Computer Science, Math, and Physics Seminar at CSU Stanislaus

Presents:

## High-Performance Computing and its Role in Science and Engineering

## **Dr. W. Erich Ormand**

Nuclear Theory & Modeling Lawrence Livermore National Laboratory

## **Talk location and time:** Wednesday, May 15, 2013 from 6:00pm to 6:45pm SOUTH DINING

## Abstract

High-performance computing is clearly becoming an essential tool for the modern scientist. There are many who are saying that computing now makes up a "third leg" in the stool of discovery science. As a theoretical physicist, I would say that high-performance computing and theory are nearly the same. There are very few problems that can be solved with analytical methods today. This has actually been true for many years now, and it is now that computers are reaching the capability to solve many important problems in science and engineering. Lawrence Livermore National Laboratory prides itself in being one of the centers for innovation in high-performance computing in the U.S. We put computing to work answering questions in science, engineering, and applied science. I will discuss aspects of computing at LLNL with a something of a slant towards nuclear physics, where computing is beginning to enable us to finally understand how atomic nuclei are put together using the fundamental building blocks in nature.

**About the speaker**: Erich Ormand received his Ph.D. from Michigan State University in 1986 under the direction of Professor Alex Brown and served as a postdoctoral scientist at the Niels Bohr Institute, the University of Milan, and Caltech. He also has been a research assistant professor at the University of Tennessee and Louisiana State University. He joined the staff in the Physics Directorate at Lawrence Livermore National Laboratory in 1999, and is now the Group Leader for the Nuclear Theory & Modeling group. He was elected Fellow of the American Physical Society in 2004 and currently serves on the Nuclear Science Advisory Committee.

