

## ALGEBRA SEMINAR

## Diagram groups over trace monoids

Slobodan Tanushevski  
Universidade Federal Fluminense

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**Abstract.** Given a semigroup presentation  $\mathcal{P} = \langle X \mid \mathcal{R} \rangle$  and a word  $u \in X^*$ , the set of all reduced spherical  $(u, u)$ -semigroup diagrams over  $\mathcal{P}$  (the analogue of Van Kampen diagrams for semigroup presentations) admits a ‘natural’ structure of a group, called the diagram group over  $\mathcal{P}$  based at  $u$ .

Diagram groups were introduced by Meakin and Sapir, and the delightful theory of diagram groups ripened through the pioneering work of Kilibarda, Guba and Sapir.

I intend to give an introduction to diagram groups, with emphasis on diagram groups over trace monoids, a topic that I have been exploring together with Francesco Matucci.