



Einladung

Es spricht: **Dr. Peter Winzer**
Bell Labs, Alcatel-Lucent, Holmdel, New Jersey, USA

Zeit: **Dienstag, 07. Juli 2015, 16:15 Uhr**

Ort: **Technische Universität Berlin
Institut für Hochfrequenz- und
Halbleiter-Systemtechnologien
Einsteinufer 25, 10587 Berlin
Raum HFT-TA 101**

Thema: **„Optical Core Networking for the Datacenter
Age“**

Abstract:

Massively growing multi-media services as well as machine-to-machine applications ranging from scientific and financial big data processing to distributed sensor and security systems instigate the need for flexible and robust ultra-high capacity optical networks. We will address some of the immense scalability problems that the underlying optical networking infrastructure is being faced with in terms of energy-efficient high-capacity transport and switching. We will show how wavelength-division multiplexing (WDM), the current workhorse of the Internet, despite its use of highly advanced modulation, coding, and coherent digital signal processing, will soon be reaching its fundamental Shannon capacity limits. Future networks will have to employ highly integrated space-division multiplexing (SDM) using multiple-input multiple-output (MIMO) digital signal processing. We will highlight some recent theoretical and experimental results related to MIMO-SDM transmission, signal processing, and its inherent information-theoretic security without the need for energy intensive encryption. From a network architecture perspective, we will address sub-channel add/drop functionalities in time, frequency, and space, and will discuss the role of packet processing and switching in networks designed for highly dynamic data traffic patterns.

Gäste sind herzlich willkommen!
Prof. Dr. K. Petermann