

# Joint CQSE-NCTS-CASTS-CTP Seminar

2021  
April 9, Friday

TIME Apr. 9, 2021, 2:30~3:30pm  
TITLE Trends in High-Performance Computing  
高能效計算技術的未來展望  
SPEAKER Prof. Shih-Hao Hung  
Dept. of Computer Science and Information Engineering, NTU  
PLACE Rm104, Chin-Pao Yang Lecture Hall,  
CCMS & New Physics Building, NTU

## Abstract:

Recently, high-performance computing (HPC) has been widely used to attack more and more important problems which cannot be solved otherwise. In addition to scientific and engineering problems from the old days, such as simulation of weather and nuclear fusion, many HPC technologies derived from supercomputers are already in modern servers and personal computers, even in the latest smartphones, to enable big data analysis and artificial intelligence. While some of these HPC technologies automatically benefit the users, many of them require significant efforts from the users to harvest the full potential of today's HPC technologies. For example, general-purpose GPU's are affordable for the general public, but very few programmers know how to write GPGPU codes and optimize the codes. While quantum computing has the potential to deliver so called quantum supremacy, it relies on completely different paradigms to build the machines and develop the applications. For the foreseeable future, knowledgeable HPC users have significant advantages to advance the field with state-of-the-art computing technologies. This talk highlights some of the trends for those who are interested in harvesting HPC technologies.

## Biography Brief:



Shih-Hao Hung joined the Department of Computer Science and Information Engineering in National Taiwan University in 2005 and currently serves as professor and department chair. He also serves as a deputy director general at the National Center for High-Performance Computing. His research interests include high-performance computing, parallel processing, embedded systems, and performance optimization. He worked for the Performance and Availability Engineering group at Sun Microsystem Inc. in Menlo Park, California (2000–2005) after he completed PostDoc (1998–2000), Ph.D. (1994–1998) and M.S. (1992–1994) training in University of Michigan, Ann Arbor. He graduated from National Taiwan University with a B.S. degree in Electrical Engineering in 1989.

## - N O T I C E -

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