



Call For Applications

2018 Nengo Summer School

Introducing Braindrop

The Centre for Theoretical Neuroscience at the University of Waterloo is excited to announce a special version of our annual Nengo summer school that will host the **first public access to Braindrop**, a new mixed analog-digital neuromorphic chip developed in collaboration with Stanford and Yale.

In addition to introducing Braindrop, this two-week school will teach participants to use the Nengo simulation package to build state-of-the-art cognitive and neural models to run both in simulation and on neuromorphic hardware. Nengo provides users with a versatile and powerful environment for designing cognitive and neural systems, and has been used to build what is currently the world's largest functional brain model, Spaun.

We welcome applications from all interested graduate students, research associates, postdocs, professors, and industry professionals. More information about Nengo, the Neural Engineering Framework, and Spaun can be found at <http://www.nengo.ai>

Format:

Participants are encouraged to bring their own ideas for projects, which may focus on testing hypotheses, modelling neural or cognitive data, implementing specific behavioural functions with neurons, expanding past models, or providing a proof-of-concept of various neural mechanisms. Projects can be focused on software, hardware, or a combination of both. Participants will have the opportunity to:

- build perceptual, motor, and cognitive models with spiking neurons
- model anatomical, electrophysiological, cognitive, and behavioural data
- use a variety of single cell models within a large-scale model
- integrate machine learning methods into biologically oriented models
- interface Nengo with a variety of neuromorphic hardware systems, including Braindrop!
- interface Nengo with cameras and robotic systems of various kinds
- implement modern nonlinear control methods in neural models

Hands-on tutorials, work on individual or group projects, and talks from invited faculty members will make up the bulk of day-to-day activities.

Date and Location:

June 3th to June 15th, 2018 at the University of Waterloo, Ontario, Canada.

Applications:

Please visit <http://www.nengo.ai/summerschool>, where you can find more information regarding costs, travel, lodging, along with an application form listing required materials.

Application Deadline: February 15, 2018



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