



Call For Applications Nengo Summer School

Overview:

The Centre for Theoretical Neuroscience at the University of Waterloo is inviting applications for an in-depth, two week summer school that will teach participants how to use the Neural Engineering Framework and the Nengo simulation package to build state-of-the-art cognitive and neural models. Nengo has been used to build what is currently the world's largest functional brain model, Spaun, and provides users with a versatile and powerful environment for simulating cognitive and neural systems. We welcome applications from all interested graduate students, research associates, postdocs, professors, and industry professionals. No specific training in the use of modelling software is required, but we encourage applications from active researchers with a relevant background in psychology, neuroscience, cognitive science, or a related field. More information about Nengo, the Neural Engineering Framework, and Spaun can be found at <http://www.nengo.ca>

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 provide a proof-of-concept of various neural mechanisms. Projects can be focused on software, hardware, or a combination of both. Amongst other things, 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
- interface Nengo with cameras and robotic systems of various kinds
- implement modern nonlinear control methods in a 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. There will be a weekend break on June 14-15, and fun activities scheduled for evenings throughout!

Date and Location:

June 8th to June 21st, 2014 at the University of Waterloo, Ontario, Canada.

Applications:

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

Application Deadline: February 15, 2014



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