Globalization of partial semigroup actions

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The aim of the talk is to present two universal constructions of globalization of a strong partial action of a semigroup on a set, satisfying certain conditions which arise in Morita theory of semigroups. One of the constructions is based on the tensor product of a partial semigroup act with the semigroup and generalizes the globalization construction of strong partial actions of monoids due to Megrelishvili and Schröder. It produces the initial object in an appropriate category of globalizations of a given partial action. The other construction involves Hom-sets and is novel even in the monoid setting. It produces the terminal object in an appropriate category of globalizations. While in the group case the results of the two constructions are isomorphic, they can be far different in the monoid case. This is joint work with Valdis Laan.