

Call for Papers

Wireless Communications with Energy Harvesting and Wireless Power Transfer

The 23rd Asia-Pacific Conference on Communications
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<http://www.apcc2017perth.org/>

Workshop co-chairs

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Scope

Recently, energy harvesting (EH) from ambient sources (e.g., solar and wind) and dedicated wireless power transfer via radio frequency (RF) signals have emerged as appealing solutions to power base stations, access points, and low-power wireless devices to enable various emerging Internet-of-things (IoT) applications. These new energy techniques have several promising advantages over the traditional grid/battery-powered systems, such as improved energy efficiency, reduced energy and maintenance costs, prolonged lifetime, and even perpetual and uninterrupted operations. Hence, EH wireless communications and wireless powered communications have attracted significant interests recently from both academia and industry. However, EH from ambient sources is usually random and intermittent with time-varying energy arrival rates. On the other hand, the end-to-end power transfer efficiency of wireless power transfer is rather limited due to the severe path-loss and fading of wireless channels. Therefore, the integration of these new energy techniques in wireless communications networks brings new challenges and opportunities, and calls for a paradigm shift on joint energy and information management, by taking into account the unique characteristics of ambient energy sources and wireless power transfer. As a result, numerous new research problems should be addressed from multiple technique aspects across communication theory, information theory, circuit theory, signal processing, and optimization theory.

The objective of the Workshop on Wireless Communications with Energy Harvesting and Wireless Power Transfer is to present new research on energy harvesting based wireless communications and wireless powered communications.

Topics of interest (include, but are not limited to)

- Cognitive radio networks with EH and wireless power transfer
- Relay channels with EH and wireless power transfer
- Mobile edge networks with EH and wireless power transfer
- Multi-antenna EH wireless communications and wireless powered communications
- Full-duplex EH wireless communications and wireless powered communications
- Security issues in EH wireless communications and wireless powered communications
- Offline and online power allocation in EH wireless communications

- Joint energy and communication cooperation
- Communications and signals design for wireless power transfer
- Simultaneous wireless information and power transfer (SWIPT)
- Waveform design for wireless power transfer and SWIPT
- Wireless powered communication networks
- Non-orthogonal multiple access (NOMA) with SWIPT

Important dates

1. Deadline for workshop paper submission **2017-07-15**
2. Workshop paper acceptance/rejection announcement **2017-09-01**
3. Final workshop papers due **2017-09-30**