P39: Poznan University of Technology - PUT (Poland)

Description of expertise & activities

Poznan University of Technology (PUT), founded in 1919, is ranked as one of top Polish universities involved in research and educations in information and telecommunication technologies. The university consists of 9 faculties and employs about 2 000 faculty members serving nearly 16 000 students within undergraduate, postgraduate and continuing education programmes. The Faculty of Electronics and Telecommunications (till October 2006 known as Institute of Electronics and Telecommunications) is responsible for education of BSc, MSc and PhD students in Electronics and Telecommunications. 150 – 200 students of Electronics and Telecommunications are acquired each year. Chair of Communication and Computer Networks is one of four Chairs in the Faculty.

The research group lead by professor Kabacinski focuses on photonic switching networks: space-division, photonic switching networks, different architectures of expandable photonic switching networks and switching networks of mixed architectures composed of tree-structured elements made of directional couplers. The research group works also on switch fabric control and control algorithms for photonic unicast and multicast switching networks with and without crosstalk constrain. The group is currently involved in various European projects: COST (Actions 291, 293), e-Photon/ONe+ NoE (as Collaboration Institution), Leonardo da Vinci (InCert, Train2Cert), and Socrates Erasmus programmes, as well as the national founded grant on control algorithms of switching fabrics.

Tasks within BONE

WP01	PUT will contribute to dissemination of project results by paper presentation, taking part in workshop/conference organization, publication on journal papers, organization of training events, participate in promotional events on optical telecommunication to high-school pupils, taking part in preparation of promotional publications and materials.
WP02	PUT will participate in Master course preparation, concerning optical switching technologies, switching fabric architectures, control algorithms. PUT will also participate at summer/winter schools by preparing lecture courses, as well as presentation of students' work.
WP14	PUT will contribute by proposing and evaluate control algorithms for photonic switches, packet scheduling and buffering in photonic packet switches, studying reliability issues of optical switching networks.
WP15	PUT contribution will be on UDWDM, optical mitigation technologies and channel monitoring
WP25	PUT will take part in joint research on optical interconnect technologies and architectures with main contribution to photonic switching-systems and switching systems theory, routing and scheduling algorithms, and signalling techniques.

Key personnel

Wojciech Kabacinski graduated in Telecommunications in 1983 from PUT. In 1988 he received a PhD degree (his thesis was awarded by the Ministry of National Education), in 1999 he received the Ph.D.Hab. degree, both form PUT. He is employed at the Chair of Communication and Computer Networks PUT, where he currently is a full professor. He is an author of over 140 publications in journals and conference proceedings, mostly on switching systems, switching networks, and telecommunication networks. He also holds (as co-author) 10 patents (including 2 European patents and 1 USA patent) concerning expandable digital switching networks architectures. His main research interests include: digital switching systems, photonic switching networks and systems, switching network architectures. He acts as a reviewer for many high-ranked international journals, associate editor of, IEEE Communications Magazine, and the TPC member of many international conferences (IEEE International Conference on Communications, IEEE Globecom).

Grzegorz Danilewicz is an Assistant Professor at the Chair of Communication and Computer Networks, PUT. He received the MSc and PhD degrees in telecommunications from PUT, Poland, in 1993 and 2001, respectively. His scientific research covers photonic switching systems with special regard to the realization of multicast connections in such systems. He was or is a TPC member of HPSR 2006, IEEE Int. Conference on Communications 2007 and IEEE Globecom 2007. He serves as reviewer for IEEE International Conference on Communications, IEEE Globecom, HPSR, IEEE Transactions on Communications. He has published 2 books and 40 papers.

Mariusz Zal is an Assistant Professor at the Chair of Communication and Computer Networks, PUT. He received the MSc and PhD degrees in telecommunications from PUT, Poland, in 1996 and 2004, respectively. His research interests include electronic and photonics switching, network management and broadband networks. He has published over 20 papers.