

P02: Vienna University of Technology - TUW (Austria)

Description of expertise & activities

The Institute of Broadband Communications (IBK – www.ibk.tuwien.ac.at) is responsible for teaching and research in the area of communication networks at the Vienna University of Technology (TUW), with a strong emphasis on optical networks, next generation networks, and wireless networks. Some of the lectures offered for undergraduate and graduate studies are Photonic Networks, Technical Realisation of Communication Networks, Data Communications, Teletraffic Theory and Performance Evaluation. The research staff gained expertise in media access control (MAC) protocols and optical access architectures, and in performance evaluation of broadband networks. The research topics also include theoretical, simulative and experimental investigations in the optical layer, design and validation of new subsystems and techniques for optical signal transmission and processing. The research stuff publishes their work at the major conferences, in referred journals and in PhD theses that are being published as books. IBK participated to COST Actions 239 and 266 related to photonic networks and was also involved in numerous industrial co-operations and locally funded research projects, and organized several conferences in the field of optical networks (ONDM, NOC). Currently, the optical group of IBK is involved in the COST Action 291 and in the Network of Excellence "e-Photon/ONe+".

Tasks within BONE

WP01	Support in planning organization of public events and workshops
WP11	Architectures and protocols supporting end-to-end QoS
WP13	Comparison of different architectures and interface to metro networks
WP14	Design and performance of optical switching systems
WP21	New application oriented network, heterogeneous access, service oriented optical architectures
WP22	Routing and QoS enabling traffic engineering in label switched networks
WP24	OBS: TCP over OBS, edge node analysis. Polymorphic networks: comparison between OPS and OBS
WP25	Optical backplanes, high-performance optical switched interconnects

Key personnel

Harmen R. van As is professor at the Vienna University of Technology – IBK and Head of the Institute of Broadband Communications. He is the founding Editor-in-Chief of the journal Photonic Network Communications and he serves in technical and organising committees of numerous international conferences and editorial boards. Since 1996 he chairs the working group 6.10 on Photonic Networking within Technical Committee 6 of IFIP (International Federation for Information Processing). Prof. Harmen R. van As is the co-founder of the Vienna Telecommunication Research Centre (FTW).

Slavisa Aleksic is assistant professor at the Vienna University of Technology – IBK. He was involved in several projects on optical networks including two projects funded by the Austrian Science Fund (FWF). His current research interests include photonic networks, high-speed optical and electrical signal processing systems as well as high-speed MAC protocol design and implementation. He has been and still is involved in COST291 and NoE e-Photon/ONe+.

Gerald Franzl is researcher at the Vienna University of Technology – IBK. He is employed as research and development assistant at a small start up company in Vienna, and contributes to the Institute of Broadband Communications at the Vienna University of Technology, where he started his PhD program in 2003. His current research interests are in the area of optical networks and traffic engineering, focusing on QoS sensitive routing schemes and performance evaluation. He has been and still is involved in COST291 and NoE e-Photon/ONe+.

Khurram Aziz is PhD student at Vienna University of Technology – IBK. His main area of research is the simulation of large-scale hybrid networks, with main focus on Global Ethernet.

Shahzad Sarwar is PhD student at Vienna University of Technology – IBK. His main area of research is the optical burst switching.