

## Lectures on quantum groups by Moritz Weber

Moritz Weber (from Saarland University, Germany) will be giving the above course of lectures in IMSc during January 5-24, 2015.

Here are some topics he is likely to cover in these lectures:

1. From symmetries to quantum symmetries - the concept of quantum groups (Woronowicz approach)
2. A very brief survey of other approaches to quantum groups (Hopf algebras, q-deformations, quantum isometry groups, Wang's liberation, locally compact quantum groups) [Of course, I am no expert on all these types, I could just give an overview]
3. Some basics in the theory of compact quantum groups (Existence of the Haar state, Tannaka-Krein, representation theory,...)
4. Definition of easy quantum groups and classification [The heart of my lectures]
5. A brief introduction into free probability
6. Quantum groups and free probability - de Finetti and the laws of characters
7. Representation theory of easy quantum groups (Fusion rules) - operator algebraic properties treated by combinatorial means
8. A short overview on von Neumann algebraic aspects/results on easy quantum groups

People interested in visiting IMSc during this period to attend the lectures should send an email expressing this interest, along with a few lines describing their level of preparedness to benefit from these lectures, to *sunder@imsc.res.in*