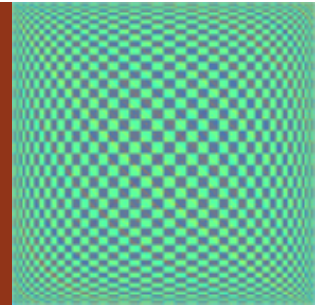




Centro de Matemática
Universidade do Porto



Seminar on Semigroups, Automata and Languages

Coverages on inverse semigroups

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Abstract: Since the 1980s, inverse semigroups and groupoids have been important tools to study C^* -algebras. This was part of the motivation of the works of Resende, Lawson and Lenz that extended the adjunction between the categories of topological spaces and frames (locales) to the adjunction between the categories of étale groupoids and pseudogroups. The notion of coverages on semilattices was introduced by Johnstone as a way of presenting a frame from a semilattice and a set of join relations. This was, in a way, generalized by Lawson and Lenz to coverages on inverse semigroups, however, their conditions were stronger than the ones imposed by Johnstone. In some cases, they were able to prove the existence of a universal pseudogroup that transforms cover-to-join semigroup homomorphisms to pseudogroup homomorphisms. In this talk, I will present a notion of coverage on inverse semigroups that is weaker than the one given by Lawson and Lenz and which is a direct generalization of coverages on semilattices. In this case, as long as we restrict to idempotent-pure semigroup homomorphisms between inverse semigroups, we can always show the existence of a universal pseudogroup. As an example, I will consider an inverse semigroup associated to a finite square matrix A of zeroes and ones and I will show how we can use the relation used to define the Cuntz-Krieger C^* -algebra associated with A to recover the one-sided subshift of finite type associated with A .

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Place: Online Zoom meeting



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