



KIK

Kasseler Informatik-Kolloquium

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V E R S I T Ä T

I n f o r m a t i k

Im Kasseler Informatik-Kolloquium (KIK) präsentieren Forscherinnen und Forscher aktuelle Ergebnisse zu Grundlagen und Anwendungen der Informatik bzw. verwandten Gebieten.

Montag, Juni 11, 11:00 – 12:00

Meetingraum ComTec

Data Management Challenges for Future IoT Applications

Prof. Dr. Daniela Nicklas

University of Bamberg, Germany

The vision of the so-called “Internet of Things” seems to be a reality today in quite different domains like industrial automation, smart homes, body-worn fitness applications, or urban sensing application. While a high number of IoT platforms exist, most IoT applications are still so-called verticals – one or more sensors are directly coupled with an application that pushes the data to the corresponding cloud backend which offers additional services. This keynote highlights data management challenges that need to be addressed for future IoT infrastructures, with a focus on sensor-based applications: The abstraction of data processing tasks (program code vs. operators,

query languages?), cross-application data analytics, data quality issues that depend on the context of the sensor installation, and an outlook on privacy and security issues. The keynote illustrates these challenges with applications and research topics from the upcoming joint research programme “FutureIoT”, funded by the Bavarian Research Foundation and introduces the “Living Lab Bamberg”, an open platform for sensor-based research and long-running experiments.

About the speaker:

Since 2014, Daniela Nicklas is full professor at the University of Bamberg, Germany, and holds the Chair of Systems. Before that, she was a junior professor for Database and Internet Technologies at the Universität Oldenburg and member of the Member of Executive Board in the Transportation division at the OFFIS institute for computer science. She came there from a PostDoc position at the Universität Stuttgart (2006-2008) where she also obtained her PhD in 2005, working on the integration of large-scale spatial context models for mobile applications. Her research interests are computer systems that bridge the gap between the physical world and the digital world. She focuses on the continuous management of data from sensors and other active data sources and their incorporation in so-called context-aware applications. Currently, she works on data stream management technologies. She applies these technologies to the domains of smart cities, smart factories, pervasive computing, intelligent transportation systems, and situational awareness in general. In 2009, she received the IBM Exploratory Stream Analytics Innovation Award for „Data Stream Technology for Future Energy Grid Control“. She is a member of many programme committees and organizing committees of pervasive computing and database conferences and workshops (e.g., IEEE PerCom, IEEE MDM, BTW, ...), and a member of the editorial board of the Datenbankspektrum (German Journal on Databases).

