EBRAINS

NRP | 2019
News

NRP News Archive

12 December 2019

EBRAINS community building

On 9 and 10 December, 2019, HBP partners met in Brussels, at the Royal Flemish Academy of Belgium for Science and the Arts, to start a critical dialogue with international industry representatives and European patient organisations. The goal of this and many similar activities that will follow, is to build a sustained stakeholder engagement to make sure society will benefit from the services provided by the EBRAINS infrastructure.

The event, organised by the Danish Board of Technology Foundation, included a day of presentations and a workshop day during which participants discussed what the features of a future, inclusive EBRAINS community should be.

Prof. Jan G. Bjaalie and Dr Timo Dicksheid gave introductory talks about the EBRAINS infrastructure, while the Neurorobotics service in the EBRAINS was presented by Dr Francesca Cavallaro.

11 December 2019

New NRP release 2.3

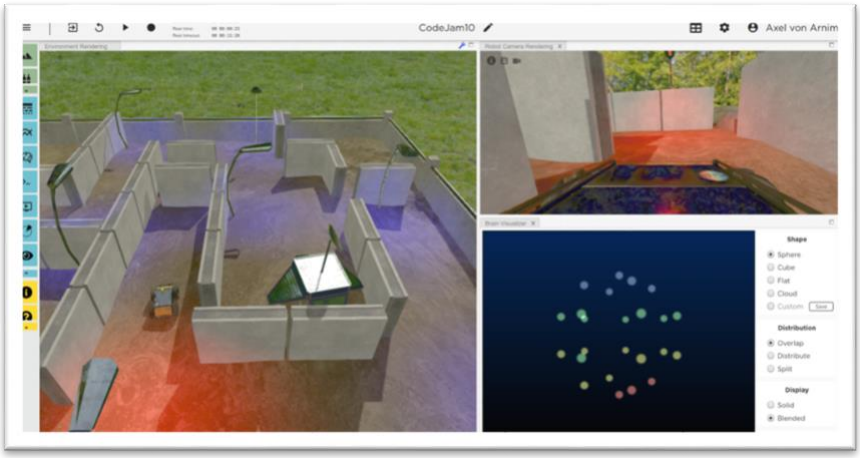
The Neurorobotics Platform is proud to announce its new 2.3 release, featuring:

- Share experiments and models
- Improved editor layout
- Import and export experiments
- Spinnaker visualizers

- Support for pure NEST brains (no PyNN)
- Integration with the HBP EBRAINS Knowledge Graph

Sharing experiments is now made easy, either by exporting and sending to your friends, or by using the sharing button in the NRP itself.

The NRP can now load pure NEST brains, so those who don't like PyNN or want a full featured NEST script can use it.



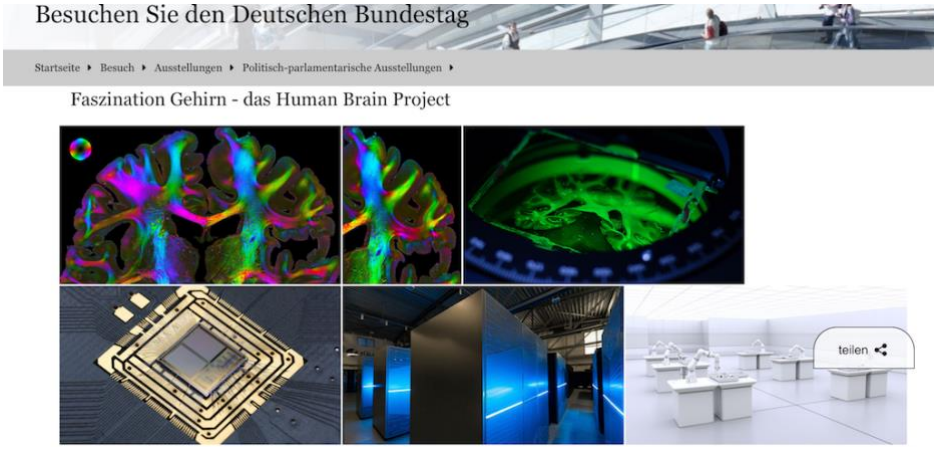
This version also proposes the first connection with the EBRAINS Knowledge Graph: you can choose example brains from the Knowledge Graph and upload your simulation results. The support will be complete in 3.0. Available as usual as source or docker local installation, and online from http://neurorobotics.net.

We hope you enjoy our new release and as always if you need support, please visit our forum.

09 December 2019

HBP exhibition at the German Bundestag

Running until the 19th of December, the HBP exhibition in the German Bundestag, in Berlin, represents a unique opportunity to discover the latest achievements of the project while enjoying fascinating images and videos of state of the art brain research. The work and ambitions of the 131 HBP partners is presented here, at the Paul-Löbe-Haus, Eingang West, in Konrad-Adenauer-Straße 1, Berlin-Mitte. Hurry up!



Co-funded by the European Union

07 October 2019

HBP Curriculum workshops

In the past September the HBP Neurorobotics team has been involved in and actively contributed to two HBP curriculum workshops.
For the series *ICT for non-specialists*, the workshop *Spiking neural networks – applications to computing, algorithmic and robotics*, was organised by the TUM Chair of Robotics, Artificial Intelligence and Embedded Systems, and took place in Munich, Germany, on 18 September, 2019. Dr Fabrice Morin, SP10 manager, gave the introductory talk *The basics of spiking neurons: Biological facts, models and computational properties*, and 28 participants from across Europe attended this full day that ended with the open lecture of Prof. Robert Riener, ETH Zurich, on Bionic exo-skeletons.

