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Special Issue on Quantum Communications

Although quantum computers are going to be the applications of the far future, there are already a few algorithms to solve problems which are very difficult to handle with traditional computers. Quantum computing is based on various quantum effects in physics and offers revolutionary solutions for different problems e.g., prime factorization, searching in unsorted database, key distribution and information coding. The power of quantum parallelism allows us to solve classically complex problems, and the quantum entanglement leads to quantum communication algorithms like teleportation and super dense coding. The quantum cryptography provides new ways to transmit information with unconditional security by using different quantum key distribution protocols. The special issue of Infocommunications Journal will focus on quantum communications with the following scope:

- Quantum Communications
- Quantum Interferometry and Quantum Sensors
- Entanglement as a Resource of Quantum Technology
- Quantum Cryptography
- Quantum Processors and Computers Design
- Quantum Programming Languages and Semantics

Authors are requested to send their manuscripts via electronic mail to László Bacsárdi at *bacsardi@hit.bme.hu* until 30 September, 2012. The manuscripts should follow the IEEE format with maximum length of 8 journal pages.

Guest Editors:

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SÁNDOR IMRE was born in Budapest in 1969. He received the M.Sc. degree in Electrical Engineering from the Budapest University of Technology (BME) in 1993. Next he started his Ph.D. studies at BME and obtained dr. univ. degree in 1996, Ph.D. degree in 1999 and DSc degree from the Hungarian Academy of Sciences in 2007. Currently he is carrying his activities as Professor and Head of Dept. of Telecommunications. He is chairman of Telecommunication Scientific Committee of the Hungarian Academy of Sciences. He participates the Editorial Board of two journals: Infocommunications Journal and Hungarian Telecommunications. He was invited to join the Mobile Innovation Centre as R&D director in 2005. His research interest includes mobile and wireless systems, quantum computing and communications. Especially he has contributions on different wireless access technologies, mobility protocols, security and privacy, reconfigurable systems, quantum computing based algorithms and protocols.