

Brian Ryujin

Session 1

Title: "A Very Long, Very Mad Tea Party: Reflections on Two Decades of Developing Code for Advancing HPC Architectures."

Abstract: As the hardware ecosystem continues to grow in diversity, the path that best serves our application codes is becoming increasingly unclear. To chart a course forward, we must first understand where we are and how we got here.

In this talk, we will examine the evolution of advanced platforms at LLNL over the last two decades from a code developer's perspective. We will describe how we used each system, the lessons learned from each major architecture, and how they shaped our understanding of what we need from future platforms. Finally, we will discuss how we are advising users to take advantage of today's landscape, in particular the split between our Advanced Technology System (ATS), El Capitan, and our Commodity Technology Systems (CTS).

Bio: Brian Ryujin is a computer scientist at Lawrence Livermore National Laboratory and the computer science lead for the Ares multi-physics code. He led Ares's GPU porting efforts for the Sierra and El Capitan systems. His interests include advanced architectures and performance portability for large-scale codes. He received his B.S. and M.S. in computer science from the University of California, San Diego.