

# A U S H A N G

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## FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

# D I S P U T A T I O N

**Dienstag, 19. Juli 2022, 16:00 Uhr**

[WebEx](#)

**Disputation über die Doktorarbeit von**

**Herrn Cenk Gündoğan**

Thema der Dissertation:

**Information-centric Networking for the Constrained Internet of Things**

Thema der Disputation:

**Inter-networking Resource-constrained Things**

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

Abstract: The emerging Internet of Things (IoT) enables new use cases and business directions by interconnecting sensors and actuators. General-purpose Internet technologies are considered infeasible for resource-constrained IoT systems due to several reasons. First, wireless interference and device mobility intermittently disrupt link connectivity. Second, techniques to manage battery life, e.g., duty-cycling lead to discontinuous device availability. Third, limited memory and computational resources demand a reduced protocol complexity. In the past, industrial vendors approached such challenges with highly optimized, proprietary solutions, but these are discouraged as they impede protocol flexibility and interoperability.

This presentation revisits the IoT protocol landscape designed by the Internet Engineering Task Force (IETF) and other Standards Development Organizations (SDOs) to be seamlessly compatible with established Internet technologies. Then, it introduces the Information-Centric Networking (ICN) paradigm and highlights its potentials for the low-power, resource-constrained IoT.

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. Wählisch