

## EINLADUNG

- Zeit: Montag, 6. Juli 2015, 16.00 Uhr
- Ort: Room 9222, Building E3, Ahornstr. 55
- Referent: Prof. Dr. Lenore Zuck  
University of Illinois at Chicago
- Thema: A Switch, In Time

Communication networks are quintessential concurrent and distributed systems, posing verification challenges concerning network protocols, reliability, resilience and fault-tolerance, and security. While techniques based on logic and process calculi have been employed in the verification of various protocols, there is a mismatch between the abstractions used in these approaches and the essential structure of networks. In particular, the formal models do not accurately capture the organization of networks in terms of (fast but dumb) table-based switches forwarding structured messages, with intelligence/control located only at the endpoints.

To bridge this gap, we propose an extension of the axiomatic basis of communication proposed by Karsten et al. In this paper, a simple model of abstract switches and table-based prefix rewriting is characterized axiomatically using temporal logic. This formulation is able to address reconfigurations over time of the network. We illustrate our framework with simple examples drawn from SDNs, IPv6 mobility and anonymous routing protocols.

(Joint work with Sanjiva Prasad.)

Es laden ein: Die Dozenten der Informatik