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A SPECIAL ISSUE of Ad Hoc Networks journal on
"Recent advances in analysis and deployment of IEEE 802.11e and IEEE 802.11p protocol families"

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In the past several years, analysis of various aspects of IEEE 802.11e has resulted in large number of contributions. Researchers have addressed saturation and non-saturation conditions of Enhanced Distributed Channel Access (EDCA) function, internal vs. external contention, Hybrid Coordination Function (HCF), Transmission Opportunity (TXOP), Block Acknowledgement and Admission Control.

However, due to the complexity of the standard there are still uninvestigated areas of interaction among protocol functions,interaction with higher protocol layers, interaction caused by multihopping, and interaction with other wireless technologies such as personal area networks and wireless sensor networks.

A related protocol, IEEE 802.11p, is designed for wireless access in vehicular environments (WAVE), with higher layers supported by the recent IEEE standards 1609.1, 1609.2, 1609.3 and 1609.4. IEEE 802.11p differs from IEEE 802.11e in several important aspects, including lack of HCF and TXOP functionality. It is unique because it allows multi-channel operation and aggressive differentiation among traffic classes. Given the non-uniform node density in vehicular applications, it becomes crucial to avoid the saturation regime. Deployment of IEEE 802.11p in VANET will require one-hop broadcasting as well as unicasting and multi-hop communications; as this will definitely affect all higher layer protocols, their interaction has to be carefully investigated.

The main purpose of this Special Issue is to promote further research interests and activities on IEEE 802.11e and IEEE 802.11p protocols. We are interested in analytical, experimental, and systems-related papers in all currently not-investigated aspects of those protocols.

The topics of interest include (but are not limited to):

1) Multi-hopping with IEEE 802.11e or IEEE 802.11p;
2) Interconnection between personal area networks/ wireless sensor networks with IEEE 802.11e, and IEEE 802.11p;
3) Interaction between protocol functions e.g. HCF and EDCA;
4) Admission control in IEEE 802.11e or IEEE 802.11p with multiple protocol functions;
5) Interaction of higher protocol layers with IEEE 802.11e and IEEE 802.11p;

6) Multi-channel operation of IEEE 802.11p (WAVE);
7) Impact of IEEE 802.11p on infotainment applications in WAVE;
8) Modeling of Wireless Short Message Protocol over WAVE and interaction with TCP/UDP used for infotainment applications;
9) Impact of IEEE 802.11p on security functions in VANET.

Paper Submission

Submit full papers via automated paper submission system at http://ees.elsevier.com/adhoc/.
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For detailed formatting instructions, please refer to the guidelines available at the Ad Hoc Networks journal web site, http://www.elsevier.com/locate/adhoc/.

Key Dates

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