Data Science Institute

High Performance Computing and Big Data:
Challenges for the Future

Featuring Jack Dongarra, Ph.D.

Distinguished Professor of Computer Science, University of Tennessee
Distinguished Research Staff, Oak Ridge National Laboratory

Historically, high-performance computing advances have been largely dependent on concurrent advances in algorithms, software, architecture, and hardware that enable higher levels of floating-point performance for computational models. Advances today are also shaped by data-analysis pipelines, data architectures, and machine learning tools that manage large volumes of scientific and engineering data. We will examine some of the challenges involved with high performance computing and big data for scientific computing.

About Jack Dongarra

Jack Dongarra holds an appointment at the University of Tennessee, Oak Ridge National Laboratory, and the University of Manchester. He specializes in numerical algorithms in linear algebra, parallel computing, use of advanced-computer architectures, programming methodology, and tools for parallel computers. He was awarded the IEEE Sid Fernbach Award in 2004; in 2008 he was the recipient of the first IEEE Medal of Excellence in Scalable Computing; in 2010 he was the first recipient of the SIAM Special Interest Group on Supercomputing's award for Career Achievement; in 2011 he was the recipient of the IEEE Charles Babbage Award; and in 2013 he received the ACM/IEEE Ken Kennedy Award. He is a Fellow of the AAAS, ACM, IEEE, and SIAM and a foreign member of the Russian Academy of Science and a member of the US National Academy of Engineering.

Tuesday, September 18

5 p.m. Reception
6 p.m. Talk
Engineering Lecture Hall L2D2

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