

**Jorge Vitória** (City University of London)

**Recollements of abelian categories: shape, restriction and glueing**

**Abstract**

A common strategy used to study a given category is to decompose it into smaller, better understood subcategories, and to use functorial data on this decomposition to glue this understanding back to the given category. Recollements are particularly useful decompositions of abelian or triangulated categories, as they are associated with certain torsion pairs and categorical localisations.

In this talk we will discuss three types of problems for a recollement of an abelian category  $A$  by subcategories  $B$  and  $C$ :

- 1) What is the shape of recollements for categories  $A$ ,  $B$  and  $C$  of a fixed nature (for example, when  $A$ ,  $B$  and  $C$  are module categories over a ring)?
- 2) Which properties of  $A$  restrict well to  $B$  and  $C$ ?
- 3) Which properties of  $B$  and  $C$  glue well to  $A$ ?

This talk is based on joint work with Chrysostomos Psaroudakis and on joint work with Carlos Parra.