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IEEE WORKSHOP ON ENERGY HARVESTING WIRELESS COMMUNICATIONS

(/workshop/ieee-workshop-energy-harvesting-wireless-communications)

PROGRAM

SUNDAY, MAY 20	
8:30 am–10:15 am	W04–S1 EHWC: *Keynote #1 and Technical Paper Session*
11:00 am–12:30 pm	W04–S2 EHWC: *Keynote with Demo and Paper Session*
2:00 pm–3:45 pm	W04–S3 EHWC: *Keynote #2 and Technical Paper Session*
4:15 pm–6:00 pm	W04–S4 EHWC: *Technical Paper Session*

SUNDAY, MAY 20

SUNDAY, MAY 20, 08:30 - 10:15

W04-S1 EHWC: KEYNOTE #1 AND TECHNICAL PAPER SESSION

Joshua R. Smith (University of Washington, USA)
Room: Chouteau A

Session starts with a 45 min keynote by Prof. Joshua R. Smith (Department of Electrical Engineering, University of Washington, USA).
WakeDroid: a Remote Boot Trigger for Android Devices as IoT Nodes
Masaru Takagi (showPerson.php?p=1409377&c=24155), Takashi Ikeuchi (showPerson.php?p=1517638&c=24155) and Yoshihiro Kawahara (showPerson.php?p=8676&c=24155) (The University of Tokyo, Japan)
Energy Life-Time of Wireless Nodes with Network Attacks and Mitigation
Yasin M Kadioglu (showPerson.php?p=1206565&c=24155) and Erol Gelenbe (showPerson.php?p=131944&c=24155) (Imperial College London, United Kingdom (Great Britain))
Optimizing Wirelessly Powered Crowd Sensing: Trading Energy for Data
Xiaoyang Li (showPerson.php?p=1493165&c=24155) (The University of Hongkong & Southern University of Science and Technology, Hong Kong); Changsheng You (showPerson.php?p=1263435&c=24155) (The University of Hong Kong, Hong Kong); Sergey Andreev (showPerson.php?p=276885&c=24155) (Tampere University of Technology, Finland); Yi Gong (showPerson.php?p=1352339&c=24155) (South University of Science and Technology of China, Shenzhen, P.R. China); Kaibin Huang (showPerson.php?p=398943&c=24155) (The University of Hong Kong, Hong Kong)
Energy Efficient Transmission in Underlay Massive MIMO Systems with Probabilistic Guarantees
Nikolaos I. Miridakis (showPerson.php?p=358179&c=24155) (University of Piraeus, Greece); Theodoros Tsiftsis (showPerson.php?p=101551&c=24155) (Jinan University, P.R. China); George C. Alexandropoulos (showPerson.php?p=199497&c=24155) (Huawei Technologies France, France)

SUNDAY, MAY 20, 11:00 - 12:30

W04-S2 EHWC: KEYNOTE WITH DEMO AND PAPER SESSION

Short-range/Medium-range/Long-range WPT Efficiency Tests with Dual Mode SWIPT - Dong In Kim (Sungkyunkwan University (SKKU), South Korea)
Room: Chouteau A

Session starts with a 45 min keynote plus demonstration by Prof. Dong In Kim from Sungkyunkwan University (SKKU), South Korea. More details about this keynote address are given below:

Title: Short-range/Medium-range/Long-range WPT Efficiency Tests with Dual Mode SWIPT

Abstract: This keynote will present the current state-of-the-art about the real experiments of short-range (1-5m)/medium-range (5-10m)/long-range (10-25m) wireless power transfer (WPT) efficiency tests with the real-life multi-antenna wireless-powered sensor network (WPSN) testbed.The testbed implemented the received power-based channel estimation and multi-antenna energy beamforming algorithm for high WPT efficiency. In particular, a joint beam-splitting and energy neutral control algorithm has been implemented to distribute RF power to multiple sensor nodes and keep them alive for perpetual operation, which led to the real-life multi-node multi-antenna WPSN testbed. A new transceiver architecture for dual mode simultaneous wireless information and power transfer (SWIPT) alternating between single-tone and multi-tone transmissions is also presented with prototyping and experimentation, where the power management module monitors the harvested power and the power consumed by the information decoder with the aim of guaranteeing an energy neutral operation.

Bio: Dong In Kim received the Ph.D. degree in electrical engineering from the University of Southern California, Los Angeles, CA, USA, in 1990. He was a tenured Professor with the School of Engineering Science, Simon Fraser University, Burnaby, BC, Canada. Since 2007, he has been with Sungkyunkwan University (SKKU), Suwon, Korea, where he is currently a Professor with the College of Information and

Communication Engineering. Dr. Kim is a first recipient of the NRF of Korea Engineering Research Center (ERC) in Wireless Communications for RF Energy Harvesting (2014-2021). From 2002 to 2011, he served as an Editor and a Founding Area Editor of Cross-Layer Design and Optimization for the IEEE Transactions on Wireless Communications. From 2008 to 2011, he served as the Co-Editor-in-Chief of the IEEE/KICS Journal of Communications and Networks. He served as the Founding Editor-in-Chief of the IEEE Wireless Communications Letters from 2012 to 2015. From 2001 to 2014, he served as an Editor of Spread Spectrum Transmission and Access for the IEEE Transactions on Communications. He is currently serving as an Editor-at-Large of Wireless Communication I for the IEEE Transactions on Communications.

