CoE-MaSS weekly seminar series

**THE DST-NRF CENTRE OF EXCELLENCE IN
MATHEMATICAL AND STATISTICAL SCIENCES (CoE-MaSS)
PRESENTS A SEMINAR BY**

Dr Ruaan Kellerman
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South Africa)*

"First-order definability within trees, and axiomatisations of first-order theories of classes of trees"

Friday, 20 July 2018
10h30-11h30
CoE-MaSS Seminar Room, 1st floor,
Math Sci Bldg, West Campus, Wits University.

Trees are viewed here as strict partial orders (T ;<) that are left-linear and left-connected. Such trees need not be any of the following: finite, rooted, well-founded, discrete, complete, finitely branching. A maximal linearly ordered subset of a tree is called a path. The structure of a tree is determined in large part by the structure of its paths. This suggests defining from a class L of linear orders, a class T (L) of trees of which all of their paths are isomorphic to linear orders in L. The basic problem around which this talk will be centered is that of using what is known about the first-order theory of L to examine the first-order theory of T (L), in particular, using a known axiomatisation of the first-order theory of L to axiomatise the first-order theory of T (L). No essential background will be assumed beyond basic knowledge of the model theory of first-order logic. This work is part of a joint project with Valentin Goranko (Stockholm University) and Alberto Zanardo (University of Padova). Email: ruaan.kellerman@up.ac.za

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