

**ÖSTERREICHISCHE STUDIENGESELLSCHAFT FÜR KYBERNETIK**  
(Austrian Society for Cybernetic Studies)

in Cooperation with the

INTERNATIONAL FEDERATION FOR SYSTEMS RESEARCH

**Twentieth  
European Meeting  
on  
Cybernetics and Systems Research  
2010**

Vienna, April 6 – 9, 2010

in the

Main Building

of the

University of Vienna

**P R O G R A M M E**

Secretariat:

ÖSTERREICHISCHE STUDIENGESELLSCHAFT FÜR KYBERNETIK

Freyung 6/6, A-1010 WIEN, AUSTRIA

Phone +43 -1-5336112-19 Fax +43-1-5336112-77

Email: [sec@ofai.at](mailto:sec@ofai.at)

URL: <http://www.osgk.ac.at/emcsr>

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# TWENTIETH EUROPEAN MEETING ON CYBERNETICS AND SYSTEMS RESEARCH (EMCSR 2010)

The Chairpersons have been requested to maintain the time table set out on the following pages. Should a scheduled speaker not be available, the allocated period will be used for discussions.

## Symposia

- A Systems Science**  
R. Belohlavek, USA, G. Klir, USA, and P. Prautsch, Czech Republic
- B Mathematical Methods in Cybernetics and Systems Theory**  
J. Scharinger, Austria
- C The Cybernetics of Cybernetics: Cybernetics, Interaction and Conversation**  
R. Glanville, UK
- D Biocybernetics and Mathematical Biology**  
L. M. Ricciardi, Italy
- E Living Systems (cancelled)**
- F Cognitive Rationality, Relativity and Clarity**  
I. Ezhkova, Belgium
- G Governance of Knowledge & Technology as a Societal Distributed Process**  
E. Buchinger, Austria
- H Management, Organizational Change, and Innovation**  
M. Mulej, Slovenia, G. Steiner, Austria, and S. Umpleby, USA
- I Language Technology**  
E. Buchberger, Austria
- J From Agent Theory to Agent Implementation - AT2AI-7**  
J. P. Müller, Germany, and P. Petta, Austria
- K Agent-Based Modeling and Simulation**  
S. Bandini, Italy, G. Vizzari, Italy, and P. Petta, Austria
- L Companions, Virtual Butlers, Assistive Robots: Empirical and Theoretical Insights for Building Long-Term Social Relationships**  
D. Heylen, Netherlands, B. Krenn, Austria, and S. Payr, Austria
- M Theory and Applications of Artificial Intelligence**  
V. Marik, Czech Republic, and O. Stepankova, Czech Republic
- N Challenges, Visions and Roadmaps of Systems Sciences**  
G. Ossimitz, Austria, and G. Chroust, Austria

All events will take place in the Main Building of the University in Vienna 1, Dr. Karl-Lueger-Ring 1. The information desk is on the first floor, the lecture rooms as well as general information and a complete schedule can be found at the end of this programme.

# TWENTIETH EUROPEAN MEETING ON CYBERNETICS AND SYSTEMS RESEARCH (EMCSR 2010)

## GENERAL SCHEDULE

Tue., 6 April	9:00	Conference Office on 1st Floor of the Main Building of the University of Vienna opens
	10:00	GREAT FESTIVAL HALL
		WELCOME by Prof. Dr. Georg Winckler, Rector of the University of Vienna
		OFFICIAL OPENING by the Federal Minister of Science and Research, Professor Dr. Beatrix Karl
		ADDRESS by the Chairman of the Meeting, Prof. Dr. Robert Trappl, President, Austrian Society for Cybernetic Studies
		PLENARY ADDRESS:
		RESEARCH FOR A WORLD IN TRANSITION Prof. Dr. Detlof von Winterfeldt, Director, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria
		Break for Lunch
	14:00 – 19:00	SYMPOSIA (Time Table on the following pages)

Wed., 7 April	9:00	PRESENTATION OF THE INTERNATIONAL FEDERATION OF SYSTEMS RESEARCH (IFSR)	(Room 41)
	9:30	ROSS ASHBY MEMORIAL LECTURE OF THE IFSR	(Room 41)
		GRAND CHALLENGES FOR COMPUTER SCIENCE RESEARCH Prof. Dr. Johann Eder, University of Klagenfurt, Austria	
	11:00 – 13:00	SYMPOSIA  Break for Lunch	
	14:00 – 19:00	SYMPOSIA	
Thu., 8 April	14:00 – 18:30	SYMPOSIA	
Fri., 9 April	9:00	BEST PAPER AWARDS	(Room 41)
	9:30	PLENARY ADDRESS:	(Room 41)
		ROBOTIC HELPERS: INTERACTION, INTERFACES AND COMPANIONS IN ASSISTIVE AND THERAPY ROBOTS Prof. Dr. Kerstin Dautenhahn, Adaptive Systems Research Group, School of Computer Science, The University of Hertfordshire, UK	
	11:00 – 13:00	SYMPOSIA  Break for Lunch	
	14:00 – 17:00	SYMPOSIA	
	20:00	Participants are kindly invited by the Mayor of Vienna and by the Austrian Society for Cybernetic Studies to the Heurigen 10er Marie	

