COMPUTATIONAL RESEARCH in BOSTON and BEYOND SEMINAR

Challenges Optimizing HPC Applications within New Computer Architecture Environments

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ABSTRACT:

The evolution of computer hardware architectures has provided ever more powerful computational platforms that have been applied to a spectrum of research topics and unsolved problems in many disciplines. However, over the past decade, the physics and engineering constraints on these processors have forced designers to construct more complex platforms to circumvent these limitations. In turn, more complex designs are now presenting ever more challenging problems for users to modify their algorithms so that these HPC codes can run effectively on the new systems. This talk will give an overview of some of these challenges and use lattice quantum chromodynamics as one of the classic HPC grand challenge problems to illustrate where some of these difficulties are experienced today. It will also speculate as to how these designs may impact HPC applications as the field moves toward the exascale era.

FRIDAY, NOVEMBER 3, 2017
11:00 AM – 12:00 PM
Building 32, Room 144
(STATA)

Pizza and beverages will be provided.

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