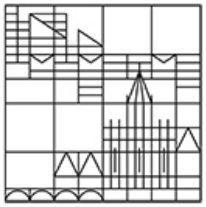

Universität Konstanz

Logic in Konstanz

Invitation

Joris Graff

(*Utrecht University – Department of Philosophy and Religious Studies*)

Numeric Default Logic for Modelling Patterns of Moral Reasoning

The talk will take place
on **Monday, 11.12.2023** at **15:15** in room **F426**.

All interested are welcome to attend.

Abstract: Default logic is a branch of nonmonotonic logic centred around the notion of defaults, or defeasible rules that allow conclusions to be drawn provisionally. That is to say, such conclusions are treated as true unless countervailing evidence either attacks the conclusion itself, or the default it is based on. Horty has proposed to use default logic as a deontic logic, i.e. to model (moral) obligations. The rationale is that default logic accurately represents the defeasibility of many moral rules as well as the possibility of moral conflicts. Despite this, Horty's logic struggles to represent some other patterns of moral reasoning, such as aggregation of moral reasons. To mend this situation, the current talk proposes numeric default logic, which assigns numeric values to both defaults and propositions, as an extension of Horty's system. In this system, propositions and defaults are represented as nodes in a quantitative graph similar to neural or Bayesian networks. This talk first gives an overview of the definitions of numeric default logic – based on a distinction of different types of reasons, such as favourers, attenuators and disablers – and its links to traditional default logics, specifically Horty's system. Then, it is shown how numeric default logic can be used to model several important patterns of moral reasoning, namely different types of reasons aggregation as well as reasoning with contrary-to-duty obligations.

Carolin Antos, Salma Kuhlmann
Coordinators of the Logic Colloquium