

# SC15 Birds of a Feather on Software Engineering for Computational Science & Engineering on Supercomputers

## Organizers

David E. Bernholdt	Oak Ridge National Laboratory
Neil Chue Hong	University of Edinburgh
Kengo Nakajima	University of Tokyo
Daniel S. Katz	University of Chicago and Argonne National Laboratory
Mike Heroux	Sandia National Laboratories
Felix Schuermann	Swiss Federal Institute of Technology in Lausanne

# Motivation and Goals

- Software engineering (SWE) for computational science and engineering (CSE) is challenging, with ever-more sophisticated, higher fidelity simulation of ever-larger and more complex problems involving larger data volumes, more domains and more researchers. Targeting high-end computers multiplies these challenges. **We invest a great deal in creating these codes, but we rarely talk about that experience. Instead we focus on the results.**
- Our goal is to **raise awareness of SWE for CSE on supercomputers** as a major challenge, and to begin the **development of an international “community of practice”** to continue these important discussions outside of annual workshops and other “traditional” venues.

# Agenda

Time	Topic	Speaker
3 min	BOF Introduction	David E. Bernholdt
10 min	People as Essential to CSE	James Howison
42 min	Lightning Talks (14)	various
25 min	General Discussion	Audience
10 min	Wrap-Up and Next Steps	Audience

# Lightning Talks

	Topic	Speaker	Affiliation
1	IDEAS Software Productivity Project	Lois Curfman McInnes	ANL
2	ppOpen-HPC	Takahiro Katagiri	U. Tokyo
3	SWE for Large-scale in silico Neuroscience Research	Felix Schuermann	EPFL - Blue Brain Proj.
4	Eclipse Foundation and Eclipse Science Working Group	Greg Watson	IBM
5	SWE for large scale science (VERCE project)	Amy Krause	EPCC
6	NITRD CSESSP Challenges Workshop	Mike Heroux	SNL
7	TOMS Replicated Computational Results Initiative	Mike Heroux	SNL
8	Software as Infrastructure at NSF	Daniel S. Katz	NSF
9	Summary of Workshops in SWE for CSE on HPC Area	Daniel S. Katz & Neil Chue Hong	
10	Better software, better research	Neil Chue Hong	SSI, U. Edinburgh
11	Software Carpentry	Neil Chue Hong	SSI, U. Edinburgh
12	Software Engineering in CREATE	Doug Post	DoD HPCMP, SEI
13	Software Needs for Magnetic Fusion Energy Sciences	David E. Bernholdt	ORNL
14	Computational Science & Engineering Software Forum	David E. Bernholdt	ORNL