Universität Konstanz

Fachbereich
Mathematik und Statistik
Schwerpunkt
Reelle Geometrie und Algebra

Einladung

Im Oberseminar *Modelltheorie* hält

David Bradley-Williams

(Universität Düsseldorf)

am **Montag, 07.11.2016**, einen Vortrag zum Thema:

Applications of the theory of Jordan groups in describing reducts (of trees).

Der Vortrag findet um **15:15 Uhr** in **F426** statt.
Alle Interessenten sind herzlich eingeladen.

Abstract: When a structure, M, is presented to us (in a language L), it is a natural problem to try to describe the "reducts" of M, the (relational) structures on the same domain as M which are definable in L, and to do this up to first-order interdefinability. When M is omega-categorical (and countable) this is equivalent to describing the permutation groups H such that Aut(M) $<$ H $<$ Sym(M) that are closed in the natural topology on Sym(M). This characterisation allows us to use the theory of infinite permutation groups to study reducts (and vice-versa). There is a particularly interesting class of permutation groups called Jordan groups which has both a rich theory and the property that if G is a Jordan group then any closed permutation group containing G is also a Jordan group. This fact has already been used to study reducts of combinatorial trees (by Bodirsky and Macpherson) and combinatorial geometries (by Kaplan and Simon). We apply results from the theory of Jordan groups and semilinear orderings to describe the reducts of ordered trees that are sufficiently homogeneous and identify an infinite class of maximally closed subgroups of Sym(omega). We speculate that these methods might one day shed light on an elusive conjecture of Simon Thomas.
(During this talk I will mention joint work with Manuel Bodirsky, Michael Pinsker and András Pongrácz.)
