

## Announcement

# Seminar on Deformation Quantization and Geometry

**23. 1. 2026 at 14:00 s.t.**

Seminarroom SE 31

MARTIN BORDEMANN (UHA MULHOUSE)

By Ševera's quantization of coalgebras to the quantization of certain Poisson homogeneous spaces?

A homogeneous space  $M$  for a Lie group  $G$  is said to be a Poisson homogeneous space if  $G$  and  $M$  carry Poisson structures such that the group multiplication and the group action are Poisson maps. According to Theorems by V.G.Drinfel'd and others (1992) this amounts to a Lie bialgebra structure on the Lie algebra of  $G$ , and to a lagrangian subalgebra of the associated Manin triple whose intersection with the Lie algebra of  $G$  equals the Lie algebra of the isotropy subgroup  $H$ . A 'dual picture' of a deformation quantization of this situation could be formulated as a module coalgebra structure on the Verma module induced by the trivial representation of the Lie algebra of  $H$  with respect to the quantum group obtained for the Lie bialgebra according to the Etingof-Kazhdan Theorem (1996) with the simplification due to Š.Sakáloš and P.Ševera (2014). In this talk we explain how Ševera's method works to quantize coalgebras which solves the quantization problem of certain much too nice Poisson homogeneous spaces. This class includes the Drinfel'd Grassmannian, a variety introduced by Jian-Hua Lu and Sam Evens in 2000.

Invited by Stefan Waldmann