First book on petascale computing launched at SC07

College of Computing at Georgia Tech’s David A. Bader delivers milestone work for high-performance computing

The College of Computing at Georgia Tech and Chapman & Hall/CRC Press today announced the launch of "Petascale Computing: Algorithms and Applications", the first published collection on petascale techniques for computational science and engineering, at the SC07 conference. Edited by David A. Bader, associate professor of computing and executive director of high-performance computing at Georgia Tech, this collection represents an academic milestone in the high-performance computing industry and is the first work to be released through Chapman & Hall/CRC Press’ new Computational Science series.

"High-performance computing will enable breakthrough science and engineering in the 21st century," said Bader. "My goal in developing this book was to inspire members of the high-performance computing community to solve computational grand challenges that will help our society, protect our environment, and improve our understanding in fundamental ways, all through the efficient use of petascale computing."

Featuring contributions from the world’s leading experts in computational science, "Petascale Computing: Algorithms and Applications" discusses expected breakthroughs in the computational science and engineering field and covers a breadth of topics in petascale computing, including architectures, software, programming methodologies, tools, scalable algorithms, performance evaluation and application development. Covering a wide range of issues critical to the advancement of the high-performance computing/supercomputing industry, this edited collection illustrates the application of petascale computing to space and Earth science missions, biological systems and climate science, among others, and details the simulation of multiphysics, cosmological evolution, molecular dynamics and biomolecules.

"In the same way as petascale computing will open up new and unprecedented opportunities for research in computational science, I expect this current book to lead to a deeper understanding and appreciation of research in computational science and engineering," said Horst Simon, associate laboratory director for computing sciences, Lawrence Berkeley National Laboratory and editor of Chapman & Hall/CRC Press’ new Computational Science book series.

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The College of Computing at Georgia Tech is a young and rising leader in high-performance computing, computational science and engineering (CSE), and real-world computing. Focusing
on research and education that impacts and influence social and scientific progress, the College of Computing Georgia Tech is unlocking 21st century grand challenges through fundamental and real world research, and educating tomorrow’s computational science innovators with advanced degrees in CSE. In November 2006, the College of Computing was recognized for its innovation and leadership role in this industry through its selection as the first Sony-Toshiba-IBM Center of Competence focused on the Cell Broadband Engine™ (Cell BE) microprocessor.