

TRANSDISCIPLINARY CHALLENGES OF SCIENTIFIC CLOUD COMPUTING

Corresponding Guest Editor

Daniel Versick, University of Rostock, Germany &
Peter Tröger, University of Potsdam, Germany

Handling Co-Editor-in-Chief

Yong Zeng, Concordia University, Canada

Cloud Computing implements the next generation Internet computing by realizing cost-oriented and on-demand provisioning of resources for arbitrary customers. IT resources, platforms and services are made available at virtually unlimited scale for everybody, everywhere, and anytime. Since Cloud environments help to gain access to specialized software, dedicated computational resources, or new storage facilities, they open new possibilities for any kind of scientific work that relies on computational or data analysis. Such Cloud Computing environments and their scientific workload are an interdisciplinary challenge on their own – the Cloud infrastructure must consider the specific needs of the scientific application, and the scientific application must consider the targeted Cloud runtime environment. On the one hand, this special issue focuses on Cloud Computing architectures and services designed to fulfill the requirements of different fields of science. On the other hand, it considers necessary adoptions in scientific approaches (e.g. in algorithms) in order to prepare them for Cloud execution.

Relevant topics include but are not limited to:

- Cloud architectures and Cloud systems for science and examples of scientific Cloud applications
- Specialized Cloud services for transdisciplinary use cases and their business models
- Potential of Cloud services for scalable research (e.g. cost-benefit balancing)
- Cloud standards and Cloud Interfaces for end users (e.g. data formats, user interfaces)
- Cloud security and privacy aspects for scientific data as well as problems like vendor-lock-in
- Authentication, Authorization, and Accounting in the Cloud

Timelines:

Deadline for initial submission:	June 31, 2013
Time for the first decision:	September 13, 2013
Deadline for submitting revisions:	November 1, 2013
Second round review:	December 16, 2013
Time for the final decision:	January 31, 2014
Publication date:	March, 2014

Submission Instructions:

All authors are invited to obtain early feedback on possible submissions by e-mailing an abstract to the Guest Editors. Papers will be rigorously refereed by four peer reviewers of the Journal. Submission of a manuscript to this special issue of JIDPS implies that no similar paper is already accepted or will be submitted to any other conference or journal. Papers of an appropriate standard not included in the special issue may be considered for publication in a regular issue of JIDPS. Manuscripts should be submitted through the journal editorial management system: <https://jidps.rndsphere.com>. A paper template can be downloaded from the same website.

Guest Editors Full Contact:

Daniel Versick
Institute of Computer Science
University of Rostock
Albert-Einstein-Str. 22
18059 Rostock, Germany
daniel.versick@uni-rostock.de

Peter Tröger
Hasso Plattner Institute
University of Potsdam
Prof.-Dr.-Helmert-Str. 2-3
14482 Potsdam, Germany
peter.troeger@hpi.uni-potsdam.de