

# The University of Chicago Computer Science Department

## PRESENTS:

### “Cost-aware Parallel Scripting in the Cloud”



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#### **Abstract:**

Cloud computing platforms provide flexible and elastic computing infrastructure on which a broad range of science and engineering applications are now executed. While cloud proponents tout availability and cost-efficiency as reasons for widespread adoption, in practice cloud resources are often used inefficiently as users lack methods to easily and efficiently scale applications while taking into account the underlying economic models on which the cloud is built. In this talk, I will introduce two projects that aim to enable scalable and cost-efficient use of cloud platforms. First, I will describe Parsl---a parallel scripting library for Python that enables seamless and elastic execution of parallel workflows on clouds, clusters, and supercomputers. Second, I will describe methods for predicting cloud market dynamics and application performance on arbitrary cloud instances. Collectively, these approaches simplify access to on-demand computing infrastructure and improve the efficiency with which applications can be executed on the cloud.

#### **Bio:**

*Kyle Chard is a Senior Researcher at the University of Chicago and Argonne National Laboratory. He received his Ph.D. in Computer Science from Victoria University of Wellington in 2011. He co-leads the Globus Labs research group which focuses on a broad range of research problems related to data-intensive computing and research data management. He also contributes to projects related to data-intensive workflows, scientific reproducibility, elastic and cost-aware cloud computing, and research automation.*

**Thursday, January 24, 2019**

**2:00 pm**

**JCL 390**

**Host: Ian Foster**