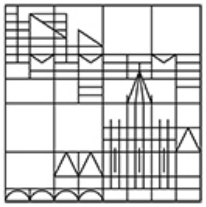

Invitation

Logic Colloquium

Levin Hornischer

(LMU München, Munich Center for Mathematical Philosophy)

Semantics for Sub-symbolic Computation

the talk will take place
on **Monday, 24.04.23** at **15:15** in room **F426**

All interested are welcome to attend

Abstract: Despite its success, we are lacking a foundational theory of AI. We want to understand and explain the 'sub-symbolic' computation performed by the neural networks that drive this success. For classical 'symbolic' computation, this problem was solved by semantics: it mathematically describes the meaning of program code. In this talk, we work towards an analogous semantics for sub-symbolic computation. Just like classical computation is specified by program code, we take sub-symbolic computation to be specified by dynamical systems. And just like classical computation has a denotational interpretation in terms of domains, we provide an adjunction between dynamical systems and (coalgebras on) domains. The domains are built by observing the systems, and each domain models a system. Finally, just like classical computation also is specified by a program logic which is Stone dual to the denotational semantics, we provide a program logic for systems based on Boolean algebras with operators.

Carolin Antos, Salma Kuhlmann
Coordinators of the Logic Colloquium