

FREIE UNIVERSITÄT BERLIN  
Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

## DISPUTATION

**Montag, 10. Juli 2017, 13.00 Uhr**

**Ort: Raum K40, Takustr. 9, 14195 Berlin**

**Disputation über die Doktorarbeit von**

**Herrn Tianhui Meng**

**Thema der Dissertation:**

**Security and Performance Tradeoff Analysis  
of Offloading Policies in Mobile Cloud Computing**

**Thema der Disputation:**

**Security and Performance Evaluation and Improvement  
in Mobile Offloading System**

Die Arbeit wurde unter der Betreuung von **Prof. Dr. K. Wolter** durchgeführt.

Abstract: In Mobile Cloud Computing (MCC), offloading is a popular technique proposed to augment the capabilities of mobile systems by mitigating complex computation to resourceful cloud servers. While offloading may be beneficial from the performance and energy perspective, it certainly exhibits new challenges in terms of security due to increased data transmission over networks with potentially unknown threats. Among possible security issues are timing attacks which are not prevented by traditional cryptographic security. Timing attacks belong to side-channel attacks in which the attacker attempts to compromise a system by analyzing the time it takes to respond to various queries. Offloading is particularly vulnerable to timing attacks because it often needs many times sending/receiving. So metrics on which offloading decisions are based must include security aspects in addition to performance and energy-efficiency.

In this talk we will discuss both the theoretical and practical aspects of offloading policies in MCC systems. Unlike previous work that only considers the performance and energy perspectives, we present and evaluate offloading policies based on tradeoff analysis to satisfy the security and performance requirements in offloading systems.

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

**Interessierte werden hiermit herzlich eingeladen**

Die Vorsitzende der Promotionskommission  
Prof. Dr. K. Wolter