CATEGORY THEORY RESEARCH SEMINAR:

Isbell's subfactor projections in a noetherian form

Prof Zurab Janelidze (Stellenbosch University)

DATE: Tuesday, 13 August 2024 | 12h10 – 13h00 SAST

VENUES:
- Room 1006, Mathematical Sciences and Industrial Psychology Building, Stellenbosch University
- Online

ABSTRACT

In this talk we give an outline of a paper by the same title (joint work with Kishan Dayaram and Amartya Goswami), recently submitted for publication. In this paper, we revisit the 1979 work of Isbell on subfactors of groups and their projections, which he uses to establish a stronger formulation of the butterfly lemma and its consequence, the refinement theorem for subnormal series of subgroups. We point out an error in the second part of Isbell's refinement theorem but show that the rest of his results can be extended to the general self-dual context of a noetherian form, which includes in its scope all semi-abelian categories as well as all Grandis exact categories. Furthermore, we show that Isbell's formulations of the butterfly lemma and the refinement theorem amount to canonicity of isomorphisms established in these results.

BIOGRAPHY

Zurab Janelidze is a Professor of Mathematics in the Department of Mathematical Sciences at Stellenbosch University. He is a Principal Investigator in the Mathematical Structures and Modelling research programme at NITheCS. He serves on the editorial boards of two international journals in his field of expertise, category theory, as well as *Afrika Matematika* (the journal of the African Mathematical Union), and currently serves as the president of the South African Mathematical Society.

WHO SHOULD ATTEND?

This is a specialised talk, accessible to mathematicians who have a background in the fields of group theory, lattice theory, or category theory.

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