# SYMPOSIA TIME TABLE

## SYMPOSIUM A

### Systems Science

R. Belohlavek, USA, G. Klir, USA, and P. Prautsch, Czech Republic

**Thursday p.m.**

**Room 47**

14:00-14:30

Systems Theory in Design of Systems and Products  
*J. Korn, Middlesex University, United Kingdom*

14:30-15:00

An alternative version of the main theorem of fuzzy concept lattices  
*M. Krupka, Palacký University, Olomouc, Czech Republic*

15:00-15:30

Isotone concept-forming operators and closure operators  
*J. Konecny, Palacký University, Olomouc, Czech Republic*

**15:30-16:00 Coffee Break**

16:00-16:30

Anticipatory Artificial Autopoiesis  
*D. M. Dubois, S. C. Holmberg, University of Liège, Belgium*

16:30-17:00

Confluence of Fuzzy Relations over Similarity Spaces  
*T. Kuhr, V. Vychodil, Palacký University, Olomouc, Czech Republic*

17:00-17:30

Reconstruction of Belemnite Evolution Using Formal Concept Analysis  
*R. Belohlavek, M. Kostak, P. Osicka, State University of New York, Binghamton, USA*

17:30-18:00

Homo entropicus  
*F. Zucconi, Polytechnic University of Ancona, Italy*

## SYMPOSIUM B

### Mathematical Methods in Cybernetics and Systems Theory

J. Scharinger, Austria

**Friday a.m.**

**Room 34**

11:00-11:30

Agent Cooperation vs. DES Control Synthesis

*F. Capkovic, Slovak Academy of Sciences, Bratislava,  
Slovak Republic*

11:30-12:00

Optimal Inventory Control Under Uncertainty and Constraints

*N. Nechval, M. Purgailis, K. Nechval, V. Danovich, T. Liepins,  
University of Latvia, Riga, Latvia*

12:00-12:30

Modelling and verification of cyber-physical system

*M. Pluska, D. Sinclair, Dublin City University,  
Ireland*

12:30-13:00

A General Method for the Analysis and the Logical Generation of  
Discrete Mathematical Systems in Programmable Logical Controller

*D. M. Dubois, A. Mascia, University of Liège,  
Belgium*

## SYMPOSIUM C

### **The Cybernetics of Cybernetics: Cybernetics, Interaction and Conversation** R. Glanville, UK

**Tuesday p.m.**

**Room 34**

14:00-14:30

Complementary construction of the World and of the Self  
*R. Jung, Center for Systems Research, Kutná Hora,  
Czech Republic*

14:30-15:00

"ESSE EST PERCIPI (AUT PERCIPERE)": The Minimum Time  
Principle of Maximal Information Transfer  
*P. Medina Martins, Technical University of Lisbon,  
Portugal*

15:00-15:30

Based on No-thing - A Cybernetical Musing On Eastern Beauty  
*L. Pawlik, American Society of Cybernetics, Washington,  
USA*

#### **15:30-16:00 Coffee Break**

16:00-16:30

Quasi Entailment Mesh  
*B. Pak, R. Glanville, Sint-Lucas Architectuur, Brussels,  
Belgium*

16:30-17:00

Model Development for Magazine Cover Page Selection  
*Y. Soylu, N. Bayazit, Istanbul Technical University,  
Turkey*

17:00-17:30

The game as a methodology for observing the observer  
*J. C. Bermeo, R. Zarama, Universidad de los Andes, Bogotá,  
Colombia*

17:30-18:00

Labyrinths, Mazes and the Spaces Inbetween  
*S. McElhinney, Bartlett School of Architectur, UCL, London,  
United Kingdom*



**Wednesday a.m.**

**Room 34**

11:00-11:30

Universal University Coordination Scenario  
*M. F. Schreiber, Vienna University of Economics and Business,  
Austria*

11:30-12:00

TXT2 - Art on Interaction and Conversation  
*G. Davidson, K. Williams, I. Grimstead, B. Goffin, Artstation, Cardiff,  
United Kingdom*

12:00-12:30

How (Not) To Make Terrorists?  
*R. Pla-Lopez, Universitat de València, Burjassot, Spain*

12:30-13:00

Balancing Security with Liberty; through Global Education for  
Cyber-systemically Informed Freedom  
*G. Boyd, V. Zeman, Education Department Concordia University,  
Montreal, Canada*

**Wednesday p.m.**

**Room 34**

14:00-14:30

Conversation and control in the animal  
*J. van der Merwe, Cape Peninsula University of Technology,  
Cape Town, South Africa*

14:30-15:00

Cybernetics for Post-Humans: Symbiotic Games of the Limited Creator  
*D. V. Galkin, Tomsk State University, Russia*

15:00-15:30

Error  
*R. Glanville, CybernEthics Research, Southsea, United Kingdom*

**15:30-16:00 Coffee Break**

16:00-17:00

Discussion

## SYMPOSIUM D

### **Biocybernetics and Mathematical Biology**

L. M. Ricciardi, Italy

**Thursday p.m.**

**Room 46**

14:00-14:30

Biocomputation

*P. Cull, Oregon State University, Corvallis, USA*

14:30-15:00

Identities and Differences. A stimulating Aspect of Early Cybernetics

*L. Montagnini, Università "Federico II", Napoli, Italy*

15:00-15:30

On first passage problems for one-dimensional diffusions with random jump reflection at a boundary

