

Chair for Communication Networks

Facts and Figures

Staff

- Prof. Dr.-Ing. T. Bauschert
- 1 PostDoc, 10 PhD Students

Equipment

- IP Networking Lab (Cisco, Juniper)
- Traffic Analysis and QoE Monitoring Testbed
- Software Defined Networking (SDN) Testbed

Research

- New Network Architectures and Concepts
- Network Planning and techno-economic Analysis
- Network Monitoring and Traffic Engineering
- Network Security
- Application Areas: Mobile Networks, IP/optical Networks, CloudNets

Teaching

- Fundamental and advanced Networking Concepts and Technologies
- Network Planning, Performance Analysis, Network Security



TECHNISCHE UNIVERSITÄT
CHEMNITZ

Faculty of Electrical Engineering
and Information Technology



Fakultät für
Elektrotechnik und
Informationstechnik

Chair for Communication Networks

Key Research Areas

New Network Architectures and Concepts

- Software defined networking
- Network (functions) virtualization
- Application areas: mobile networks, IP/optical networks, CloudNets

Network Planning and techno-economic Analysis

- Multi-layer network planning/optimiz.
- Robust network planning (wrt. traffic demand uncertainty and failures)
- CAPEX / OPEX modelling and analysis

Network Monitoring and Traffic Engineering

- QoS/QoE monitoring
- Traffic modeling and analysis
- Traffic engineering (load balancing)

Network Security

- Security concepts and mechanisms
- Risk analysis
- Security attack detection and mitigation



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Research Projects

ROBUKOM (BMBF)

- Robust planning of multi-layer networks under traffic demand uncertainty

VINO (BMBF)

- Online optimization and reconfiguration of virtual networks

MEVICO (EU Celtic-Plus)

- QoE monitoring and enforcement (for selected Internet services)
- EPC traffic engineering
- Cost modelling and techno-economic evaluation of mobile network architectures

SIGMONA (EU Celtic-Plus)

- Resource management in Cloud-based Software-defined mobile networks
- SDN-based (distributed) QoS and QoE monitoring
- Cost modeling and techno-economic analysis of Cloud-based Software-defined mobile networks

3rd party funded (industry) projects



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Professional Training

Cisco Certified Networking Academy

Juniper Networking Academic Alliance (JNAA)

Pearson VUE Test Center



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Lectures Overview

Master ICS	3. Sem.		Network Planning 2/2/0	CN Sem. 0/0/2
	2. Sem.		Simulation & Perf. Analysis 2/0/0	Sim. Lab 0/0/2
	1. Sem.	Next Generation Internet 2/1/0	Optical Comm. & Networks 2/0/0	IP Lab 0/0/2
Bachelor IKT	6. Sem.	Network Security 2/0/0	Self-organizing Networks 2/0/0	
	5. Sem.	Kommunikationsnetze 2 2/1/0	Mobile Networks 2/1/0	
	4. Sem.	Kommunikationsnetze 1 2/1/0		

