

The 124th iCeMS SEMINAR

CeMI Seminar Series 33

Mon 19 Nov 2012
10:00-12:00

Venue:

2nd Floor Seminar Room (#A207)
iCeMS Main Building (#71), Kyoto University

<Part 1: 10:00-11:00>

Prof Madan Rao

National Centre for Biological Sciences
Bangalore, Karnataka, India

**“Active cell surface organization
and information processing”**

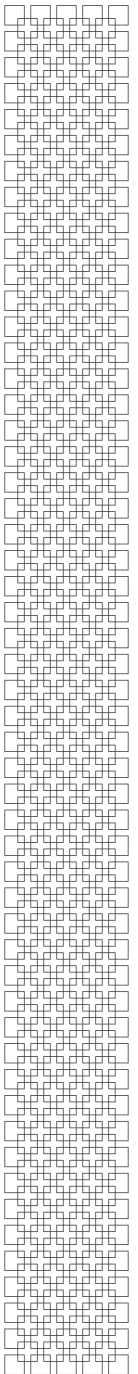
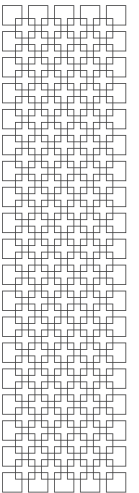
<Part 2: 11:00-12:00>

Prof Antoine Triller

Ecole Normale Supérieure and
Institut National de la Santé de la Recherche Médicale (INSERM)

**“From stochasticity of molecular processes
to synapse stability and plasticity: toward
chemistry in cellulo with microscopes”**

Contact: iCeMS Kusumi Lab at kusumi-g@icems.kyoto-u.ac.jp
Hosted by: iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University



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Abstracts for November 19 iCeMS Seminar

Prof. Madan Rao <Part 1: 10:00-11:00>

Dr. Madan Rao will discuss a model of an active composite cell surface wherein certain classes of cell surface molecules form dynamic nanoclusters as a consequence of being actively driven by cortical actomyosin. The active composite model makes several predictions which Dr. Rao's team verified using high resolution fluorescence methods. He will then discuss the consequences of this active composite model to the regulation and optimization of information processing

Prof. Antoine Triller <Part 2: 11:00-12:00>

Dr. Triller has been investigating the issue of postsynaptic receptors dynamics, their interactions with scaffolding proteins, and regulations implicated in synaptic plasticity. Combination of single particle tracking and super-resolution methods has opened accesses to molecular counting and energy involved in receptor-scaffold interactions as well as on and off rate of molecular interactions. Thus beyond super-resolution methods is chemistry "in cellulo" accounting for the regulation of receptor number and consecutively that of synaptic strength. Dr. Triller will address these issues in his talk.

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