The Neurorobotics Platform of the Human Brain Project

Florian Roehrbein
Technical University of Munich

Marc-Oliver Gewaltig
École Polytechnique Fédérale de Lausanne

Cecilia Laschi
Scuola Superiore Sant' Anna

Gudrun Klinker
Technical University of Munich

Paul Levi
Forschungszentrum Informatik

Alois Knoll
Technical University of Munich

Abstract: The aim of the neurorobotics platform of the Human Brain Project (HBP) is to offer scientists from various fields a software and hardware infrastructure that allows them to connect brain models to detailed simulations of robot bodies and environments. In the ramp-up phase of the HBP a first version of this platform has been developed, which allows researchers to design and run simple experiments in cognitive neuroscience using simulated robots and simulated environments linked to simplified versions of HBP brain models. The developed tools, i.e., various designers, simulation engines and simulation viewers, allow researchers to operate robots remotely, to repeat in-silico experiments and to visualize the behavior of the robots in real-time. Together with five other ICT platforms developed in the HBP, these technologies will also enable the development of brain-inspired computing systems. The first version of this platform has been released March 2016 and is described in this contribution.