

# Zpravodaj pro kybernetiku a informatiku

**ČSKI** Česká společnost pro kybernetiku a informatiku

březen  
2016

Člen: CEPIS, ECCAI, IAPR, IASS/AIS, IFAC, IFIP, IT STAR. Založena 1966.

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## Valná hromada ČSKI

V souladu se stanovami svolává předsednictvo ČSKI volební valnou hromadu Společnosti na pátek 3. června 2016 ve 14 hodin. Valná hromada se bude konat v zasedacím sále Ústavu informatiky AV ČR, Pod Vodárenskou věží 2, Praha 8, stanice metra C Ládví. V průběhu valné hromady budou slavnostně předány ceny vítězům soutěže Antonína Svobody. Podrobný program valné hromady bude uveden v příštím Zpravodaji.

Vyzýváme všechny členy ČSKI k podávání návrhů na členy předsednictva. Návrhy můžete posílat poštou nebo e-mailem, případně podávat telefonicky, kterémukoliv členovi předsednictva ČSKI.

## Březnové kalendárium

9. R. Horčík: **Why is fuzzy logic not applied in computer science, yet?**
16. L. Běhounek: **Predicate fuzzy partial logic - initial steps**
23. M. Bílková: **Many-valued coalgebraic logics**

## Odborná skupina aplikované matematické logiky

Vás zve na semináře, které se konají vždy **ve středu** v zasedacím sále Ústavu informatiky AV ČR (místnost č. 318), Pod Vodárenskou věží 2, 182 07 Praha 8 – Libeň, stanice metra C Ládví.

**Pozor! Začátek seminářů je posunut na 10 hodin!**

**Program:**

9. března **Rostislav Horčík: Why is fuzzy logic not applied in computer science, yet?**  
Despite of the fact that weighted structures are deeply investigated in computer science, it is surprising that fuzzy logic (a logic of weighted structures) has almost no applications in the above-mentioned investigations so far. In the lecture I will present my personal opinion why fuzzy logicians missed the boat to apply their knowledge in computer science. As a case study, I will overview some recent developments on valued constraint satisfaction problems in order to show how these problems are related to fuzzy logic and what kind of questions computer scientists pose about them.
16. března **Libor Běhounek: Predicate fuzzy partial logic - initial steps**  
Fuzzy partial propositional logic, recently proposed by Behounek and Novak, provides a simple framework accommodating propositions with graded as well as undefined truth. A natural next step is to extend the system to predicate logic of the first and higher orders. I will present first steps in this direction (joint work with Martina Dankova, in progress), considering only undefined truth and leaving aside undefined individuals. In particular, I will discuss basic fuzzy partial quantifiers, first-order and (Russell-style) higher-order fuzzy partial logic, basic properties of first- and higher-order fuzzy partial predicates and functions, and their representation in the usual (non-partial) fuzzy logic.
23. března **Marta Bílková: Many-valued coalgebraic logics**  
We outline two approaches of designing a logical language for coalgebras, parametric in the coalgebra functor, and apply them in a many-valued setting. Our goal is to give sufficient conditions (both on the coalgebra functor and the algebra of truth values) for the resulting language being expressive for bisimilarity. In this respect, we are generalising results of G. Metcalfe and M. Marti on Hennessy-Milner property for language with box and diamond over crisp many-valued image-finite Kripke frames where the algebra of truth values is a complete MTL-chain; and also results on expressivity of classical coalgebraic logic by D. Pattinson and L. Schröder.

## Volná místa

### University of Salento (Lecce, Italy)

A postdoc position will be soon available within the project OPT4SMART funded under the ERC Starting Grant excellence program. Research will be conducted at the University of Salento, under the supervision of Prof. Giuseppe Notarstefano.

*About the position:* We are looking for motivated, talented PhDs from all over the world, who wish to:

- undertake/continue research at the cutting edge of optimization and control in cyber-physical networks;
- contribute to the startup of an excellent, international new research group;
- work in one of the most beautiful Italian cities with a great quality of life.

The initial appointment will be for one year with the possibility of extension based on performance. The salary is competitive (very competitive for the life cost in Italy). The postdoctoral researcher will work in a group with about six PhD students and will have the possibility to take the co-supervision of one or more of them.

*About OPT4SMART* (Distributed optimization methods for smart cyber-physical networks): OPT4SMART is a 5 years research project funded under the EU Horizon 2020 excellence program "ERC Starting Grant", <http://erc.europa.eu>, supporting investigator-driven frontier research on the basis of scientific excellence. OPT4SMART will investigate a novel distributed, large-scale optimization framework and its application to big-data estimation, learning, decision and control problems in cyber-physical networks.

*About Lecce:* Lecce is a beautiful Baroque city in the South-East of Italy. It is a lively, graceful but relaxed university town in the Salento peninsula, the heel of Italy's boot. For a 36-hours tour of Lecce you can google The New York Times: "36 hours in Lecce, Italy".

*Who should apply:* The desired candidate holds a PhD degree in Controls, Optimization, Signal Processing or related fields, and has

- an excellent publication record (few high-impact papers in high-quality journals and conferences);
- a strong mathematical background including optimization and preferably control theory or signal processing;
- strong interest in optimization and at least one of: control theory, estimation, machine learning;
- excellent proficiency in written and spoken English.

The above skills and background should clearly appear from the candidate CV, from few (the most important) publications, and from the PhD thesis.

For further information about the position and the official call you can send an email with subject "OPT4SMART Postdoc last-name" to [giuseppe.notarstefano@unisalento.it](mailto:giuseppe.notarstefano@unisalento.it).

See also

[http://cor.unisalento.it/notarstefano/opt4smart/Postdoc\\_OPT4SMART\\_flyer.pdf](http://cor.unisalento.it/notarstefano/opt4smart/Postdoc_OPT4SMART_flyer.pdf)

## Různé konference

**WORLDCOMP'16** – The 2016 World Congress in Computer Science, Computer Engineering, and Applied Computing, Monte Carlo Resort, Las Vegas, USA, July 25-28, 2016. Paper submission deadline: March 22, 2016. <http://worldcomp.org/events/2016>

Vydává Česká společnost pro kybernetiku a informatiku pro potřeby svých členů. Neprodejné. Neprošlo korekturami ani jazykovou úpravou. Informace o členství v ČSKI na jejím sekretariátě. Příspěvky posílejte na adresu sekretariátu (přednostně emailem a v elektronické formě LaTeX).

Uzávěrka příštího čísla: 29. března 2016.

Texty z tohoto zpravodaje smějí být uveřejněny jinde jako celek i po částech. Prosíme ovšem o uvedení odkazu na ČSKI jako zdroj.