*M. Abundo, Università Tor Vergata, Roma, Italy*

#### **15:30-16:00 Coffee Break**

16:00-16:30

On time non-homogeneous stochastic processes with catastrophes

*A. G. Nobile, V. Giorno, A. Di Crescenzo, L. M. Ricciardi, Università di Salerno, Fisciano, Italy*

16:30-17:00

On the first exit time problem for a Gompertz diffusion

*V. Giorno, G. Albano, P. Román, F. Torres, Università di Salerno, Fisciano, Italy*

17:00-17:30

More on cumulative entropy

*A. Di Crescenzo, M. Longobardi, Università di Salerno, Fisciano, Italy*

17:30-18:00

Transient analysis of a birth-death process with alternating rates

*A. Iuliano, B. Martinucci, Università di Salerno, Fisciano, Italy*

## SYMPOSIUM F

### **Cognitive Rationality, Relativity and Clarity**

I. Ezhkova, Belgium

**Friday a.m.**

**Room 46**

11:00-11:30

Strategies for Stabilization Behaviour of Intelligent Dynamic Systems  
*G. Osipov, Institute for Systems Analysis of Russian Academy of Sciences, Moscow, Russia*

11:30-12:00

Logical Analysis of Intelligence Systems by Algebraic Method  
*B. Kulik, A. Fridman, A. Zuenko, Russian Academy of Sciences (RAS), St. Petersburg, Russia*

12:00-12:30

A Risk-Averse Approach to Technical Design  
*G. Szász, S. Benedikt, I. Kun, Dennis Gabor College, Budapest, Hungary*

12:30-13:00

Natural Cognitive Mechanisms in the Tatar Language  
*D. Suleymanov, Tatarstan Republic Academy of Sciences, Kazan, Russia*

**Friday p.m.**

**Room 46**

14:00-14:30

About the Verification Problem at Cognitive Mapping of Ill-structured Situations in the Context of Cognitive Clarity and Relativity Principles  
*N. A. Abramova, Russian Academy of Sciences, Moscow, Russia*

14:30-15:00

Experience in cognitive modeling of complex systems  
*G. Gorelova, V. Verba, B. Buyanov, Technological Institute at South Federal University, Taganrog, Russia*

15:00-15:30

Negotiating Boundaries  
*S. Vrobel, The Institute for Fractal Research, Bad Nauheim, Germany*

**15:30-16:00 Coffee Break**

16:00-16:30

Cognitive Complexity of Rule-based Disambiguation Method  
*O. Nevzorova, Kazan State University, Russia*

16:30-17:00

Cognitive Relativity, Rationality and Clarity in Uniformology  
*I. Ezhkova, N. Efimov, International Institute of Applied Technologies, Brussels, Belgium*

### Some of OFAI's Partners:



## SYMPOSIUM G

### **Governance of Knowledge & Technology as a Societal Distributed Process**

E. Buchinger, Austria

**Thursday p.m.**

**Room 41**

14:00-14:30

Mapping and its Observer

*M. Füllsack, University of Vienna, Austria*

14:30-15:00

Living Systems Theory and Typology of Migrations

*I. Riss, Central Bureau of Statistics, Jerusalem, Israel*

15:00-15:30

Governance as Societal Distributed Process: A Multi-agent, Multi-mechanism, Multi-level Approach (M3)

*E. Buchinger, Austrian Institute of Technology, Vienna, Austria*

#### **15:30-16:00 Coffee Break**

16:00-16:30

Social innovations in climate adaptation strategies - first lessons from a regional study

*K.-H. Simon, University of Kassel, Germany*

16:30-17:00

Nuclear Knowledge Management in Multilevel Community Networks: Synergetic approach

*A. Dreimanis, Radiation Safety Centre of the State Environment Service, Riga, Latvia*

17:00-17:30

Communication and knowledge in the Finnish Nuclear waste management programme

*M. Silvan-Lempinen, I. Kantola, University of Turku, Finland*

17:30-18:00

Distributed Decision Support in Home Care

*L. Lhotska, J. Dolezal, J. Dolezel, Czech Technical University, Prague, Czech Republic*

18:00-18:30

Governing Innovation Processes in Complex Social Systems

*P. Ahrweiler, University College Dublin, Ireland*

## SYMPOSIUM H

### **Management, Organizational Change, and Innovation**

M. Mulej, Slovenia, G. Steiner, Austria, and S. Umpleby, USA

#### **Tuesday p.m.**

**Room 50**

14:00-14:30

Presentation of Abstracts

14:30-15:00

From Complexity to Reflexivity: The Next Step in the Systems Sciences  
*S. Umpleby, The George Washington University, Washington, USA*

15:00-15:30

Spreading Systems Concepts through the Practices of Collaboration and Symbiosis  
*A. Leonard, The Complementary Set, Toronto, Canada*

#### **15:30-16:00 Coffee Break**

16:00-16:30

A Cybernetic Approach to Virtual Collaboration: Collaboration Platform for the Public Education  
*N. Assimakopoulos, I. Theocharopoulos, University of Piraeus, Greece*

16:30-17:00

Constructing New World Views by Practicing New Management Methods: A Constructivist Approach to Education  
*T. A. Medvedeva, Siberian State University of Transport, Novosibirsk, Russia*

17:00-17:30

Conceptualising and Mapping Social Forces  
*J. Raven, Independent, Edinburgh, United Kingdom*

