Ústav informatiky
Akademie věd České republiky

Pod Vodárenskou věží 2, 182 07 Praha 8

ÚI AV ČR ve spolupráci s Odbornou skupinou aplikované matematické logiky 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 ve 14.00 hod.**

Program na listopad 2013:

6. 11. 2013 - *Libor Běhounek:*
A minimalistic many-valued type theory

A new parsimonious Church-style many-valued theory of types with many-valued extensional
equality as the only logical symbol will be introduced and its soundness and completeness with
respect to a many-valued Henkin-style semantics proved. It will be shown that type theories
(or higher-order logics) over a broad class of non-classical logics can be cast as extensions of
this ground type theory, and their soundness and completeness be proved either schematically,
or by minor adjustments to the soundness and completeness proof of the ground system.

13. 11. 2013 - *Petr Savický :*
Boolean functions with a vertex-transitive group of automorphisms

A Boolean function is called vertex-transitive (or transitive for simplicity), if the partition of
the Boolean cube into the preimage of 0 and the preimage of 1 is invariant under a vertex-
transitive group of isometric transformations of the cube. Several constructions of transitive
functions and some of their properties will be presented.

27. 11. 2013 - *Matěj Dostál:*
Ordered universal algebra, algebraic theories and Morita theorems

Sometimes doing something leads to the same result as doing something different. We are going
to observe this phenomenon in the field of ordered universal algebra. In our approach, ordered
universal algebra studies algebras with an underlying poset instead of a set, and with monotone
(order-preserving) operations. Varieties, or classes of algebras that are definable by equations
between terms, are replaced with classes definable by inequalities between terms. Forming a
closure of a set of inequalities yields an algebraic theory. An interesting question arises: when do
two different algebraic theories give rise to classes of algebras that are equivalent as categories?
The result is known in classical universal algebra and generalises the work of Kiiti Morita in
module theory. We show that the result generalises even to the world of ordered universal
algebra.