P24: Budapest University of Technology and Economics - BME (Hungary)

Description of expertise & activities

The Budapest University of Technology and Economics (BME) has been founded in 1635 and it maintains its leading position in the training of engineers and in the country's technical development. BME currently has more than 23 000 students in 8 faculties, 109 university departments, 13 doctorate schools and offers further specialist training in more than 40 fields. Courses are offered in five languages, and the degrees awarded fulfil the basic accreditation criteria of the European engineering set by the FEANI association. Yearly more than 1560 students get the MSc and more than 110 students get the PhD degree. Nearly 40% of the PhD students are studying and working at the Faculty of Electrical Engineering and Informatics.

BME has actively and successfully participated in the 5th and 6th Framework Programs of the EU. The research teams of BME generally participate in the programs as consortium members, but there have been six projects in which the university is the coordinator. BME researchers participated in 66 FP5 projects of which 18 were from the IST field. In the 6th Framework Program the university has participated in 121 projects of which 60 are IST. 20% of the total R&D income comes from the industry, the other part from the national R&D and EU framework programs.

The Department of Telecommunications and Media Informatics (TMIT) takes part in teaching as well as in numerous national and EU R&D projects. In the sixth framework the TMIT has taken part in numerous projects tightly related to NoE BONE, e.g., NoE e-Photon/ONe, IP MUSE and IP NOBEL.

Main interests of the DTMI in NoE BONE are in general optimisation algorithms for Traffic Engineering, Resilience (Protection, Restoration) and Routing (static, dynamic) in Heterogeneous (MultiService/Multi-Layer/Multi-Domain/Multi-Provider) architectures as well as in novel networking and switching paradigms.

The High Speed Networks Laboratory (HSNLab) has been founded at the BME in the early 90s. It is hosted by the Department of Telecommunications and Media Informatics (TMIT) with research groups from 2 other communications departments, a mathematics and a computer science department. Today 11 research groups, involving 54 Ph.D. students and 150 undergraduate students, work within the Laboratory. Beyond its sound scientific results – over 100 journal and over 400 conference papers in last 10 years -- HSNLab plays an important role in the transfer of novel technologies and skilled people to the industry.

Tasks within BONE

See individual WP descriptions.

Key personnel

Tibor Cinkler (cinkler@tmit.bme.hu) has received M.Sc.('94) and Ph.D.('99) degrees from the Budapest University of Technology and Economics (BME), Hungary, where he is currently associate professor at the Department of Telecommunications and Media Informatics (TMIT). His research interests focus on optimisation of routing, traffic engineering, design, configuration, dimensioning and resilience of IP, Ethernet, MPLS, ngSDH, OTN and particularly of heterogeneous GMPLS-controlled WDM-based multilayer networks.

He has been involved in numerous related European and Hungarian projects including ACTS METON and DEMON; COST 266, 291, 293; IP NOBEL I and II and IP MUSE; NoE e-Photon/ONe and NoE e-Photon/ONe+; CELTIC PROMISE; NKFP, GVOP, ETIK; and he is a member of ONDM, DRCN, BroadNets, AccessNets, IEEE ICC and Globecom, EUNICE, CHINACOM, Networks, WynSys, ICTON, etc. Scientific and Program Committees. He has been guest editor of a Feature Topic of the IEEE ComMag and reviewer for many journals. He is author or co-author of over 120 refereed scientific publications, of a few invited papers and tutorials and of 3 patents.