

FREIE UNIVERSITÄT BERLIN Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Freitag, 27. Juni 2014, 14.00 Uhr

Ort: Raum 0.55, Takustr. 9. 14195 Berlin

Disputation über die Doktorarbeit von

Herrn Bastian Lorimer Blywis

**Thema der Dissertation und Disputation:
Gossip Routing based Reliable Route Discovery
in Wireless Multi-Hop Networks**

Die Arbeit wurde unter der Betreuung von **Prof. Dr. M. Günes** durchgeführt.

Abstract: Wireless Multi-Hop Networks (WMHN) are characterized by high bit error rates and finite transmission ranges which necessitates multi-hop communication. Routing algorithms that enable end-to-end communication over multiple intermediate hops rely on the flooding of topology information or route requests/replies. Although algorithmically quite simple, flooding protocols, which are a core part of routing protocols, must be able to deliver information to all nodes in the network in an efficient, scalable, and reliable way.

The first part of the talk introduces routing and flooding in WMHNs and highlights problems in real-world networks applying common routing and flooding protocols. The approaches for the research of protocols and WMHNs are discussed as motivation of testbed based research.

The second part of the talk, discusses the properties of the DES-Testbed and presents a selected topic from the thesis. Based on simulations and testbed studies gossip routing, an improved flooding protocol, and percolation, which is referred as inspiration of gossip routing protocols, are compared and evaluated. Two specific gossip routing protocols are discussed in detail and applied in a routing protocol to highlight the optimization. The talk ends with an overview of the performance of all optimized flooding protocols that have been studied in the thesis.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. M. Günes