



## Minisymposium 12 - Representation Theory of Algebras

### Cluster algebra structures on coordinate rings of partial flag varieties

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This is a joint work with Christof Geiss and Jan Schröer. We investigate subcategories of the category of modules over a preprojective algebra  $\Lambda$  of Dynkin type (A,D,E) of the form  $\text{Sub } Q$ , where  $Q$  is an injective  $\Lambda$ -module. In particular, we construct explicit maximal rigid modules in  $\text{Sub } Q$  and define a mutation operation between maximal rigid modules. This is then applied to introduce a cluster algebra structure on the homogeneous coordinate rings of the generalized flag varieties  $G/P$  where  $G$  is the complex semisimple simply connected algebraic group with the same Dynkin type as  $\Lambda$ , and  $P$  is a parabolic subgroup.