Philosophy and Technologies for Simulation

Workshop, 22-23 November 2018

DEIB Seminar Room
(building 20)
via Ponzio 34/5, Milano

Science has entered what has been called the '**age of computer simulations'**, with their massive use in virtually every domain. The wide applicability of simulations in science and technology has called upon an analysis of their results and it has drawn attention to the need for their epistemological justification.

In the **Artificial Sciences**, including Robotics, Network Science, AI, computer simulations seem to have a different role, between **explanation** and **discovery**. Accordingly, the appropriate justifications for this massive use of simulations in the Artificial Sciences are both methodologically and technical complex.

This **first workshop** will be addressing **methodological**, **conceptual** and **technical problems** in computer simulation specifically for the artificial sciences. The aim is to have an intense meeting where advances can be made in the foundations of computer simulations for the **artificial sciences** and current problems discussed.

Program

Thursday November 22, 2018

- 09.15-09.30: workshop opens
- 09.30-10.30: **Gabriele Gramelsberger:** "Mark-up languages as tools for standardizing modeling in science"
- 10.30-11.00: *coffee break*
- 11.00-12.00: **Andreas Kaminski:** "Computer simulation as a means, medium and (research) object. A conceptual proposal for understanding the validation problem"
- 12.00-14.00: *lunch break*
- 14.00-15.00: **Franck Varenne:** "From symbols to referents: An extensionalist and referentialist analysis of computer simulations in morphogenetic engineering and swarm robotics"
- 15.00-15.30: *coffee break*
- 15.30-16.30: **Giuseppe Primiero:** "Isomorphisms and Variants of Simulationism for the Artificial Sciences"
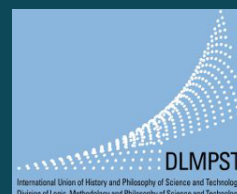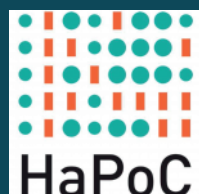
Friday November 23, 2018

- 09.00-10.00: **Edoardo Datteri:** "Simulations for the study of living systems"
- 10.00-11.00: **Viola Schiaffonati:** "Simulations for the study of artificial systems"
- 11.00-11.30: *coffee break*
- 11.00-11.30: **Sabine Ammon:** "Simulation, Test bench, and Hardware-in-the-loop: Validation in engineering design processes"
- 12.30-13.00: workshop closes

For further information, please consult the website: **http://www.pts.deib.polimi.it/**