

# Zpravodaj pro kybernetiku a informatiku

**ČSKI** Česká společnost pro kybernetiku a informatiku

leden  
2001

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

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Vážení kolegové,

předsednictvo ČSKI přijalo rozhodnutí zrušit v členské databázi rodná čísla členů. Vzhledem k tomu, že rodná čísla nejsou pro činnost Kybernetické společnosti zapotřebí, vyhneme se tak nutnosti ověřovat, splňujeme-li náležitosti nového zákona o ochraně osobních údajů. Nadále se tedy bude na přihlášce uvádět pouze datum narození.

Dagmar Harmancová

## Lednové kalendárium

10. P. Hájek: Fuzzy logika domněnkových funkcí
15. W. Schwinger: Modeling Customizable Web Applications - A Requirements' Perspective
15. W. Winiwarter, I. K. Ibrahim: Intelligent Agents in the Integral Value Added Chain of E-Commerce
16. J. Michálek: Robust approach to exponential smoothing
17. S. Jenei: On the structure of Girard monoids
18. R. Jiroušek: Bayesovské sítě bez sítí
22. R. Mázl, L. Přeučil: A Lidar-Based Mobile Robot Navigation and Environment Mapping
31. Z. Haniková: Teorie množin ve fuzzy logice

## Odborná skupina teoretické robotiky

Vás zve na přednášku:

**Prof. Radim Jiroušek, DrSc. (Laboratoř inteligentních systémů VŠE Praha)**

### Bayesovské sítě bez sítí

ve čtvrtek 18. ledna od 9:00 hod. Přednáška se koná v zasedacím sále Ústavu informatiky AVČR (místnost č. 318), Pod vodárenskou věží 2, 182 07 Praha 8 – Libeň, stanice tramvaj 10, 17 a 24 Ládvi.

*Souhrn.* Bude popsán "konstruktivní" způsob popisu mnohadimensionálních distribucí, který nepoužívá grafický aparát. Bude ukázáno, jak lze tímto aparátem popsat libovolnou bayesovskou síť. Tento aparát také dovoluje zavést dekompozice distribucí a tedy i dekompozice bayesovských sítí.

## Odborná skupina „Rozhodování a řízení za neurčitostí“

Program pracovního semináře pořádaného ÚTIA AVČR spolu s odbornou skupinou rozhodování a řízení za neurčitosti ČSKI:

**Jiří Michálek (ÚTIA AV ČR, Department of Stochastic Informatics)**

### Robust approach to exponential smoothing

Přednáška se koná 16. 1. 2001 od 14:00 hod., v ÚTIA AVČR, Pod vodárenskou věží 4, 182 08 Praha 8 – Libeň, místnost č. 208.

*Souhrn.* Exponential smoothing is a very famous and often used recursive procedure both for smoothing and predicting time series. This procedure is relatively very simple and gives good results in practice. However, in case when data is corrupted by outliers, the classical technique of exponential smoothing can fail. This situation calls for an application of robust statistics methods to exponential smoothing. The lecture summarizes results obtained within last years in this field.

Semináře se konají pravidelně 1. a 3. úterý (případně i další) v měsíci ve 14:00 v místnosti č. 208 v ÚTIA AV ČR.

Snahou organizátorů je dosáhnout výměny informací a základních myšlenek mezi

podobory kybernetiky a informatiky zaměřenými na rozhodování, rozpoznávání a řízení za neurčitosti. Přednášky by proto neměly vyžadovat detailní specializované znalosti probírané oblasti. *Informace, tipy a nabídky přednášek:* M. Kárný (02/6605 2274, school@utia.cas.cz) [rozhodování a adaptivita] J. Ježek (02/6605 2387, jezek@utia.cas.cz) [řízení a systémy] P. Tichavský (02/6605 2292, tichavsk@utia.cas.cz) [stochastická informatika]

## Gerstnerova laboratoř a Odborná skupina pro umělou inteligenci

zvou všechny zájemce na semináře, které se konají vždy v pondělí od 11:00 hod. ve Vyčichlově knihovně: ČVUT - Fakulta elektrotechnická, Katedra kybernetiky, budova E, 1. patro, místnost č. 112, Karlovo náměstí 13, Praha 2

Program:

15. leden 2001 **Wieland Schwinger (Johannes Kepler University of Linz): Modeling Customizable Web Applications - A Requirements' Perspective**

Existing modeling methods for web applications, however, fall short on considering a major requirement posed on today's web applications, namely customization. Web applications should be customizable with respect to various context factors comprising different user preferences, device capabilities and locations in mobile scenarios, to mention just a few.

