A tribute to the Center of Algebra

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Resumo: In 2011, I arrived in Lisbon to embark upon a Marie Curie Fellowship at the Center of Algebra, University of Lisbon. What I found was an inspirational place that encouraged me to expand my research into new areas, which I had never thought of taking on before my arrival.

The upcoming end of my fellowship is more or less coinciding with the end of the Center of Algebra itself, which will merge into a new unit as part of a reorganization effort. While the great work of CAUL will continue under its new management structure, it is fitting at this time to pay tribute to a successful institution.

In my presentation, I will give an overview on my work of the previous years as an illustration to the great innovation and diversity of research accomplished at CAUL.

Among the result we will present are methods to recognize almost synchronizing groups, a general obstacle condition to dualizability, a result about the rank of the transformation semigroups stabilizing a given partition, the determinations of clique numbers and diameters in commuting graphs, a result about the structure of the lattice of interpretibility types, an example of a chain of non-unary algebras that are alternating between dualizable and non-dualizable, and results about symmetries in the endomorphism monoid of circulant digraphs.

palavras-chave: Semigroup Theory; Combinatoris; Universal Algebra; Independence Algebras; Permutation Groups; Commuting Graphs, Duality Theory; Automata; Theoretical Computer Science.

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