Optimal Resource Allocation for SWIPT with Full-Duplex Operation and Secrecy
Tewodros Zewde (showPerson.php?p=925977&c=24155) and Remi A Chou (showPerson.php?p=571067&c=24155) (Wichita State University, USA); M. Cenk Gursoy (showPerson.php?p=100569&c=24155) (Syracuse University, USA)

Enhancing PHY Security of MISO NOMA SWIPT Systems With a Practical Non-Linear EH Model
Fuhui Zhou (showPerson.php?p=1396018&c=24155) (Utah State University, USA); Zheng Chu (showPerson.php?p=897167&c=24155) (University of Surrey, United Kingdom (Great Britain)); Yongpeng Wu (showPerson.php?p=462474&c=24155) (Shanghai Jiao Tong University, P.R. China); Naofal Al-Dhahir (showPerson.php?p=97673&c=24155) (University of Texas at Dallas, USA); Pei Xiao (showPerson.php?p=413975&c=24155) (University of Surrey, United Kingdom (Great Britain))

A Comparison of Secrecy Enhancing Techniques for Secure SWIPT System
Mustafa A Kishk (showPerson.php?p=1056127&c=24155) and Harpreet S Dhillon (showPerson.php?p=245557&c=24155) (Virginia Tech, USA)

SUNDAY, MAY 20, 14:00 - 15:45

W04-S3 EHWC: KEYNOTE #2 AND TECHNICAL PAPER SESSION

Prof. Sennur Ulukus - Department of Electrical and Computer Engineering, University of Maryland, USA
Room: Chouteau A

Session starts with a 45 min keynote by Prof. Sennur Ulukus (University of Maryland, USA). The title of her keynote address is:

Age of Information in Energy Harvesting Systems

Robust Resource Allocation Based Energy Harvesting in Distributed Antenna System
Zheng-yu Zhu (showPerson.php?p=822895&c=24155) and Wanming Hao (showPerson.php?p=1549459&c=24155) (Zhengzhou University, P.R. China); Bin Li (showPerson.php?p=1439011&c=24155) (Beijing Institute of Technology, P.R. China); Yanqun Tang (showPerson.php?p=835489&c=24155) (Zhengzhou Institute of Information Science and Technology, P.R. China); Zheng Chu (showPerson.php?p=897167&c=24155) (University of Surrey, United Kingdom (Great Britain)); Inkyu Lee (showPerson.php?p=10687&c=24155) (Korea University, Korea)

Power Allocation for Channel Estimation and Energy Beamforming in Wirelessly Powered Sensor Networks
Rong Du (showPerson.php?p=806987&c=24155) (KTH Royal Institute of Technology, Sweden); Carlo Fischione (showPerson.php?p=657019&c=24155) (KTH, Sweden)

Relay-Assisted Multiuser Wireless Powered Communication with Processing Costs
Mengyu Liu (showPerson.php?p=1449667&c=24155) (South China University of Technology, P.R. China); Yuan Liu (showPerson.php?p=319381&c=24155) (South China University of Technology, P.R. China)

Wireless Powered Cooperative Non-Orthogonal Multiple Access Transmission
Lu Liu (showPerson.php?p=1542551&c=24155), Zhifei Zhang (showPerson.php?p=1542552&c=24155) and Chao Shen (showPerson.php?p=334381&c=24155) (Beijing Jiaotong University, P.R. China); Jie Gong (showPerson.php?p=374947&c=24155) (Sun Yat-sen University, P.R. China); Tsung-Hui Chang (showPerson.php?p=140462&c=24155) (The Chinese University of Hong Kong, Shenzhen, P.R. China)

SUNDAY, MAY 20, 16:15 - 18:00

W04-S4 EHWC: TECHNICAL PAPER SESSION

Room: Chouteau A

Flexible Functional Split in C-RAN with Renewable Energy Powered Remote Radio Units
Liumeng Wang (showPerson.php?p=1140851&c=24155) and Sheng Zhou (showPerson.php?p=533667&c=24155) (Tsinghua University, P.R. China)

Throughput Maximization for Laser-Powered UAV Wireless Communication Systems
Jie Ouyang (showPerson.php?p=1536849&c=24155) and Yueling Che (showPerson.php?p=283636&c=24155) (Shenzhen University, P.R. China); Jie Xu (showPerson.php?p=396248&c=24155) (Guangdong University of Technology, P.R. China); Kaishun Wu (showPerson.php?p=686761&c=24155) (Shenzhen University, P.R. China)

On the Energy Coverage of Low Power Wide Area Networks (LPWANs) Wireless Powered by Ultra-Dense MmWave Small Cells
Longzhuang He (showPerson.php?p=1015195&c=24155) and Jintao Wang (showPerson.php?p=266119&c=24155) (Tsinghua University, P.R. China); Yahong Rosa Zheng (showPerson.php?p=106859&c=24155) (Missouri University of Science and Technology, USA)

Modeling Recharge Time of Radio Frequency Energy Harvester in $\alpha-\eta-\mu$ and $\alpha-\kappa-\mu$ Fading Channels
Ehab Salahat (showPerson.php?p=873843&c=24155) (Australian National University, Australia); Nan Yang (showPerson.php?p=374009&c=24155) (The Australian National University, Australia)

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