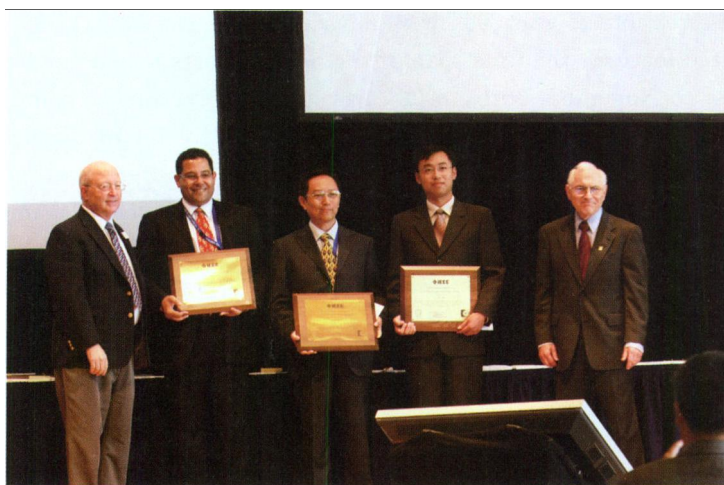


NSFC-RGC Funded Research Won IEEE Marconi Prize Paper Award



Supported by the National Natural Science Fund (NSFC) Project Theoretical Designing of Multi-Layer Cooperative Wireless Networks (Award No. : 60472027) and the NSFC-RGC (Research Grants Council of Hong Kong) joint research project Cooperation and Cross-layer Design in Cognitive Radio Systems (Award No. : 60731160013), the research findings obtained by Dr. Chen Wei and Prof. Cao Zhigang of Tsinghua University, Prof. Ben Letaief Khaled of Hong Kong University of Science and Technology, and Dr. Dai Lin of City University of Hong Kong secured the 2009 IEEE Marconi Prize Paper Award in Wireless Communications and the 2008 Best Paper Prize by the IEEE Transactions on

Wireless Communications. It is the first time that Chinese researchers have won the IEEE Marconi Prize Paper Award since its establishment in 2002. The 2007 and 2008 IEEE Marconi Prize Paper Awards were granted to scientists from Princeton University and Massachusetts Institute of Technology, respectively.

The IEEE Transactions on Wireless Communications, co-sponsored by the IEEE Communications Society and IEEE Signal Processing Society, is the only IEEE's academic journal that exclusively carries wireless communications research articles. Its average SCI Impact Factor value during the past 5 years scored 3.324, showing the fastest growth of SCI IF in the field of wireless communications. As one of the most prestigious academic awards in the field of wireless communications, the IEEE Marconi Prize Paper Award is granted on the basis of the multi-round evaluations jointly organized by the IEEE Communications Society and IEEE Signal Processing Society. One award is granted annually to an original paper in the field of Wireless Communications that features originality, utility and timeliness. Taking into account of the total number of articles published by the IEEE Transactions on Wireless Communications, the selection ratio of the IEEE Marconi Prize Paper Award is around 1/1000.

A research article entitled "A Unified Cross-Layer Framework for Resource Allocation in Cooperative Networks" by Dr. Chen Wei, Dr. Dai Lin, Prof. Ben Letaief Khaled and Prof. Cao Zhigang was published by the IEEE Transactions on Wireless Communications in August 2008 (2008, vol. 7, no. 8, pp. 3000—3012). The research team proposed in the article a unified theoretical framework that ensures the fairness and effectiveness of cooperative communications. Greatly enhancing the reliability of communications by adopting node cooperation in transmitting signals, cooperative communication is regarded as a key technique in the next generation of communications system. The proposed theoretical framework can be applied to various communication algorithms and protocols, bringing about simpler and more feasible cooperative transmission modes for future mobile communication. A protocol based on the philosophy of "More pay for more work" was proposed in the article, enabling independent coordination between all types of wireless equipment such as cell phones, PDA, laptops, wireless sensors and other self-organized-based devices. Accordingly, the communication interruption rate due to poor wireless signal will be decreased at least by a factor of 10. Wireless internet access and telephone communication will be guaranteed for people in regions with poor base station signal coverage. The research findings are also expected to lower power consumption so as to prolong the standby time of cell phones by 3 to 4 times.