17:30-18:00

The Global 2008 - Crisis and Innovation of Managers' Attributes  
*M. Mulej, V. Potocan, Z. Zenko, T. Strukelj, A. Hrast, S. Zizek, University of Maribor, Slovenia*

#### **Wednesday a.m.**

**Room 50**

11:00-11:30

Crisis Prevention - What Is Necessary to Avoid the Next Crisis?  
*M. Schwaninger, S. Grösser, University of St. Gallen, Switzerland*

11:30-12:00

The credit crisis: the iceberg overturns

*J. D. M. Kruisinga, Independent, The Hague, The Netherlands*

12:00-12:30

The information requirements and resources for managing dynamic multi-project companies

*I. Perko, A. Hauc, I. Vrecko, University of Maribor, Slovenia*

12:30-13:00

Managing Knowledge Assets for Competitiveness in the Knowledge Era

*M. Ristovska, Z. Popovska, M. Stankosky, University "Ss Cyril and Methodius", Skopje, Macedonia*

**Wednesday p.m.**

**Room 50**

14:00-14:30

Innovation Project Participants Interaction Optimization Models

*I. Dubina, Altai State University, Barnaul, Russia*

14:30-15:00

Knowledge Creation, Explicit Knowledge and Control

*H. Nechansky, nechansky - Engineering Efficiency, Vienna, Austria*

15:00-15:30

Innovation Sustaining Life in Change, Crisis - An Overarching Systemic, Semiotic Evolutional Attempt

*H. Löckenhoff, Independent Research, Backnang, Germany*

**15:30-16:00 Coffee Break**

16:00-16:30

"Creating Sustainable Futures by Innovation from within": Radical Change is in Demand of Radical Innovation

*M. F. Peschl, C. Raffl, T. Fundneider, S. Blachfellner, University of Vienna, Austria*

16:30-17:00

Coyotes, Jazz, and Creative Teams: Facing and Seeking Variance

*R. Derickson, K.S. Long, V.S. Gordon, A. Tana, W. Tremblay, Innovation Affinity Group, Broomfield, USA*

17:00-17:30

How Transdisciplinarity becomes a Member in the Club of Science - Some Preliminary Thoughts on the Contribution of Systems Theory to Theorizing Transdisciplinarity

*B. Freyer, J. Bingen, S. Helgenberger, University of Natural Resources and Applied Life Sciences BOKU, Vienna, Austria*

17:30-18:00

Current Discourses in Management Science: Comparing Interpretive and Constructivist Approaches

*A. Paucar-Caceres, R. Harnden, Manchester Metropolitan University Business School, United Kingdom*

**Friday a.m.**

**Room 50**

11:00-11:30

Creative communication management within complex entrepreneurial innovation processes: a transdisciplinary systems approach

*G. Steiner, F. Risopoulos, University of Graz, Austria*

11:30-12:00

An Organizational Cybernetics framework for diagnosing and designing organizations

*J. P. Ríos, University of Valladolid, Spain*

12:00-12:30

Holistic understanding of interactions among innovations and projects

*I. Vrecko, M. Mulej, University of Maribor, Slovenia*

12:30-13:00

Network topography and coordination synthesis for dynamic networking of manufacturing enterprises

*S.-V. Rehm, WHU - Otto Beisheim School of Management, Vallendar, Germany*

**Friday p.m.**

**Room 50**

14:00-14:30

Sustainability Solution Space for the Swiss milk value added chain: Combing LCA data with socio-economic indicators

*C. R. Binder, J. Steinberger, A. Schmid, University of Graz, Austria*

14:30-15:00

"Systems Integration" versus "Operations Integration" - A Conceptual Framework for Achieving and Monitoring "Systems Integration" of a Health System

*J.-P. Ngana, Independent, Toronto, Canada*

15:00-15:30

Elements of a Systemic View on Bank Downscaling

*V. Pozdnyakov, Independent, Voronezh, Russia*



## SYMPOSIUM I

### Language Technology E. Buchberger, Austria

**Friday a.m.**

**Room 41**

11:00-11:30

Computer Assisted Language Learning: A Pattern Based Paradigm  
and a Tool (Cica)

*E. Buchberger, Medical University of Vienna, Austria*

11:30-12:00

A Joint Model for Resolution and Generation of Referring Expressions  
in a Restricted Domain

*H. Horacek, M. Wolska, DFKI GmbH, Saarbrücken, Germany*

12:00-12:30

Bulgarian Possessive and Reflexive-possessive Pronouns in DATR

*V. Stoykova, Bulgarian Academy of Sciences, Sofia, Bulgaria*

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SYMPOSIUM J  
**AT2AI-7: From Agent Theory to Agent Implementation**  
J. P. Müller, Germany, and P. Petta, Austria

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Klaus Fischer	John-Jules Meyer	Franco Zambonelli
Jorge Gomez-Sanz	Andrea Omicini	

**Tuesday p.m.**

**Room 47**

16:00-16:30

Coordination in Multi-Agent Systems: A Declarative Approach using  
Coordination Spaces

*A. Vilenica, A. Pokahr, L. Braubach, W. Lamersdorf, J. Sudeikat, W. Renz,  
University of Hamburg, Germany*

16:30-17:00

Monitoring Time-Aware Social Commitments with Reactive Event Calculus  
*F. Chesani, P. Mello, M. Montali, P. Torroni, DEIS - University of Bologna,  
Italy*

