



Minds & Machines

Editor-in-Chief: Mariarosaria Taddeo
(Oxford)

Call for Papers for Minds & Machines special issue on

The epistemological significance of methods in computer simulation

Guest Editors

- Prof. Michael Resch, Director of HPC Center Stuttgart (HLRS), University of Stuttgart
<http://www.hlrs.de/en/about-us/organization/people/person/resch/>
- Dr. Andreas Kaminski, Head of Philosophy of Science & Technology of Computer Simulations Unit, HPC Center Stuttgart (HLRS), University of Stuttgart
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Description

The transformation of science through computer simulation is often considered to be methodological. However, the relation between computer simulation methods and their epistemological significance is complex. Many of the techniques used follow pragmatic motives: in order to reduce the (mathematical, temporal) complexity of computer simulations, additional assumptions are introduced, and these are usually simplifications. Often further changes (follow-up assumptions) are necessary to mitigate the consequences of these initial simplifications. This engineering procedure makes it problematic to define the epistemic status of computer simulations. The investigation of the epistemic significance of methods in computer simulation is a subject of interdisciplinary efforts. Philosophers as well as engineers, sociologists and mathematicians are interested in it. This special issue will collect articles focusing on aspects of the scientific methods in the context of simulations; the methodological limitations and design constraints that simulation techniques impose on hypothesis

formulation and testing in several scientific disciplines. The special issue addresses these problems by offering philosophically invested and technically motivated contributions on computer simulation methods. The goal is twofold: collecting original analyses addressing both theoretical and technical problems and fostering interdisciplinary research.

We invite the submission of papers focusing on but not restricted to:

- Epistemic opacity as a methodological challenge
- The specific Role of (applied) Mathematics in Computer Simulation
- The epistemological consequences of parametrization and discretization
- Verification, Validation & Evaluation of Computer Simulations
- Trust in & Reliability of Computer Simulations Results
- Visualization and Understanding of Computer Simulations
- Machine Learning and Computer Simulation

Timetable

Deadline for paper submissions: 2018-05-01

Deadline for paper reviewing: 2018-06-30

Deadline for submission of revised papers: 2018-09-01

Deadline for reviewing revised papers: 2018-11-01

Papers will be published in December 2018

Submission Details

To submit a paper for this special issue, authors should go to the journal's Editorial Manager <https://www.editorialmanager.com/mind/default.aspx>. The author (or a corresponding author for each submission in case of co-authored papers) must register into EM.

The author must then select the special article type: "Computer Simulations in the Natural, Social and Artificial Sciences" from the selection provided in the submission process. This is needed in order to assign the submissions to the Guest Editor.

Submissions will then be assessed according to the following procedure:

New Submission => Journal Editorial Office => Guest Editor(s) => Reviewers => Reviewers' Recommendations => Guest Editor(s)' Recommendation => Editor-in-Chief's Final Decision => Author Notification of the Decision.

The process will be reiterated in case of requests for revisions.

For any further information please contact:

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The link to the CfP: <http://philo.hirs.de/?p=277>