
IEEE ICC 2014 Workshop on Massive Uncoordinated Access Protocols (MASSAP) – 10 June 2014, Sydney (Australia)

Call for Papers

Uncoordinated Multiple-Access Protocols, with Random Access Protocols as the best-known class of such protocols, represent a key element of wired and wireless communications systems where a potentially large population of users needs to transmit over a shared communication medium. The role of access protocols is especially relevant for systems that feature sporadic and unpredictable access activity, and/or support delay-critical applications, such as interactive satellite communications, real-time machine-type communication, etc. While traditional random access protocols treat collisions as a waste and therefore are designed to avoid them, in recent years several innovative developments have been proposed, such as physical layer network coding and various techniques based on successive interference cancellation (SIC), where interference is instead embraced and creatively utilized. These developments have opened a completely new perspective in uncoordinated protocols, paving the way to dramatic performance improvements, and rendering the throughput of random access channels competitive with respect to that of typical coordinated protocols. Besides the performance improvement, these new approaches created a new conceptual relation with error control codes, thereby opening fundamentally new problems for two rather separated research communities. Finally, low-complexity spectral-efficient random access protocols may completely change the way scheduled and random access are supported in future standards. The goal of this workshop is to stimulate new contributions to the topic, with emphasis on cross-layer interactions between the MAC and PHY layers of the protocol stack, as well as on the connections to coding theory. Topics of interest include, but are not limited to:

- Fundamental limits on random access protocols with interference cancellation
- Network coding in multiple access schemes
- Joint multiuser detection
- Cooperative access protocols
- Signal processing for successive interference cancellation
- Random access with spatial diversity
- Random access in wireless sensor networks
- Random access protocols for real-time applications
- Channel estimation for massive access protocols
- Energy efficient MAC-PHY spatial processing
- Wireless access protocols for massive machine-to-machine communications
- Wireless access protocols for vehicular networks
- Algorithms and protocols for Cloud Radio Access Networks (C-RAN)

The IEEE ICC MASSAP 2014 will feature keynote speeches by IEEE Fellows Marco Chiani (University of Bologna) and Soung Chang Liew (The Chinese University of Hong Kong). The workshop accepts only novel, previously unpublished papers. All submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures.

Important dates: Full paper submissions: **Dec. 31, 2013**. Notification of acceptance: Jan. 30, 2014. Final manuscript: Mar. 15, 2014.

Additional information: www.massap.org – gianluigi.liva@dlr.de

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