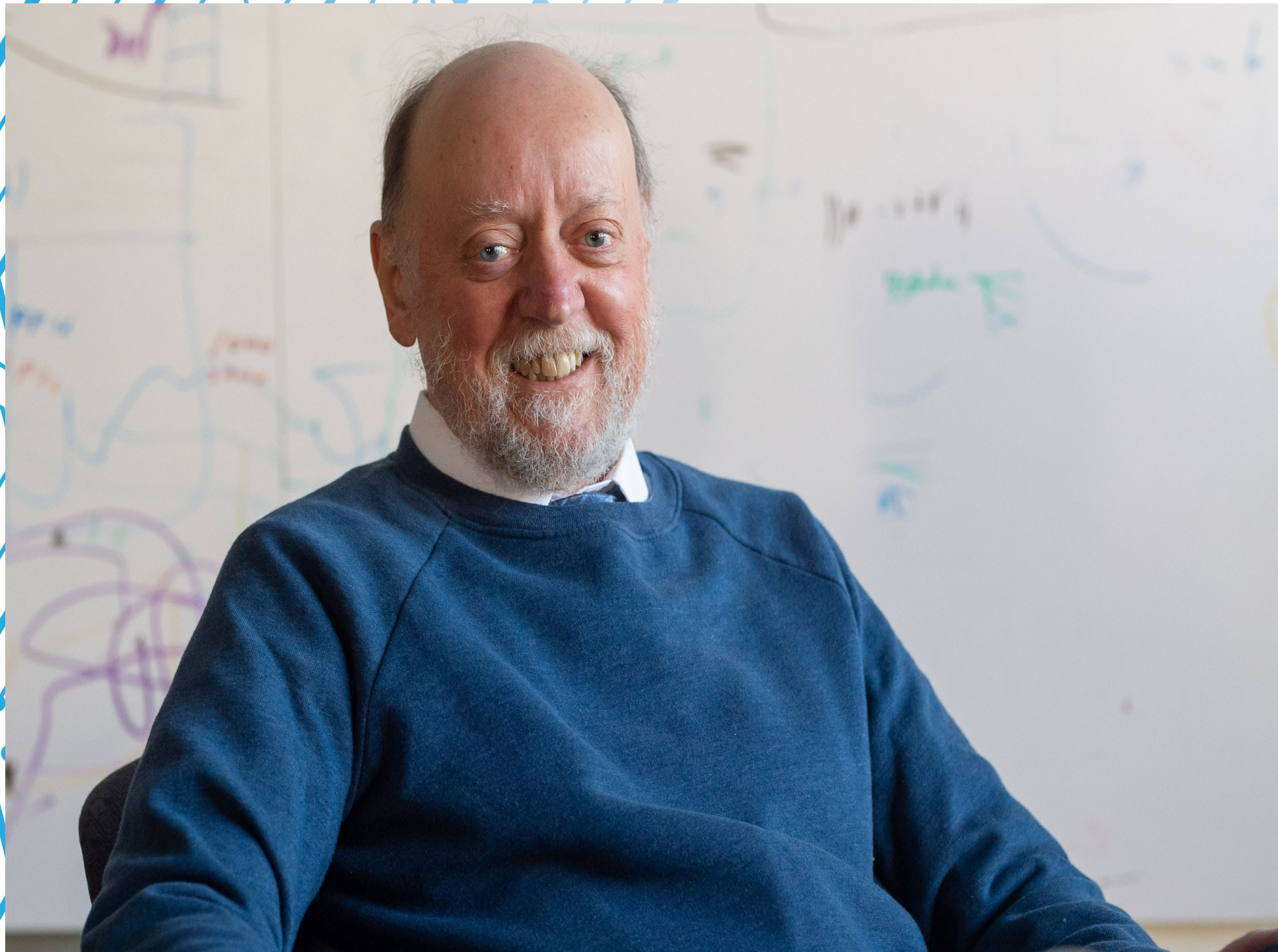


MASTER WORKS

Lecture Series



Monday, May 16, 2022

2:00 PM

B453 Armadillo Auditorium

Dr. Jack Dongarra

University of Tennessee

A Not So Simple Matter of Software

Abstract:

In this talk, we will look at some of the changes that have occurred in high performance computing and the impact that is having on how our algorithms and software libraries are designed for our high-end computers. For nearly forty years, Moore's Law produced exponential growth in hardware performance, and during that same time, most software failed to keep pace with these hardware advances. We will look at some of the algorithmic and software changes that have tried to keep up with the advances in the hardware.

Bio:

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, the use of advanced computer architectures, programming methodology, and tools for parallel computers. He was chosen for 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; in 2013 he received the ACM/IEEE Ken Kennedy Award; in 2019 he received the ACM/SIAM Computational Science and Engineering Prize, in 2020 he received the IEEE-CS Computer Pioneer Award, and in 2022 he received the ACM A.M. Turing Award for pioneering contributions to numerical algorithms and software that have driven decades of extraordinary progress in computing performance and applications. He is a Fellow of the AAAS, ACM, IEEE, and SIAM and a foreign member of the British Royal Society, and a US National Academy of Engineering member.