Classification of categories via unique groupoid structures on reflexive graphs

Nelson Martins-Ferreira, Polytechnical Institute, Leiria

The three notions of naturally Mal'tsev, Mal'tsev and weakly Mal'tsev category are unified in the same setting. This setting combines all the known characterizations in terms of unique categorical structures on reflexive graphs and relations. A new categorical structure is introduced as well as a new orthogonality condition between cospans and spans.

(This is joint work with Z. Janelidze and Tim Van der Linden.)