17:00-17:30

Behavior Adaptation in RMAS: An Agent Architecture based on MDPs  
*M. S. Fagundes, H. Billhardt, S. Ossowski, University Rey Juan Carlos,  
Madrid, Spain*

17:30-18:00

Using CSP in the Formal Specification of the Micro-Organizational Level of  
Multiagent Systems  
*R. de Miranda Barbosa, A.C. Rocha Costa, P. C. de Azevedo Resteli Tedesco,  
A. C. Mota, Instituto de Informática, Porto Alegre, Brazil*

18:00-19:00

Wrap up discussion

**Wednesday a.m.**

**Room 47**

11:00-11:30

Security in Agent-Mediated Negotiation Frameworks  
*R. Ssekibuule, Makerere University Kampala, Uganda*

11:30-12:00

EnvSupport: A Framework for Developing Virtual Environments  
*K. Jander, L. Braubach, A. Pokahr, University of Hamburg, Germany*

12:00-12:30

Use and Reuse of Multi-Agent Models and Techniques in a Distributed Systems Development Framework  
*A. Poggi, M. Tomaiuolo, Università degli Studi di Parma, Italy*

12:30-13:00

Component-Based Agent Architectures to Build Dedicated Agent Frameworks  
*V. Noel, J.-P. Arcangeli, M.-P. Gleizes, Université de Toulouse, France*

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## SYMPOSIUM K

### Agent-Based Modeling and Simulation

S. Bandini, Italy, G. Vizzari, Italy, and P. Petta, Austria

#### Programme Committee ABModSim 2010:

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Andreas Schadschneider	Elizabeth Sklar	Flavio Soares Correa da Silva
Danny Weyns		

#### Wednesday p.m.

**Room 46**

14:00-14:30

Combining Multi Agent System modeling and System Dynamics modeling  
*E. Gebetsroither, Austrian Institute of Technology, Vienna, Austria*

14:30-15:00

A Model and Language for Simulating Asynchronous Automata Networks  
*S. Bandini, A. Bonomi, G. Vizzari, University of Milano-Bicocca, Italy*

15:00-15:30

Development of a game simulation to analyze coalitions in agents  
*D. Lala, T. Nishida, Kyoto University, Japan*

#### 15:30-16:00 Coffee Break

16:00-16:30

Agent-based Exploration of Wirings of Biological Neural Networks  
*Ö. Gürçan, O. Dikenelli, K. S. Türker, Ege University Bornova, Izmir, Turkey*

16:30-17:00

A Framework for Processing Agent Based Pedestrian Activity Simulations in Shopping Environments  
*J. Dijkstra, J. Jessurun, H. Timmermans, B. de Vries, Eindhoven University of Technology, The Netherlands*

17:00-17:30

Designing an Agent-based Simulation of Collective Emotions  
*S. Rank, Austrian Research Institute for Artificial Intelligence, Vienna, Austria*

17:30-18:00

Large-scale Agent-based Simulation of Air-traffic

*D. Sislak, P. Volf, M. Pechoucek, Czech Technical University, Prague, Czech Republic*

18:00-18:30

Learning by Modeling: Insights from an Agent-based Model of University-Industry Relationships

*A. Pyka, G. Triulzi, University of Hohenheim, Stuttgart, Germany*

18:30-19:00

Wrap up discussion

\*\*\*\*\*

The Austrian Research Institute for Artificial Intelligence of the Austrian Society for Cybernetic Studies provides the editorial office of

### **Cybernetics and Systems: An International Journal**

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**Cybernetics and Systems** disseminates information about important methodological developments in cybernetics, enabling scientists from different areas to use these methods in their research; focuses on important new applications of cybernetic methods in different areas in order to encourage application of these methods to problems; and informs the scientific community of new books, ongoing research in specific institutions, forthcoming conferences, and institutional and personal changes.

Cybernetics and Systems appears in eight issues per annum and comprises appr. 800 pages per volume and is published by Taylor and Francis, Philadelphia, PA.

Please send your manuscripts to be considered for publication via email to the Editor-in-Chief at the editorial office in Vienna. More detailed information on C & S as well as the **Instructions for authors** are forwarded upon request but can also be found at <http://www.tandf.co.uk/journals/authors/ucbsauth.asp>

## SYMPOSIUM L

### **Companions, Virtual Butlers, Assistive Robots: Empirical and Theoretical Insights for Building Long-Term Social Relations**

D. Heylen, Netherlands, B. Krenn, Austria, and S. Payr, Austria

**Thursday p.m.**

**Room 34**

14:00-14:30

Prerequisites for Human-Agent- and Human-Robot Interaction: Towards An Integrated Theory

*S .C. Eimler, N .C. Krämer, A. M. von der Pütten, University of Duisburg-Essen, Germany*

14:30-15:00

Conversation in Context: what should a robot companion say?

