



# Meiji University Global COE Program 45<sup>th</sup> Mathematical Sciences based on



## Modeling, Analysis and Simulation seminar

Date: September 28, 2011, 16:30~17:30

Location: Meiji Univ. Ikuta Campus, Main building, Room 0415

**Chandrajit Bajaj** (University of Texas, USA)

Title : A-periodic Tilings and Icosahedral Viral  
Capsid Protein Assemblies

Abstract: We shall briefly review the theory of 3D quasi-crystals, 6D icosahedral Bravais lattices, and their projections that yields aperiodic (Penrose) tilings. We shall show how this theory allows one to characterize the global and local symmetric icosahedral packings of proteins, that define the architecture of viral capsid shells. These capsid shells house the nucleic acids genome of parasitic viruses that are causative of many human, animal and plant diseases.

Everyone is welcome to attend the MAS seminar.

Meiji institute for Advanced Study of Mathematical Science (<http://www.mims.meiji.ac.jp>)  
(Organizers: M. Mimura, D. Ueyama, Y. Wakano, K. Ikeda and S.Kinoshita)

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(<http://nnrds.math.meiji.ac.jp/>).



Access: 10 minutes on foot from Ikuta St. Odakyu line,  
Or 10 minutes by bus No. 13「明治大学正門前」, get off at the last stop.  
See [http://www.meiji.ac.jp/koho/campus\\_guide/](http://www.meiji.ac.jp/koho/campus_guide/) for details.