Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

MUΦX
Lehrstuhl

Im Oberseminar

Deformationsquantisierung

spricht am **23. 6. 2017 um 14 Uhr c.t.,**

im Seminarraum 00.009 (Physik Ost)

MARTIN BORDEMANN (MULHOUSE)

über das Thema:

Combinatorics of covariant derivatives and Duflo-type star-products

In 1969, Michel Duflo has shown that for any finite-dimensional Lie algebra g the invariants of the symmetric algebra generated by g (under the adjoint representation) and the centre of the universal enveloping algebra of g are isomorphic as commutative algebras by means of an explicit isomorphism. Since the former can be interpreted as a subalgebra of covariantly constant symmetric tensor fields on a corresponding Lie group, it is interesting in general to study subalgebras of differential operators whose standard symbols w.r.t a covariant derivative are covariantly constant, and check whether they are commutative and isomorphic to their pointwise multiplications. We present an algebraic way to attack the problem by studying iterated covariant derivatives and their combinatorics using the Hopf structure of free algebras, i.e. the shuffle comultiplication, primitive elements etc. in the framework of anchored modules, Lie-Rinehart algebras and Rinehart bialgebras.

gez. Stefan Waldmann