THE UNIVERSITY　　　　　**OF HONG KONG**

Department of Mathematics

Numerical Mathematics and Applied Analysis Group Seminar (NMAA)

Computational modeling of gamma oscillations in the brain

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on Monday, March 21, 2005 at 4:00p.m.
in Room 517, Meng Wah Complex

Abstract

The first half of my talk will be a general introduction to the modeling of networks of nerve cells using differential equations. In the second half, I will outline work with Nancy Kopell and Steven Epstein on oscillations at gamma (that is, approximately 40 Hz) frequency. Many neuroscientists believe that gamma oscillations play an important role in the functioning of the mammalian brain. They are seen, for instance, during states of attention, during early sensory processing, and while animals perform working memory tasks. Our modeling studies address the stability of gamma oscillations in the presence of randomness in network connectivity and background neuronal activity, and their possible roles in sustained attention and stimulus competition.

All are welcome

For enquiries, please call 2859 2255.