February 27th, 2019

A postdoctoral position is available at Brandeis University to work on mathematical modeling and simulation of membrane-bound vesicle transport inside of neurons (hosted by Thomas Fai). Mathematical techniques include PDE-based models of cell mechanics and fluid dynamics, numerical methods for fluid-structure interaction, dynamical systems, and asymptotics. Potential research topics include building stochastic models to assess the importance of noise, using image processing of experimental data to characterize the behavior in real dendritic spine geometries, and exploring the mechanisms of synaptic strengthening and atrophy.

The postdoc will join the Mathematics Department at Brandeis University (http://www.brandeis.edu/departments/mathematics/) and have strong ties to the Neuroscience group (http://www.bio.brandeis.edu/). The position, which is for up to 2 years contingent on funding and satisfactory progress, is funded through an NIH postdoc training grant in Neuroscience. Postdocs in this program participate in seminars and journal clubs, obtain mentoring experience, and are expected to apply for external awards during the first year.

Funding is limited to US citizens or permanent residents. Candidates should be able to start by June 16, 2019. Candidates should hold a Ph.D (in neuroscience, mathematics, physics, engineering, or a related topic) by the starting date, have an excellent track record of scholarship, with experience in numerical simulations and interest in learning continuum mechanics and/or fluid dynamics. For further information, contact Thomas Fai (tfai@brandeis.edu).