*P. Wallis, S. Creer, S. Cunningham, V. Maier, The University of Sheffield, United Kingdom*

15:00-15:30

Acceptance and Use of a Zoomorphic Robot in a Domestic Setting

*T. Klamer, S. B. Allouch, University of Twente, Enschede, The Netherlands*

**15:30-16:00 Coffee Break**

16:00-16:30

Ritual or Routine: Communication in Long-Term Relationships with Companions

*S. Payr, Austrian Research Institute for Artificial Intelligence, Vienna, Austria*

16:30-17:00

Methodological Considerations for Long-Term Experience with Robots and Agents

*T. Ganster, S. C. Eimler, A. M. von der Pütten, L. Hoffmann, N. C. Krämer, University of Duisburg-Essen, Germany*

## SYMPOSIUM M

### **Theory and Applications of Artificial Intelligence**

V. Mařík, Czech Republic, and O. Stepánková, Czech Republic

**Tuesday p.m.**

**Room 46**

14:00-14:30

The Role of Recursion in and for Scientific Creativity

*M. Franova, Université Paris-Sud, Orsay, France*

14:30-15:00

Solving the Shortest Common Supersequence Problem Using Iterative Optimization with Evolved Hypermutations

*J. Kubalik, F. Zelezný, Czech Technical University, Prague, Czech Republic*

15:00-15:30

Privacy Protection Using Semantic Technologies

*P. Kremen, M. Blasko, Z. Kouba, Czech Technical University, Prague, Czech Republic*

**15:30-16:00 Coffee Break**

16:00-16:30

Subspace clustering and the structural chessboard problem

*L. Nováková, O. Stepánková, Czech Technical University, Prague, Czech Republic*

16:30-17:00

On a Mobile Robotics E-learning System

*M. Kulich, K. Kosnar, J. Faigl, L. Preucil, J. Chudoba, Czech Technical University, Prague, Czech Republic*

17:00-17:30

Expert system for blast-furnaces process control

*E. Ivanov, Russian Academia of Sciences, Moscow, Russia*

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Inferring Optimal Kernel Hyperparameters Using Cox Regression for Cancer Outcome Prediction

*V. Jumutc, P. Zayakin, Riga Technical University, Latvia*

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Evaluation of Atrial Fibrillation in Human Using Artificial Intelligence Methods

*V. Kremen, L. Lhotska, Czech Technical University, Prague, Czech Republic*

## SYMPOSIUM N

### Challenges, Visions and Roadmaps of Systems Sciences

G. Ossimitz, Austria and G. Chroust, Austria

#### Tuesday p.m.

Room 41

16:00-16:30

The Relevance of Systems Science Competence in Professional Life  
*C. von der Hellen, University of Graz, Austria*

16:30-17:00

Teaching Systems-Science: A reality check  
*A. Kreuzeder, C. R. Binder, University of Graz, Austria*

17:00-17:30

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*N. Assimakopoulos, I. Theocharopoulos, M. Konstantopoulou, University of Piraeus, Greece*

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Systems Science Informing Service (Systems) Science  
*J. Wilby, The Business School, University of Hull, United Kingdom*

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*T. Vlk, G. Ossimitz, Technical University Graz, Austria*

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*M. Mrotzek, C. R. Binder, University of Graz, Austria*

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*A. J. Gregory, University of Hull, United Kingdom*

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*G. Frankl, G. Ossimitz, University of Klagenfurt, Austria*



**AUSTRIAN RESEARCH INSTITUTE  
FOR ARTIFICIAL INTELLIGENCE  
(OF AI)**

**A-1010 Wien, Freyung 6/6**

**Phone: +43-1-5336112-20, Fax: +43-1-5336112-77**

**Email: [sec@ofai.at](mailto:sec@ofai.at),**

**URL: <http://www.ofai.at>**



The Austrian Research Institute for Artificial Intelligence (Österreichisches Forschungsinstitut für Artificial Intelligence, OFAI) is a research institute of the Österreichische Studiengesellschaft für Kybernetik (OSGK), a registered scientific society founded in 1969.

The OFAI is one of Europe's leading non-profit contract research institutions. It has been cooperating with international and national organisations, companies, universities and research institutes from 28 countries.

In solving the problems of its partners, OFAI uses methods like machine learning and data mining, language and speech technology, neural networks, intelligent software agents and other software technologies, with many of the underlying methods developed in-house.

Services offered range from consultancy, basic and applied research on a contractual base, to working as partner or prime contractor in scientific projects on a national or European level, with a more than twenty year experience in a diversity of domains, from economic, engineering, administrative to social and cultural tasks.

Currently, 25 specialists, mainly computer scientists and linguists, all graduates from universities, work as employees at the OFAI, plus 9 scientists, mainly professors at universities, on a contractual base.

At the Austrian Research Institute for Artificial Intelligence (OFAI) basic and applied research is performed in several areas of AI, most notably:

- Language Technology
- Interaction Technologies
- Intelligent Music Processing and Machine Learning
- Intelligent Software Agents and New Media
- AI and Society

Please find a list of projects currently undertaken or recently successfully finalized on the next page. More details can be found at [www.ofai.at](http://www.ofai.at).

