

IMIA Operator Algebra Seminar
University of Wollongong

Title: Zappa-Szép product semigroups and their C^* -algebras: Parts I-IV

Speaker: Nathan Brownlowe, Dave Robertson, and Mike Whittaker (UoW)

Time and Date: 3:30pm Thursday, 5-26 September 2013

Location: Room 39C.tearoom

Abstract: Zappa-Szép products of semigroups encompass both the self-similar group actions of Nekrashevych and the quasi-lattice-ordered groups of Nica. We use Li's construction of semigroup C^* -algebras to associate a C^* -algebra to Zappa-Szép products and give an explicit presentation of the algebra. We then define a quotient C^* -algebra that generalises the Cuntz-Pimsner algebras for self-similar actions. We indicate how known examples, previously viewed as distinct classes, fit into our unifying framework. We specifically discuss the Baumslag-Solitar groups, the binary adding machine, the semigroup $\mathbb{N} \rtimes \mathbb{N}^\times$, and the $ax + b$ -semigroup $\mathbb{Z} \rtimes \mathbb{Z}^\times$. This is joint work between Dave, Jacqui, Mike and Nathan.