

Ústav informatiky

Akademie věd České republiky

Pod Vodárenskou věží 2, 182 07 Praha 8

ÚI AV ČR ve spolupráci s Odbornou skupinou pro logiku, pravděpodobnost a usuzování České společnosti pro kybernetiku a informatiku

pořádá

v seminární místnosti ÚI AV ČR - místnost č. 318
(stanice metra C Ládví)

Seminář aplikované matematické logiky

který se schází **ve středu v 10.00 hod.**

Program na duben 2018:

4. 4. 2018 - *Tommaso Moraschini*

Relational semantics for deductive systems I

Relational semantics has proved to be a fundamental tool in the mathematical and philosophical understanding of many non-classical logics, including intuitionistic, modal and substructural logics. Nevertheless, the evolution of the general theory of relational semantics is far behind that of algebraic semantics. In this talk we present a first abstract approach to relational semantics, in the spirit of Abstract Algebraic Logic, which turns out to be deeply connected with the theory of completions of ordered algebras. More in detail, we will consider two basic questions which need to be addressed by any truly general theory of relational semantics:

1. Can we make precise the idea that a logic has (or does not have) a local relational semantics?
2. In case a logic has a local relational semantics, what are its distinguished relational models (if any)?

If time allows, we will consider the following problems as well:

3. Can we use the distinguished relational semantics of a propositional logic L to introduce a semantically defined first-order extension L ?
4. Can we axiomatize this first-order extension relative to a given axiomatization of the propositional logic L ?

11. 4. 2018 - *Tommaso Moraschini*

Relational semantics for deductive systems II

18. 4. 2018 - *Petr Cintula*

Abstract consequence relations I: from multiset consequence to a general picture

We present a generalization of Blok-Jansson theory of equivalence between structural consequence relation in such a way as to naturally accommodate multiset-based consequence relations as well. While Blok and Jansson admit, in place of sheer formulas, a wider range of syntactic units to be manipulated in deductions (including sequents and equations), these objects are invariably aggregated via set theoretical union. Our approach is more general in that non-idempotent forms of premiss and conclusion aggregation, including multiset sum and fuzzy set union, are considered.

In the first part we focus on multiset consequence relation, present a natural general framework for their study, introduce basic syntactical and semantical notions and prove completeness.

In the second part we present an abstract categorical framework generalizing Galatos-Tsinakis take on Blok-Jansson theory.

25. 4. 2018 - *Tommaso Moraschini*

Abstract consequence relations II: the categorial perspective