

**Title:** Fourier algebras of the group of  $\mathbb{R}$ -affine transformations and a dual convolution

**Abstract:** A major trend in Non-commutative Harmonic Analysis is to investigate function spaces related to Fourier analysis (and representation theory) of non-abelian groups. The Fourier algebra, which is associated with the left regular representation of the ambient group, is an important example of such function spaces. This function algebra encodes the properties of the group in various ways; for instance the existence of derivations on this algebra translates into information about the commutativity of the group itself.

In this talk, we investigate the Fourier algebra of the group of  $\mathbb{R}$ -affine transformations. In particular, we discuss the non-commutative Fourier transform for this group, and provide an explicit formula for the convolution product on the “dual side” of this transform. As an application of this new dual convolution product, we show an easy dual formulation for (the only known) symmetric derivative on the Fourier algebra of the group.

This talk is mainly based on joint articles with Y. Choi.