# PROJECTS CURRENTLY UNDERTAKEN OR RECENTLY SUCCESSFULLY COMPLETED AT THE AUSTRIAN RESEARCH INSTITUTE FOR ARTIFICIAL INTELLIGENCE (OFAI)

## Projects funded by the EU

Collective Emotions in Cyberspace	<b>CYBEREMO</b>
Integrating Research in Interactive Storytelling	<b>IRIS</b>
Learning for Security	<b>L4S</b>
Social Engagement with Robots and Agents	<b>SERA</b>
Responsive Artificial Situated Cognitive Agents that Live and Learn on the Internet	<b>RASCALLI</b>

## Project funded by the Austrian Science Fund (FWF)

Towards automatic annotation of electro-acoustic music
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## Projects funded by the Austrian Research Promotion Agency (FFG)

Companions für UserInnen	<b>C4U</b>
Expert Seeking Support System	<b>EXPERTSEEK</b>
Ontologiebasierte Informationsextraktion und Suche	<b>OREX-2</b>
Multifaceted Analysis of News Articles for Intelligent User- and Context-Sensitive Presentation	<b>MAGNIFICENT</b>

## Projects funded by the Vienna Science and Technology Fund (WWTF)

Audio-Miner: Mathematical Signal Analysis and Modeling for Manipulation of Sound Objects.	
Viennese Sociolect and Dialect Synthesis	<b>VSDS</b>

## Projects funded by the Federal Ministry of Economics and Labour – K-net program

Competence Network for Advanced Speech Technologies	<b>COAST</b>
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An Overview of some of our partners is to be found on page 11.

In case you are interested in a project or your institution (institute, company, etc.) may be interested to be a partner or to have OFAI as a partner in a project proposal, e.g. for a EU program, please contact us.

Participants are kindly invited by the Mayor of Vienna and by the Austrian Society for Cybernetic Studies to the Heurigen 10er Marie on Friday 9 April at 20:00

How to get to the Heurigen "10er Marie" using public transport



Quelle: <http://www.fuhrgassl-huber.at>

The wine tavern "10er Marie" is easily reached by public transport! The tram line J runs directly past the house and the underground line 3 is also nearby.

Take the tram line J (from the Ring, for example the Viennese Opera house) – stop Johann-Krawarik-Gasse or Ottakringer Str./Erdbrustgasse.

Take the underground line 3 (from Vienna centre or the railway station west) to the final tube station Ottakring, then continue walking for about 3 minutes.

# Restaurants and Cafés near the University

## Restaurants

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### *Viennese/Austrian Kitchen*

Hebenstreit**	Rockhgasse 1 1010 Wien	11:30 – 24:00	
Fromme Helene**	Josefstädter Strasse 15 1080 Wien	11:00 – 24:00	
Lebenbauer**	Teinfaltstraße 3 1010 Wien	11:00 – 15:00 17:30 – 22:30	
Zum Leupold**	Schottengasse 7 1010 Wien	10:00 – 24:00	((☎))

### *International Kitchen*

Akakiko*	Heidenschuss 3 1010 Wien	11:00 – 23:00	
Appiano***	Schottenbastei 4 1010 Wien	12:00 – 14:30 18:00 – 23:00	
Molly Darcy's Irish Pub**	Teinfaltstraße 6 1010 Wien	11:00 – 02:00	
Mr. Lee*	Dr. Karl-Lueger-Ring 4 1010 Wien	11:00 – 23:30	
Pizzeria Il Sestante*	Piaristengasse 50 1080 Wien	11:30 – 23:30	
Trattoria Martinelli***	Freyung 3 1010 Wien	12:00 – 15:00 18:00 – 24:00	((☎))

## Cafés

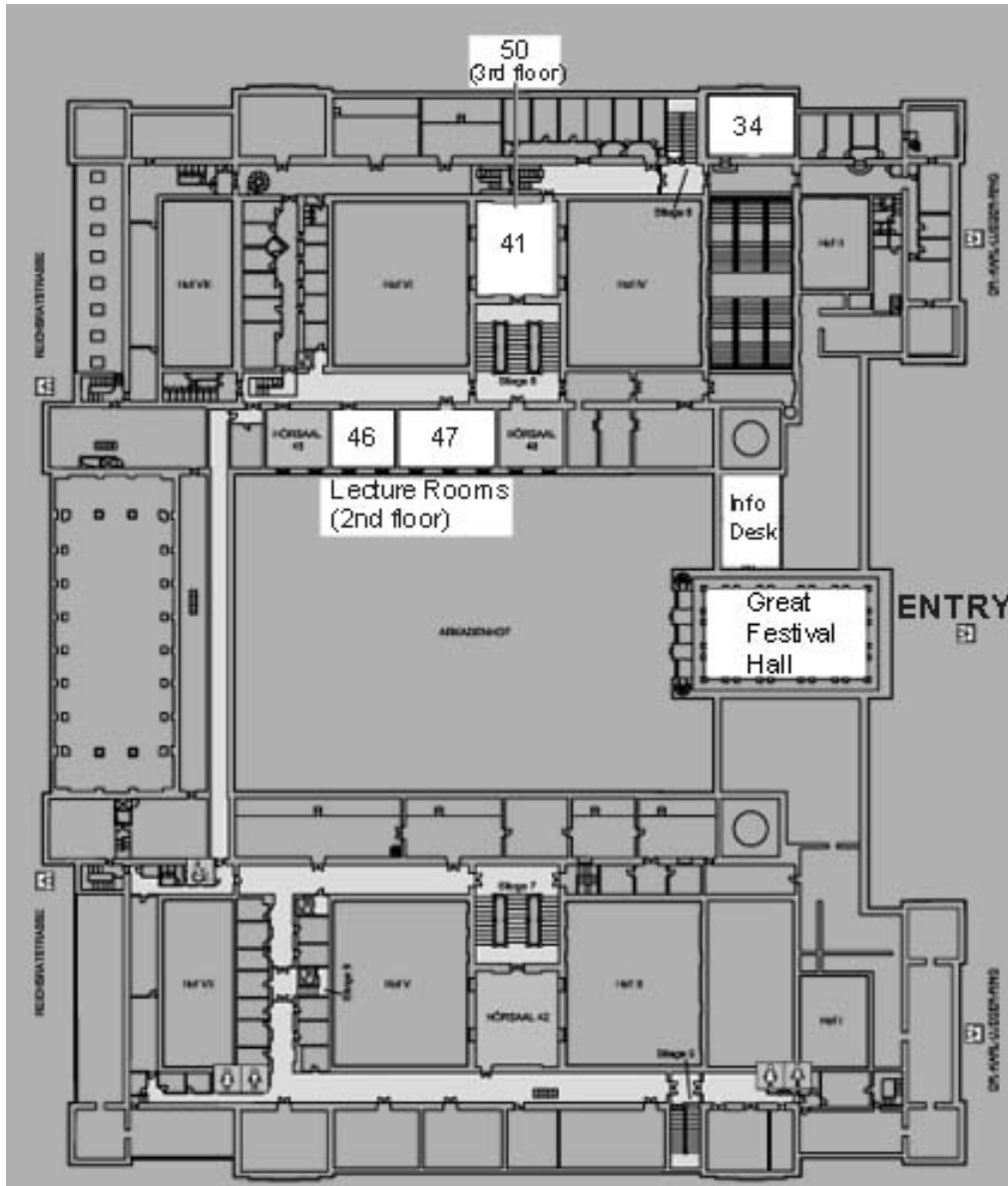
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Café Central***	Corner Herrengasse/ Strauchgasse 1010 Wien	07:30 – 22:00	((☎))
Café Landtmann***	Dr.-Karl-Lueger-Ring 4 1010 Wien	07:30 – 24:00	((☎))
Café im Schottenstift**	Schottengasse 2 1010 Wien	07:00 – 23:00	((☎))
Café Stein**	Währinger Straße 6-8 1090 Wien	07:00 – 01:00	((☎))
Demmers Tearoom**	Mölker Bastei 5 1010 Wien	09:00 – 18:00	

