Local finiteness for Green's relation in varieties of inverse semigroups and completely regular semigroups

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In an earlier work, the same authors characterized in the language of forbidden objects the varieties of semigroups which are locally finite with respect to each one of the five Green's relations (if K is a Green's relation, a variety V of semigroups is locally K-finite if every finitely generated semigroup in V has finitely many K-classes). We now extend this work to both varieties of inverse semigroups and varieties of completely regular semigroups, with some unexpected consequences.

This is joint work with Filipa Soares (Polytechnic Institute of Lisbon) and Mikhail Volkov (Ural Federal University).