

Postdoctoral Researcher in Theoretical Neuroscience

Prof Chris Eliasmith, who holds the Canada Research Chair in Theoretical Neuroscience and heads the Computational Neuroscience Research Group (CNRG) in the Centre for Theoretical Neuroscience (CTN) at the University of Waterloo, is seeking a postdoctoral researcher in Theoretical Neuroscience for a fixed-term appointment.

Description

The postdoctoral position will be hosted in the CNRG, with a principal focus on neural modeling to build the next version of the [Spaun brain model](#), the world's largest functional brain model. The project integrates spiking deep neural networks, motor control, probabilistic inference, navigation, perception and cognition to develop a state-of-the-art, large-scale, spiking, whole-brain model. Applicants should have a PhD, with demonstrated skills in at least one of those areas and a willingness to learn about the others.

This project leverages the CNRG's existing expertise in using neural networks for large-scale brain modeling, originally demonstrated in 2012 with the [first version of Spaun](#). A [subsequent version in 2018](#) significantly extended performance. The latest version currently being built by the CNRG will again break new barriers in the scale and sophistication of whole brain models. Unlike past models, it will be embedded in a sophisticated 3D environment, yet retain the ability to perform a wide variety of tasks, from simple perceptual and motor tasks to challenging intelligence tests. Overall, the long-term goal of the project is to advance the state-of-the-art in large-scale brain models.

Additional Information

The successful applicant will be housed in the vibrant Centre for Theoretical Neuroscience (CTN), which includes 7 core and 7 affiliated labs focussed on neural modeling and improving our basic understanding of neural computation. The CTN hosts monthly seminars, a yearly 'Brain Day' event, a summer school, and regular social activities.

The position is for a fixed term of one year, eight months, with extensions contingent on performance and securing additional funding. Salary is \$45,000 - 65,000 CAD per year.

To apply, please send a full CV, 3 references and cover letter explaining your background and fit for the job to: Dr. Chris Eliasmith at celiasmith@uwaterloo.ca.