CALL FOR PAPERS

SE4Science'19: The 2019 International Workshop on Software Engineering for Science

TBD - in Conjunction with ICSE 2019 – Montreal, Canda

http://SE4Science.org/workshops/se4science19/

This is a time of great growth at the intersection of software engineering and scientific research software. There is a need to bring together members of these communities to identify common goals and lay out research agenda to move both communities in a positive direction. The goal of this workshop is to provide a unique venue for interaction between software engineers and scientists. To address this goal, we seek contributions from members of both communities the describe perspectives, research outcomes, and lessons learned from the development of scientific research software. Specifically, we are interested in:

- Scientific software applications that solve complex software- or data-intensive research problems. These applications range from large parallel models/simulations of the physical world using HPC systems to smaller scale simulations developed by a single scientist or engineer on a desktop machine or a small cluster.
- Applications that support scientific research and experiments at scale. Such applications include, but are not limited to, systems for managing and/or manipulating large amounts of data and systems that provide infrastructure for scientific or engineering applications such as libraries or HPC/Cloud software.
- The process for building, reusing, and publishing software and data used in scientific experiments or engineering innovations. Among others, these processes include agile approaches, open source/open data issues, testing scientific software, and managing software or data repositories for publishing goals.

This workshop will build upon previous SE4Science workshops (http://SE4Science.org/workshops). Similar to the format of the previous workshops, in addition to presentation and discussion of the accepted papers, significant time during the 2019 workshop will be devoted to the continuation of discussions from previous workshops and to general open discussion. Key workshop outcomes will include: (1) development of a joint research plan that can be conducted collectively by workshop participants and (2) development of ideas/draft of position statements to be published externally.

Submission Instructions

We encourage submissions from members of the software engineering and scientific software communities addressing issues including but not limited to: 1) Case studies of software development processes used in scientific applications; 2) Design patterns and software architectures for scientific software; 3) software engineering metrics and tool support for scientific applications; 4) Issues in publishing or reusing scientific research software and data; 5) The use of empirical studies to better understand the environment, tools, languages, and processes used in research application development and how they might be improved; 6) V&V techniques specifically targeted for the scientific domain; 7) SE education for scientific developers. Additionally, practical experience reports are welcome and encouraged, including negative and neutral experiences. We will also accept shorter research papers (4 pages) that describe early research and position papers (1-2 pages) that do not fit the format expected of a full or short paper, but enable the participation of practitioners whose work concerns the understanding of the application of SE to scientific software.

Accepted papers will appear in the workshop proceedings published by IEEE. Selected papers will also be invited to submit to the Software Engineering track of *Computing in Science & Engineering.*

Please observe the following:

1. Full Papers should be at most 8 pages formatted according to the ICSE 2019 guidelines
2. Submit PDF to *EasyChair https://easychair.org/conferences/?conf=se4science*
3. Important Dates: Submission – February 1, 2019; Notification – March 1, 2019

For more information, contact Jeffrey Carver (carver@cs.ua.edu) Neil Chue Hong (N.ChueHong@software.ac.uk), Caroline Jay (Caroline.Jay@manchester.ac.uk), Colin Venters (c.venters@hud.ac.uk), Birgit Penzenstadler (birgit.penzenstadler@csulb.edu), Eva Kern (eva.kern@leuphana.de), or Timo Kehrer (timo.kehrer@informatik.hu-berlin.de).