Spring 2016 Distinguished Speaker Series

Celebrating 50 Years of Temple Computer and Information Sciences

The Power of Abstraction

Dr. Barbara Liskov
Massachusetts Institute of Technology

Wednesday, March 16, 11AM, Location: TECH Center 111

Abstract:
Abstraction is at the center of much work in Computer Science. It encompasses finding the right interface for a system as well as finding an effective design for a system implementation. Furthermore, abstraction is the basis for program construction, allowing programs to be built in a modular fashion. This talk will discuss how the abstraction mechanisms we use today came to be and how they are supported in programming languages.

Bio:
Dr. Liskov is a recipient of the prestigious ACM Turing Award in 2009. Dr. Liskov is a member of the National Academy of Engineering, and a fellow of the American Academy of Arts and Sciences, and the Association for Computer Machinery. She received The Society of Women Engineers’ Achievement Award in 1996 and the IEEE von Neumann medal in 2004. At the ACM SIGPLAN Programming Languages Design and Implementation Conference in 2008, she was awarded the Programming Languages Achievement Award.

Dr. Barbara Liskov is an Institute Professor and head of the Programming Methodology Group at MIT. Liskov’s research interests lie in programming methodology, programming languages and systems, and distributed computing. Major projects include: the design and implementation of CLU, the first language to support data abstraction; the design and implementation of Argus, the first high-level language to support implementation of distributed programs; and the Thor object-oriented database system, which provides transactional access to persistent, highly-available objects in wide-scale distributed environments. Her current research interests include Byzantine-fault-tolerant storage systems, peer-to-peer computing, and support for automatic deployment of software upgrades in large-scale distributed systems.