

Department of Mathematics

University of Houston

# Analysis Seminar

**FRIDAY, March 24, 2017**

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**13:00-14:00** – Room 646 PGH

**Speaker:** Adam Skalski (Institute of Mathematics of Polish Academy of Sciences)

**Title:** Fixed points of completely contractive maps and convolution operators

**Abstract:** The Choi-Effros product, granting the fixed-point space of a unital completely positive map a unique von Neumann algebra structure, is a key tool in the construction of the abstract Poisson boundary, generalising the classical concept of a probabilistic-type boundary for a random walk. I will discuss how replacing a completely positive map by a completely contractive map leads instead to a construction of a (weak\*-closed) ternary ring of operators. Then I shall present some applications of the construction to the study of fixed-point spaces of convolution operators on classical and quantum locally compact groups. (Based mainly on joint work with Pekka Salmi)