The goal of this presentation is twofold. First, a framework of requirements, covering the design space of customizable web applications is suggested. Second, on the basis of this framework, existing approaches for developing customizable web applications are surveyed and general shortcomings are identified pointing the way to next-generation modeling methods.

15. leden 2001 **Werner Winiwarter, Ismail K. Ibrahim (Johannes Kepler University of Linz): Intelligent Agents in the Integral Value Added Chain of E-Commerce**

An agent-based architecture for electronic commerce allows the creation of a marketplace in which a number of autonomous or semi-autonomous agents trade services and goods. This approach offers a number of new opportunities to reduce or even eliminate the disadvantages of the traditional approaches, namely the time needed to gather information about a product or a service, the difficulty to compare between a large number of products, the advertising overhead, and the pricing inefficiencies.

Agents are able to examine a large number of products before making a decision to buy or sell. This not only eliminates the need for manually collected information about products but also allows negotiating an optimal deal with the various sellers of a good.

Software agents will play an increasing variety of roles as mediators in electronic commerce. The personalized, continuously autonomous nature of agents makes them well suited for mediating the consumer behaviors involving information filtering and retrieval, personalized evaluations, complex coordination, and time-based interactions.

We will talk in this presentation about the role of intelligent agents in the integral value added chain of e-commerce which provides richer and more flexible ways of interactions with the help of agents mediating in many of the steps of commercial transactions.

22. leden 2001 **Roman Mázl, Libor Přeučil (GL laboratoř): A Lidar-Based Mobile Robot Navigation and Environment**

## Mapping

A central task for autonomous mobile systems (robots) is to navigate thru the environment. The task consists of two basic and complementary subgoals known as position determination and recovery of the environment shape and structure.

The presented contribution describes a brand new, robust and simple approach to 2D environment mapping making-use of a TOF-based laser ranging system. As the used mobile system has no absolute positioning the primary task is to determine exact position and heading of the robot. If the first step is successfully completed a full recovery of the particular object boundaries can be done. The obstacle recovery process incorporates multiple steps consisting of a boundary segment recovery, process of linking cracked or isolated segments and a decision-making procedure learning the newly recovered entities into the robot's memory.

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## Odborná skupina aplikované matematické logiky

Vás zve na semináře, které se konají vždy **ve středu v 9:00 hod.** v zasedacím sále Ústavu informatiky AVČR (místnost č. 318), Pod vodárenskou věží 2, 182 07 Praha 8 – Libeň, stanice tramvají 10, 17 a 24 Ládví.

### Program:

- 10. ledna 2001 Petr Hájek: Fuzzy logika domněnkových funkcí**  
**17. ledna 2001 Sándor Jenei** (Institute of Mathematics and Informatics, University of Pécs):  
**On the structure of Girard monoids**  
**31. ledna 2001 Zuzana Haniková: Teorie množin ve fuzzy logice**

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## Volná místa

### Statistical Natural Language Processing ATR Interpreting Telecommunications Research Laboratories Kyoto, Japan

ATR in Kyoto, Japan is looking for a talented and experienced mathematician (good probability background) / computer scientist who is interested in coming to Japan and joining an exciting research project in statistical natural language processing. The overall goals of the project are to continue development of natural language parsers and use them in statistical French->English language translation. The research group which the candidate would become part of has developed and is refining a natural language parsing system based on statistical machine learning algorithms. The job begins ideally in March, 2001 and lasts for 1-4 years. Later start dates are possible, though not a first choice.

A qualified candidate must have the Ph.D. degree, preferably math, physics, computer science; with extensive programming experience and expertise in C++. Ability to innovate approaches to applied mathematical problems in the area of probability required. Experience with statistical modelling within general pattern recognition field also important. Familiarity with natural language field a plus but not absolutely necessary. Candidate should know UNIX well and in general be a highly expert programmer. This is not a job for those who are theoreticians only, but rather is for someone who is equally at home with issues of statistical modelling theory, experimental method, and detailed coding matters. Java/Corba experience would be nice, though again not required. The position involves supervision of several researchers and programmers as well.

Salary and conditions competitive.

Please contact: black@slt.atr.co.jp.

