

UNIVERSITY OF CHICAGO  
DEPARTMENT OF COMPUTER SCIENCE

**PRESENTS:**

**“Customizing the system stack for data processing on modern hardware”**



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**Abstract:**

Modern data analytics and data science are at the heart of enterprise computing and drive advances in many scientific disciplines. In addition to designing new models and techniques for analyzing the data deluge, we also need system support that makes the analysis more performant and efficient when executed on modern and future hardware.

Addressing such a challenge requires an effort that is beyond what can be typically done within a single layer of the system stack: applications are typically unaware of the run-time state of a machine and the OS does not know what are the goals of the applications. In my talk, I will give an overview of my ongoing research on "Database/Operating system Co-Design" and show the benefits of a holistic approach by opening the interfaces and customizing the system stack for modern data processing workloads.

**Bio:**

*Jana Giceva is a PhD student in the Systems Group at ETH Zurich, supervised by Gustavo Alonso and co-advised by Timothy Roscoe. Her research interests are in systems support for data science and Big Data to enable efficient use of modern and future hardware. The scope of her research spans multiple systems areas: from the data processing layer to operating systems, including hardware accelerators for data processing. She is a recipient of the Google European PhD Fellowship in operating systems in 2014.*

**Thursday, February 16, 2017**  
**3:00 pm**  
**Ryerson 251**  
**Host: Michael Franklin**