Computational Mathematics Seminar Series

Automated Empirical Computational Optimization in ATLAS and iFKO

R. Clint Whaley, Louisiana State University

Digital Media Center 1034
March 24, 2015 - 03:30 pm

Abstract:
This talk will overview empirical tuning, and highlight its importance for computational scientists / applied mathematicians of all types. Clint Whaley will present the two main empirical tuning projects that he maintains as part of his empirical tuning research, ATLAS and iFKO. Both of these research projects involve large software frameworks designed to be used by computational scientists. ATLAS provides dense linear algebra routines designed for direct for use by mathematicians, engineers, and industry, and is already used by hundreds-of-thousands worldwide. iFKO is a computational-oriented compiler framework, which is currently targeted for computational groups with significant tuning expertise.

Speaker's Bio:
R. Clint Whaley completed his BS in Mathematics at Oklahoma Panhandle State University in 1991.

He completed his MS degree in Computer Science at the University of Tennessee-Knoxville in 1994. His MS work primarily involved research on supporting efficient dense linear algebra on distributed memory parallel machines. He worked for several years post-MS as a researcher at
Jack Dongarra's Innovative Computing Laboratory, where he founded the ATLAS (Automatically Tuned Linear Algebra Software) research project.

He returned to school in 2001, and completed his PhD in Computer Science at the Florida State University in 2004. His PhD research was on
empirical tuning in general, and specifically on empirical and iterative compilation. His PhD research resulted in the development of a compilation framework, called iFKO.

This lecture has a reception @ 03:00 pm

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