

# 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 Ládvi)

## Seminář aplikované matematické logiky

který se schází **ve středu ve 14.00 hod.**

*Program na červen 2014:*

25. 6. 2014 - *Denisa Diaconescu:*

### **Stone-like dualities: a tool for generalizing finite automata**

The aim of the seminar is to show how the finite slice of Stone duality can be used to define a dictionary for translating deterministic finite automata (thought as set-theoretical objects) in the language of classical propositional logic. By this translation, we obtain objects of classical propositional logic, called classical fortresses, which accept exactly the same languages as finite automata: regular languages. Classical fortresses allow easy generalizations to non-classical logics: given a propositional logical calculus  $L$  which is algebraizable, locally finite, and enjoys a Stone-like duality, one can adapt the definition of classical fortress to the framework of  $L$ , introducing a notion of  $L$ -fortress and studying the language accepted by such objects. We investigate the following question: What is the reflection of  $L$ -fortresses in the theory of automata? We explicit our method for Godel logic.