Price Level: \* low, \*\* average, \*\*\* high

Wireless Local Area Network available: ((☎))

# Main Building of the University of Vienna



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## GENERAL INFORMATION

### WELCOME TO THE EMCSR 2010!

The University of Vienna is one of the oldest European universities, founded in 1365, and has been a leading institution of scientific teaching and research ever since. The conference will be held at the main building of the University of Vienna at Dr. Karl Lueger-Ring1, 1st district.

**CONFERENCE DESK:** The Conference Desk on the first floor will be at your service on Tuesday from 09:00 a.m. to 07:00 p.m., on Wednesday from 08:30 a.m. to 07:00 p.m., on Thursday from 01:30 to 06:00 p.m. and on Friday from 08:30 a.m. to 05:00 p.m. for registration and information. You may also contact members of the Organizing Committee for help and information.

**BADGES:** You are kindly asked to wear your badge all through the Conference to identify you as a Congress participant, because the university building is open to the public.

**INTERNET ACCESS:** There are numerous small Internet cafés throughout the city. You can find a list of restaurants and cafés near the University providing WLAN on page 27.

**REFRESHMENTS:** Coffee will be available free of charge at the Conference Desk office during the coffee breaks. Other refreshments can be bought in the university building (look for "Buffet").

**SOCIAL PROGRAMME:** Friday, 9 April 2010, at 08:00 p.m. invitation to a "Heurigen" by Dr. Michael Häupl, the Mayor of Vienna, and by the Austrian Society for Cybernetic Studies. Special invitations will be available at the registration desk on Thursday, 8 April.

**FEES:** The conference fee (€ 250,- for payments received by February 5, 2010, € 300,- if received later, € 350,- for payment at the registration desk) includes participation in the Twentieth European Meeting, attendance at the Heurigen, and the volumes of the proceedings.

**PROCEEDINGS OF THE MEETING:** R. Trappl (ed.): "Cybernetics and Systems 2010". Vienna: Austrian Society for Cybernetic Studies, ISBN 978 3 85206 178 8. One copy of the proceedings is included in the conference fee.

We are happy to welcome you in Vienna and hope that your stay here will be successful and pleasant!

The Organizing Committee of the 20th EMCSR 2010.



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	am	pm	am	pm	am	pm	am	pm		
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	*									
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50		H		H	H				H	H

\*Plenary Lecture

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*J. Scharinger, Austria*

### C The Cybernetics of Cybernetics: Cybernetics, Interaction and Conversation

*R. Glanville, UK*

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*L. M. Ricciardi, Italy*

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*I. Ezhkova, Belgium*

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*E. Buchinger, Austria*

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*M. Mulej, Slovenia, G. Steiner, Austria, and S. Umpleby, USA*

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*E. Buchberger, Austria*

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*J. P. Müller, Germany, and P. Petta, Austria*

### K Agent-Based Modeling and Simulation – ABModSim 2010

*S. Bandini, Italy, G. Vizzari, Italy, and P. Petta, Austria*

### L Companions, Virtual Butlers, Assistive Robots: Empirical and Theoretical Insights for Building Long-Term Social Relationships

*D. Heylen, Netherlands, B. Krenn, Austria, and S. Payr, Austria*

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*V. Marik, Czech Republic, and O. Stepankova, Czech Republic*

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*G. Ossimitz, Austria, and G. Chroust, Austria*