



ACCELERATOR SCIENCE SEMINAR

HIGH PERFORMANCE
COMPUTER MODELING OF
CONVENTIONAL AND
ADVANCED-CONCEPT
PARTICLE ACCELERATORS

JEAN-LUC VAY,
LAWRENCE BERKELEY
NATIONAL LABORATORY

Mon
Apr **29**
3:30 PM
PRC 201

Physics Research Center
933 E 56th Street

The LBNL's Accelerator Modeling Program (AMP) develops the mathematical models, algorithms and codes for the study of the physics of the generation, acceleration, propagation and manipulation of charged particle beams. It manages and provides the Berkeley Lab Accelerator Simulation Toolkit (BLAST), a set of high-performance parallel codes for the modeling of conventional and advanced-concept particle accelerators. We will present the latest developments in mathematical models and algorithms, code developments and implementations on the latest computing architectures, as well as applications to existing or planned particle accelerator projects. We will also discuss our plans toward the modeling of extreme particle beams.