



Call for Workshop Papers

PIMRC 2018 Workshop W13:

1st Workshop on Energy Harvesting Communication Networks

Date: Sunday, September 9. Time: 14:00 – 17:30

Workshop Organizers: Daniel Benevides da Costa, Federal University of Ceará, Brazil; Himal A. Suraweera, University of Peradeniya, Sri Lanka; Derrick Wing Kwan Ng, University of New South Wales, Australia; Minghua Xia, Sun Yat-sen University, China; Prabhat K. Upadhyay, Indian Institute of Technology Indore, India; Haiyang Ding, National University of Defense Technology (NUDT), China; Bruno Clerckx, Imperial College London, UK.

Motivation and Background

Energy-efficiency is one of the critical aspects for the successful design and deployment of the fifth generation (5G) and beyond wireless networks. The key idea is to support the efficient utilization of the available energy so as to significantly increase the network device lifetime (up to 10 years for low-power IoT devices) and drive down operational expenditure by several order of magnitude. Various types of wireless networks like wireless ad-hoc and sensor networks, device-to-device (D2D) communications, machine-type communications, and IoT, are energy-constrained since the network devices are powered by batteries. As such, to maintain network connectivity, the devices will need periodic replacement or recharging of batteries which would be expensive, inconvenient, and problematic in future ultra-dense networks. Furthermore, infrastructure-based wireless networks that are supplemented by a continuous power supply, e.g., cellular networks, require access to an electric power grid and thereby incurring high energy consumption that will further increase with growing requirements of devices and data traffic. Hence, there is a great need to develop energy efficient architectures and transmission techniques/protocols that extend the lifetime of networks and provide significant energy savings under the aegis of green radio communications. With this aim, energy harvesting technology has arisen as a promising technique for prolonging the lifetime of communication networks.

The objective of this workshop is to bring together practitioners and researchers from both academia and industry in order to have a forum for discussion and technical presentations on fundamental and practically relevant questions related to many challenges arising from energy harvesting communication networks.

Topics of interest include, but are not limited to:

- Simultaneous wireless information and power transfer
- Limits and fundamentals of energy harvesting communications
- Energy harvesting cognitive radio networks
- Security in energy harvesting communication networks (EHCNs)
- Cooperative and relay techniques in EHCNs
- Interference exploitation and management in EHCNs
- Waveform design and optimization in EHCNs
- Application of emerging technologies in EHCNs
- Energy harvesting IoT
- Backscatter communications for ultra-low-power networks
- Network economics of EHCNs
- Prototypes and testbeds of EHCNs

Submission Guidelines

Prospective authors are invited to submit technical papers of their previously unpublished work. Accepted workshop papers will be part of the Conference Proceedings and will be uploaded to IEEE Xplore. Papers should be submitted via EDAS; the links are

available at <http://pimrc2018.ieee-pimrc.org> under "Authors". Papers should follow the same Author guidelines of the general symposium, which are available at <http://pimrc2018.ieee-pimrc.org/authors/submission-guidelines/>.

Key Dates

Paper submission:	May 18, 2018
Acceptance notification:	June 15, 2018
Final paper due:	June 29, 2018

Technical Program Committee

- George K. Karagiannidis, Aristotle University of Thessaloniki, Greece
- Robert Schober, Friedrich Alexander Universität Erlangen-Nürnberg, Germany
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