Invited talk

Speaker: Luca Q. Zamboni

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Title: A generalization of the Euclidean algorithm generated by interval exchange transformations

Abstract: We define a multi-dimensional generalization of the Euclidean algorithm arising from a class of dynamical systems known as interval exchange transformations. In this context, the usual sequence of partial quotients is replaced by an infinite path on a finite graph whose vertices are certain trees we call trees of relations. We will discuss the combinatorics behind this algorithm and present some links to other areas including polygonal triangulation, actions of the Temperley-Lieb algebras, and the secondary structure of RNA.