TECHNOLOGIES FOR THE WIRELESS FUTURE

Wireless World Research Forum (WWRF)

Volume 2

Edited by

Rahim Tafazolli
The University of Surrey, UK

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Foreword by Nim Cheung

Nim CHEUNG
President, IEEE Communications Society

On behalf of the IEEE Communications Society (ComSoc), I would like to congratulate the Wireless World Research Forum (WWRF) for publishing its 3rd book titled 'Technologies for the Wireless Future – Volume 2'. This book contains the up-to-date collection of WWRF's white papers developed during the past 12 to 18 months. The materials cover contributions by hundreds of experts around the world from virtually every sector of the communications and information industry. The book includes an in-depth coverage of technology topics such as ultra wide band, air interfaces, advanced modulation and antenna systems, and multidimensional radio channel measurement and modeling. This is accompanied by an equally rich set of systems chapters on architecture, user interface, network and service management, and emerging areas such as self-organization, cognitive radio, and spectrum management. I am glad to see a chapter on security, trust, malicious code, and identity management. This chapter is particularly timely to address vulnerability issues for the open air interface. I also enjoyed reading the survey of international and regional initiatives in B3G and 4G activities, as well as the projected landscape of the wireless world circa 2005, 2010, and 2017. While it is almost impossible to predict what will happen 12 years from today, I am intrigued by the statement '7 trillion wireless devices serving 7 billion people by 2017' – the designated key technological vision of WWRF. Overall, I believe this book will serve as a useful reference for both experienced researchers and professionals new in the field.

The IEEE Communications Society has been partnering with WWRF in a wide range of publication and conference activities over the past several years. ComSoc's former president Roberto de Marca and WWRF's Rahim Tafazolli and Mikko Uusitalo coedited a special issue in the IEEE Communications Magazine entitled 'WWRF Visions and Research Challenges for Future Wireless World' in September 2004. WWRF was a technical cosponsor of ComSoc's highly successful Symposium on New Frontiers in Dynamic Spectrum Access Networks (IEEE DySPAN 2005) at Baltimore, Maryland in November 2005. I look forward to continuing the collaborations between our two organizations in the dissemination of research and development results in advanced wireless technology. Such collaborations will undoubtedly accelerate the realization of WWRF's goal that 'future systems should be developed mainly from the user perspective with respect to potential services and applications'.