Reproducibility and Uncertainty in High Performance Computing

An SC17 Panel

Bruce Childers
University of Pittsburgh

Miriam Leeser
Northeastern University

Victoria Stodden
University of Illinois at Urbana-Champaign

Matthew Krafczyk
National Center for Supercomputing Applications

Andreas Schreiber
German Aerospace Center

Michela Taufer
University of Delaware
How to identify sources of uncertainty in computations?

How to quantify all possible sources of error or uncertainty in (scientific) computations? How to report?

What standards should we develop for reproducibility in the high performance computing context?

What infrastructure is needed to enable and support these standards? including repositories and cyberinfrastructure.

What funding and/or institutional support is needed to enable and support these standards? training?

What can or should publishers and conferences be doing to encourage reproducible research practices?