Challenging the Computational Metaphor

Most of the computers built since the 1940s are based on a simple model of computation – the Von Neumann serial computation model. This model has been our field's central metaphor. It has even influenced how we think brains work. But the sequentialist metaphor isn't right for brains. It isn't even right for what computers do. Instead, computation arises over a community of interacting entities.

Can we get some insights by considering other metaphors? When we shift our fundamental metaphor, it changes the way we think about computation. It changes what we teach our students. And it changes the ways in which we think about thinking itself.

Lynn Andrea Stein is Professor of Computer and Cognitive Science and the Director of the Computers and Cognition Laboratory at the newly established Franklin W. Olin College of Engineering in Needham, Massachusetts. Prior to becoming one of Olin's first faculty members, Stein spent a decade on the faculty of the Massachusetts Institute of Technology, where she was a member of the Artificial Intelligence Laboratory and the Laboratory for Computer Science.

Stein's research focuses on the role that interaction plays in both computational and cognitive processes. She is a recognized leader in computer science and engineering education, where her work includes the development of an innovative introductory CS curriculum (radically rethinking CS 101) and the founding of Olin College.

Date: Thursday, February 16, 2012, 8:00 pm.
           (Refreshments and networking at 7:30 pm.)
Place: Small Auditorium, Room CS 105
           Computer Science Building, Princeton University
Information: Dennis Mancl (908) 582-7086, Jan Buzydlowski (610) 902-8343
On-line info: **www.acm.org/chapters/princetonacm**

All Princeton ACM / IEEE-CS meetings are open to the public. Students and their parents are welcome. There is no admission charge, and refreshments are served.

A pre-meeting dinner is held at 6:00 p.m. at Ruby Tuesday's Restaurant on Route 1. Please send email to **princetonacm@acm.org** in advance if you plan to attend the dinner.