Numerical Analysis and Scientific Computing Seminar

Past, Present, and Future Parallel Programming Paradigms and Numerical Algorithms

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Abstract: As computing resources, needs, and goals have evolved, parallel programming paradigms have changed. The evolution of high-end computer architecture (from organic to mechanical to digital and from single-core computers to vector-based, multicore-based, and hybrid CPU/GPGPU-based machines) has necessitated the continuing development of new parallel programming paradigms and numerical algorithms. In this talk, I discuss the development of numerical algorithms throughout the history of numerical computing placed within their historical and architectural contexts, and the implications of future architectures on numerical methods.

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