This mini-course introduces concepts of parallel computing using MPI for scientific applications. Lecture materials include MPI function calls, numerical linear algebra, domain decomposition, some basic techniques of OpenMP programming, some hands-on examples, as well as Artificial Intelligence (AI) Markup Language (ML).

Bring your laptop and join us. We look forward to seeing you.

About our speaker

Dr. Kwai Wong is a computational scientist at the Joint Institute for Computational Sciences (JICS) and a research faculty in the department of Mechanical, Aerospace, and Biomedical Engineering (MABE) at the University of Tennessee/Oak Ridge National Laboratory. He has over 20 years of experience working on large-scale parallel supercomputers, starting on the Thinking Machine CM5 in 1994. Dr. Wong holds a M.S. degree in Mathematics and a Ph.D. degree in Engineering Science. He served as the science lead for the first academic petascale supercomputer in the US, Kraken, at the National Institute of Computational Sciences (NICS). His expertise falls in the cross cutting area of computational sciences including numerical linear algebra, parallel schemes of solving PDEs, weak form finite element methodologies, fluid-thermal simulations, and integrated tools for multi-physics applications. In JICS, he supports computational sciences development of a number of large-scale collaborative projects in climate modeling, weather and storm forecasting, earthquake predictions, linear algebra computation on GPU, materials sciences research, and biomedical simulations. Dr. Wong is the director of CFD Laboratory in MABE, the deputy director of the Campus and Research program and the program director of the CSURE Research Experiences for Undergraduates (REU) program in JICS.

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