On 26-27 September, a curriculum workshop for the series *Research ethics and societal impact* was hosted by Graz University of Technology, Austria. Gender issues, research ethics and Responsible Research and Innovation have been the main topics of this workshop titled *Neuroscience, robotics, AI and medical informatics: New insights with diversity & ethics*. PhD candidate Benedikt Feldotto, TUM, presented the talk *Robot stereotypes – What you see is not what you get*, providing insights on the main workshop theme from the robotics perspective.

Co-funded by the European Union

25 June 2019

HBP at the 5th EU-Japan Workshop on Neurorobotics and Cognitive Systems

On 19-20 June, representatives of the HBP Neurorobotics group attended the 5th edition of the EU-Japan workshop on Neurorobotics and Cognitive Systems in Tokyo. This yearly, jointly organized event is the mark of the ongoing successful collaboration between EU and Japan, bringing together renowned scientists to discuss the most cutting edge research ideas at the intersection of robotics, neurosciences and computer sciences.

From the left, Prof. Rüdiger Dillmann, Prof. Satoshi Oota, and Prof. Alois Knoll.
© Photography courtesy of Dr F. Morin.

As always, the workshop proved a fertile ground for productive and engaging discussions. The keynote lectures of Prof. Yasuo Kuniyoshi (University of Tokyo / RIKEN), "VR-based Neuro-Rehabilitation for Alleviating Phantom-Limb Pain", and of Andreas Rowald (EPFL), "Targeted neurotechnology restores locomotion in humans with spinal cord injury" were particularly stimulating for the audience.

Audience attending the keynote lecture of Prof. Yasuo Kuniyoshi,
© Photography courtesy of Dr F. Morin.

Co-funded by the European Union

Another highlight of this year's event was the update on the RIKEN-AIST joint project focusing on the development of a solution to address the worldwide issue of a rapidly ageing society. The project aims to leverage both robotics and biology in order to design an "endoskeletal robot suit" (StillSuit), the purpose of which is to jointly stimulate both the physical and cognitive abilities of ageing individuals throughout their daily activities. The project intends to establish a holistic view of the human body as a biological system; of particular interest for HBP, it is now considering using the Neurorobotics Platform as a simulation tool to integrate multimodal data (genetic, electrophysiological, biomechanical, etc.).

Later this year, in Munich, HBP partners working on Neurorobotics will host a follow-up workshop where joint efforts with RIKEN & AIST will be further planned and discussed.

11 June 2019

From visual perception to motor control

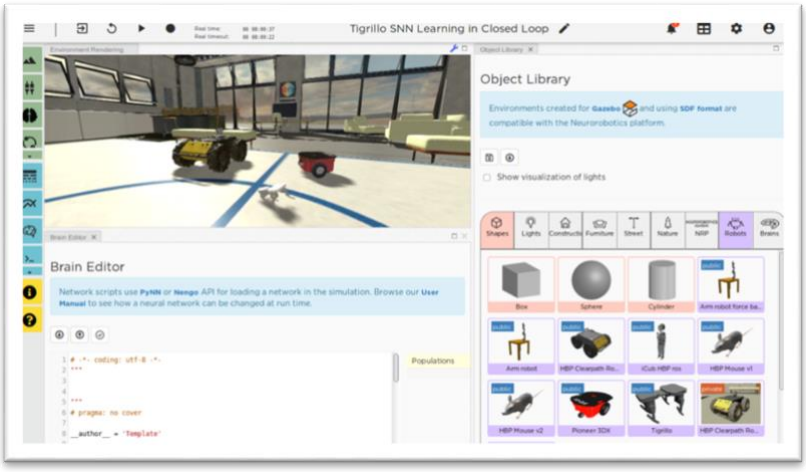
On June 6-7, the European Institute for Theoretical Neuroscience hosted a workshop on visuo-motor integration to present the current stage of the HBP Co-Design Project #4, a project which aims to develop a visuo-motor integration neural network model based on multi-level human neuroscience data. In the dedicated Neurorobotics session, two talks by fellow colleagues Benedikt Feldotto, TUM, and Lorenzo Vannucci, SSSA, highlighted the model implementation capabilities of the HBP Neurorobitcs Platform, NRP. The workshop agenda can be accessed here.

03 May 2019

New NRP release 2.2

The Neurorobotics Platform is proud to announce its new 2.2 release, featuring:

- Record and replay simulations
- New experiment creation work flow with robots and brain drag and drop
- New models libraries
- Support multiple robots (full)
- Plotting and visualization tools support for Nengo
- Join simulation shared by others
- Custom workspace management



Co-funded by the European Union

Creating a new experiment is now as simple as selecting an environment, dragging robot(s) inside and dragging a brain.
Try the amazing recording and replay feature too!
Available as usual as source or docker local installation, and online from http://neurorobotics.net.
We hope you enjoy our new release and as always if you need support, please visit our forum.

03 May 2019

Neurorobotics at the AWS-Summit in Berlin

Hall 1 was full for the "Build Your First Robot with AWS RoboMaker" session at the AWS-Summit in Berlin. Together with Amazon we presented a introduction into robotics and simulation. We also demonstrated how robotics can be enhanced by including neuroscience using the Neurorobotics Plattform and what physical robotics can learn from nature by showcasing the NRP Mouse.

17 January 2019

NRP 2.1.1 supports Nengo

Though it has been possible in earlier versions to embed Nengo code in transfer functions, Nengo is now officially supported as a brain simulator, alternatively to PyNN/Nest. You can write your brain model fully in Nengo and connect your Ensembles to your robot using our transfer function mechanism. We provide a template experiment featuring Nengo. Just find it filtering by "Nengo" key word, clone it and launch it.
The NRP is available as usual as source or docker installation, and online from http://neurorobotics.net. We hope you enjoy our new release and as always if you need support, please visit our forum.