	Job offer	

Position : Post-doctoral
Expected starting date period: 30 November 2008
Duration: One or Two years
Deadline of this proposal : 18 April 2008

Silicon neural network circuits for smart-MEMS system

Summary of research/technical work :

- Post-doctoral in Neural network and Technology at LIMMS/CNRS-IIS (UMI2820)

Principal investigator and Prof. Kohno's colleague at the Institute of Industrial Science (IIS), the University of Tokyo are interested in silicon neural network that can be applied to smart-MEMS system that can operate autonomously and robustly without any specific programs. Currently, they are working on smart system of MEMS ciliary actuator with embedded photo sensor array, which learns by itself how to carry objects of different shapes. They have developed very-low-power consuming CMOS analog spiking silicon neuron circuits and a simple digital one utilizing mathematical knowledges on theoretical neuron models and are developing silicon synapse circuits with spike time dependent plasticity (STDP) learning rule. A new comer to this project is expected to join development of silicon neural network circuits that can generate various motion patterns for driving MEMS actuators or process information incoming from photo sensor arrays and determine the shape and motion of the objects placed on them. The laboraotry is well equipped with electrical measurement instruments, circuit board manufacturing system, and simulation computers. The project is a joint work with Fujita Lab. in IIS. The MEMS ciliary actuator was developed in this laboratory.

Required knowledge of candidate:

- To be scheduled to receive the PhD before starting the fellowship
- Candidates are expected to be skillful at either VLSI design, simulation of neural networks, and/or theoretical neuroscience.

Location and other practical information:

- LIMMS/CNRS-IIS (UMI2820), Tokyo, Japan   http://limmshp.iis.u-tokyo.ac.jp/
- Host Professor : Takashi KOHNO
- Equivalent to JSPS Post-doc salary

Contact(s):

CV/Motivation/Recommendation(1) by email to limmsadm@iis.u-tokyo.ac.jp
E-mail Object should be "LIMMS_PD_08K" followed by name.