# 22<sup>nd</sup> RAP Seminar

The 22nd Seminar on RIKEN Center for Advanced Photonics

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(理研和光キャンパス研究交流棟3階会議室W319)

Title:

## New Frontiers Opened up by the K Computer

「京」コンピュータが拓く新しいフロンティア

Speaker:

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The "K" computer is one of the most powerful supercomputers in the world. The architecture of the K computer balances processing speed with data storage, memory, and communication. The K computer has provided exceptional service to the science, engineering, and research communities. The unique resources of the K computer are used to address an important unresolved problem in science and engineering. In many areas we see many great results. Many projects that use the K computer would be difficult or impossible to do elsewhere. The K is used in many different fronts and extending the boundaries of computational science.

Computer simulation is becoming more and more important for contemporary science. Simulations performed on the supercomputer will drive progress in science and technology and play an important role in solving difficult problems that we face as a society. The Japanese Government decided to develop the post-K supercomputer. AICS has a mandate from MEXT to develop the post-K supercomputer. We will construct a post-K computer by 2020 that is capable of achieving speeds up to hundred times faster in real applications than the current one.

Big Computing and Big Data will revolutionize science, whether physical or social, by making possible the formerly impossible. The new supercomputer will dramatically increase our ability to understand the world around us through simulation. With exascale computing, we are reaching a tipping point in "Predictive Science". Its success will have lasting impact on the planet and people all around the world and for generations into the future. The overview of the K and post-K supercomputer projects and the challenge and possibility of high performance computing will be given.



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