Distinguished Lecture Series
Technical Computing: Past, Present, Future

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Auditorium 106 at New IIS Building

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Abstract

Computational science and engineering are moving rapidly from a world of purely homogeneous and local resources to a much more complex world of distributed software and systems, virtual organizations and cloud services. In science, a tsunami of new experimental and computational data and a suite of increasingly ubiquitous sensors pose vexing problems in data analysis, transport, visualization and collaboration. In engineering, modeling tools and multidisciplinary manufacturing pose new challenges. In both cases, many of the most interesting problems increasingly lie at the intersection of individual disciplines, requiring teams from diverse backgrounds to work together across intellectual and cultural barriers.

Let's step back and think about the longer term future. Where is the technology going and what are the implications? What are the lessons that can be gleaned from the history of high-performance computing, technically, organizationally and politically? What are the educational and workforce implications? This talk will examine the scientific, technical and social issues around high-performance computing, computational science, research empowerment and new scientific domains.

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