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## Stanford SmartGrid Seminar

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# High Performance Computing for Power System Applications

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1:15pm-2:15pm, Thursday, Jan 29<sup>th</sup>, Y2E2 270

**Abstract:** Control center operation is becoming more complex as new and often-conflicting reliability, economics, and public policy issues emerge. Computer simulations will be required to analyze larger and larger amounts of system data (of different types) and what-if-scenarios to derive succinct information for operators to make informed decisions. Existing control center applications are primarily based on the original digital computing infrastructure first designed in the 1970's. While some incremental improvements have been made over the past several years, control center applications do not take full advantage of computing power in their existing infrastructure or in the computing industry in general.

High Performance Computing (HPC) and advanced computer are used widely within the government and in selected industry applications to solve important problems of high complexity, providing a factor from hundreds to millions times improvements in time-to-solution over desktop computer solutions. This presentation will share and discuss some research work of applying high performance computing to solve power system problems.

**Bio:** Liang Min is the grid operations leader at Lawrence Livermore National Laboratory (LLNL), where he manages and leads grid research projects for DOE, ISO/RTO and utilities. Prior to LLNL, Liang worked at the Electric Power Research Institute (EPRI) as a senior project manager and supervised the grid operations and planning team at EPRI Palo Alto office. Liang received a B.S. and M.S. degree in electrical engineering from China's Tianjin University and a Ph.D. from Texas A&M University.