

Special Session on Quantum Communications

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Sándor Imre [M'93] professor and Head of Dept. of Networked Systems and Services at the Budapest University of Technology and Economics (BME). He obtained dr. univ. degree in probability theory and statistics 1996, Ph.D. degree in 1999 and DSc degree from the Hungarian Academy of Sciences in 2007. He is chairman of Telecommunication Scientific Committee of Hungarian Academy of Sciences.

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László Bacsárdi obtained M.Sc. degree in computer engineering at Budapest University of Technology and Economics (BME) in 2006. He wrote his PhD thesis on the possible connection between space communications and quantum communications in 2012. From 2009, he works at the University of Sopron, Hungary (formerly known as University of West Hungary). Currently, he is Associate Professor and the Head of the Institute of Informatics and Economics.

Scope of the session

The quantum mechanics based communications is a future and emergency technology which changes the current used information science to the 'classical' one. 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. It offers unlimited possibilities for the communications systems and networks.

Prospective authors are invited to submit original and unpublished work on the following research topics related to this Special Session:

- *Quantum random number generation*
- *Fiber based quantum key distribution: theory and implementation*
- *Free-space based quantum key distribution: theory and implementation*
- *Information theoretical aspects of quantum security*
- *Eavesdropping in QKD systems*
- *Quantum networking: repeaters and routers*