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Leibniz
Universität
Hannover

Gemeinsames Oberseminar

Algebra und Analysis

Jun.Prof. Dr. Moritz Weber
(Universität des Saarlandes)

„Quantum Symmetry, C^* -algebras and Combinatorics“

Symmetry is a very fundamental concept for geometrical objects and it is often captured by a group. However, in modern mathematics, we sometimes need to go beyond groups – we need to consider quantum groups. In this survey talk, I will review a few very different aspects of mathematics and explain their interplay from the point of view of quantum symmetry.

In particular, I will cover combinatorics (set partitions and some tensor category like structures on them), C^* -algebras (universal ones associated to relations coming from partitions, with many open questions regarding ideal structure, K -theory etc), quantum groups (in the sense of Woronowicz, in particular Banica-Speicher/easy quantum groups and using a Tannaka-Krein duality), and some links to free probability theory (in the sense of Voiculescu, a kind of noncommutative probability theory linked with random matrices). Since I do not expect everybody to be familiar with every subject, I will try to give brief and basic introductions to each subject.

Donnerstag, 06.07.2017
ab 14:15 Uhr, Raum a410
Hauptgebäude der Leibniz Universität Hannover

Alle Interessierten sind herzlich eingeladen.

Institut für Algebra, Zahlentheorie
und Diskrete Mathematik
und
Institut für Analysis