scheduling Performance of Heavy-Tailed Data Traffic in Wireless High-Speed Shared Channels

Mikael Gidlund, Nera Networks, Norway; Nicolas Debernardi, France Telecom R&D, France

MAC 23.3: Joint Opportunistic Scheduling and Spectrum Sharing

Mehrdad Shariat, Atta Ul Quddus, Rahim Tafazolli, University of Surrey, United Kingdom

MAC 23.4: Adaptation of TDMA Parameters Based on Network Conditions

Bora Karaoglu, Tolga Numanoglu, Wendi Heinzelman, University of Rochester, United States

MAC 23.5: Dynamic Channel Allocation in Wireless Networks Using Adaptive Learning Automata

Behdis Eslamnour, Maciej Zawodniok, S. Jagannathan, Missouri University of Science and Technology, United States

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### **MAC 24: Relay**

MAC 24.1: Cooperative MAC Protocol with Distributed Relay Actuation

M. Sarper Gokturk, Ozgur Gurbuz, Sabanci University, Turkey

MAC 24.2: Fairness and QoS-Based Resource Allocation in Multihop Relay Networks

Tolga Girici, TOBB Economics and Technology University, Turkey

MAC 24.3: Novel Frame Structures to Improve System Capacity and Latency Performance of a Time-Division Duplex Multihop Relay Wireless Access System

Youhei Ohno, Tatsuya Shimizu, Takefumi Hiraguri, Masashi Nakatsugawa, NTT, Japan

MAC 24.4: Message-by-Message Route Modification in Wireless Multihop Transmission for Shorter Delay

Hiroaki Higaki, Tokyo Denki University, Japan

MAC 24.5: Network Coded ALOHA for Wireless Multihop Networks  
Hyun-kwan Lee, Seong-Lyun Kim, Yonsei University, Korea, Republic of

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**MAC 25: Interference**

MAC 25.1: A Novel Distributed Interference Mitigation Technique Using Power Planning  
Virginia Corvino, University of Bologna, Italy; David Gesbert, Institut Eurecom, France; Roberto Verdone, University of Bologna, Italy

MAC 25.2: Optimal Subcarrier and Power Allocation under Interference Temperature Constraints  
Qianxi Lu, China; Tao Peng, China; Wei Wang, China; Wenbo Wang, China

MAC 25.3: Adaptive Energy Saving Scheme for Downlink Elastic Traffic in Wireless Networks  
Jongwook Lee, Saewoong Bahk, Seoul National University, South Korea

MAC 25.4: Optimal Rate and Power Allocation in Uplink Packet CDMA Transmission  
Byoung-Hoon Kim, LG Institute of Technology, LG Electronics Inc., Korea, Republic of; Seong-Jun Oh, Korea University, Korea, Republic of

MAC 25.5: Extending the Percolation Threshold Using Power Control  
Georgios Paschos, CERTH - The Center for Research and Technology Hellas, Greece; Petteri Mannersalo, VTT - Technical Research Centre of Finland, Finland; Slawomir Stanczak, Heinrich-Hertz Group for Mobile Communications, EECS, Berlin University of Technology, Germany

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**MAC 26: QoS and Multimedia**

MAC 26.1: QoS-aware On-demand Channel Width Adaptation Protocols for Multi-Radio Ad-Hoc Networks  
Li Li, Chunyuan Zhang, National University of Defense Tech., China; Yanhua Li, Beijing Univ. of Posts & Telecommunications, China

MAC 26.2: Q-learning for Joint Access Decision in Heterogeneous Networks  
Louai Saker, Sana Ben Jemaa, Salah Eddine Elayoubi, Orange Labs, France

MAC 26.3: Scalable Video Streaming over Fading Wireless Channels  
Honghai Zhang, NEC Laboratories America, United States; Yanyan Zheng, Stanford University, United States; Mohammad Khojastepour, Sampath Rangarajan, NEC Laboratories America, United States

MAC 26.4: Utility-based Multi-Service Bandwidth Allocation in the 4G Heterogeneous Wireless Access Networks  
Changqing Luo, Hong Ji, Yi Li, Key Lab of Universal Wireless Communications, Ministry of Education, Beijing University of Posts and Telecommunications, China

MAC 26.5: Unequal Error Protection Low-Density Parity-Check Codes Design Based on Gaussian Approximation in Image Transmission  
Piming Ma, Kyung Sup Kwak, Inha University, Korea, Republic of

Wednesday 8 April, 14:30 - 16:20, Corso B

**MAC 27: Wireless Networks**

MAC 27.1: Traffic-Adaptive, Flow-Specific Medium Access Control for Wireless Networks  
Thaddeus Walker, Murali Tummala, John McEachen, Naval Postgraduate School, United States

MAC 27.2: Analysis of Carrier Sensing's Influence on the Performance of Routing Protocols in Multi-Hop, Multi-Rate Wireless Networks  
Shunyuan Ye, Shivendra Panwar, Polytechnic Institute of NYU, United States

MAC 27.3: Flow Starvation Mitigation for Wireless Mesh Networks  
Keivan Ronasi, Sathish Gopalakrishnan, Vincent W.S. Wong, The University of British Columbia, Canada

MAC 27.4: Design and Analysis of a Splitting Algorithm for a Multi-packet Reception ALOHA System  
Jun-Bae Seo, Victor Leung, University of British Columbia, Canada

MAC 27.5: Throughput Optimization in Wireless Networks with Multi-packet Reception and Directional Antennas  
Jorge Crichigno, University of New Mexico, United States; Min-You Wu, Shanghai Jiao Tong University, China; Wei Shu, University of New Mexico, United States