### Faculty Position Available Washington University in St. Louis School of Engineering and Applied Science Department of Systems Science and Mathematics

The Department of Systems Science and Mathematics, Washington University in St. Louis invites applications for a full-time, tenure-track faculty position. Candidates are sought who have a strong interest in Systems and Control. Preference will be given to candidates with expertise and solid background in at least one of the following areas: Nonlinear Control, Robust Control, Autonomous Control, Control of Hybrid Systems, Control of Distributed Systems. Candidates are expected to undertake active research programs in the control of complex, interconnected, uncertain dynamical systems and to attract external funding to support their research. Candidates must be committed to teaching at the undergraduate and graduate levels. The appointment will be made at the Assistant Professor level. An earned Ph.D. or D.Sc. degree from a major university is required. Publications in major refereed scientific journals and current advanced research activity are required. The Department has 9 full-time faculty and is committed to enhance its present high level of advanced research. Current faculty interests include applications of systems methodologies and computational

mathematics to aerospace, enterprise control, signal processing, transportation and communication networks, biomechanics, quantum mechanics and robotics.

Applications, including a letter of interest, a curriculum vitae, complete publications list, dissertation abstract, and the names of four references should be sent to Dr. Alberto Isidori, Chair of Search Committee, Department of Systems Science and Mathematics, Washington University Campus Box 1040, One Brookings Drive, St. Louis, MO 63130. Applications may also be sent by e-mail to: search@zach.wustl.edu.

The Washington University is an Affirmative Action, Equal Opportunity Employer. Employment eligibility verification required up on hire.

### Faculty position at the University of California, Santa Barbara

The College of Engineering at the University of California, Santa Barbara invites applications for a tenure track position in control and dynamical systems. Building upon the strong interdisciplinary program engendered by the Center for Control Engineering and Computation, the College seeks applicants with research interests in developing control and dynamical system concepts for emerging engineering disciplines, e.g.: biomedical systems, communication networks, optoelectronic devices, and microelectromechanical systems (MEMS). This search complements the control and dynamical systems search ongoing in the Department of Mechanical and Environmental Engineering.

The appointment will be in the candidate's department of preference with the possibility of a joint appointment. Responsibilities include teaching at both the undergraduate and graduate levels, recruitment and supervision of graduate students, and the development of an actively funded research program of the highest quality. A Ph.D. or equivalent degree and a demonstrated potential for excellence in teaching and research are required. Screening will begin February 1, 2001 and will continue until the position is filled.

Applicants should send a resume containing teaching and research accomplishments and the names and addresses of three references to:

Andrew R. Teel, Search Committee Chair, c/o Dean's Office, College of Engineering, Engineering I Bldg., Rm. 1038, University of California, Santa Barbara, CA 93106

The University of California is an Equal Opportunity/Affirmative Action Employer.

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## Různé konference

**MEDICON 2001** – IX Mediterranean Conference on Medical and Biological Engineering and Computing, Pula, Croatia, June 12-15, 2001. Submissions deadline: January 15, 2001.

<http://www.crombes.hr/MEDICON2001>

**ICCNS'2001** – Fifth International Conference on Cognitive and Neural Systems, Boston University, Boston, USA. Tutorials: May 30, 2001. Meeting: May 31 - June 2, 2001. Deadline for contributed abstract submissions: January 31, 2001. <http://www.cns.bu.edu/meetings/>

**ICSM2001** – IEEE International Conference on Software Maintenance 2001, Florence, Italy, November 6-10, 2001. Theme: Systems and Software Evolution in the era of the Internet. Deadlines: Research Paper submission 15 January 2001; Dissertation submission 15 January 2001; Industrial Application submission 12 March 2001; Tools request and submission 12 March 2001; Tutorial submission 12 February 2001.

<http://www.dsi.unifi.it/icsm2001>

**ISIPTA '01** The Second International Symposium on Imprecise Probabilities and Their Applications, Cornell University, Ithaca, NY, USA, June 26-29, 2001. Paper submission deadline: January 15, 2001. <http://ippserv.rug.ac.be/isipta01>

**FORTE/PSTV 2001** – IFIP TC6/WG6.1 Joint International Conference on Formal Description Techniques (FORTE XIV) for Distributed Systems and Communication Protocols, and Protocol Specification, Testing, and Verification (PSTV XXI), Cheju Island, Korea, August 28-31, 2001. Submission deadline: February 21, 2001

<http://nalab.icu.ac.kr/fortepstv2001/>

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Vydává Česká společnost pro kybernetiku a informatiku pro potřeby svých členů. Neprodejné. Neprošlo korekturami ani jazykovou úpravou. Informace o členství v ČSKÍ na jejím sekretariátě. Příspěvky posílejte na adresu sekretariátu (přednostně emailem a v elektronické formě LaTeX nebo v kódu Kamenických). Uzávěrka příštího čísla: 19. ledna 2001.

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