Michal Pěchouček – 2007 Curriculum Vitae

born June 29, 1972 in Kolin, Czech Republic, nationality Czech, married, three children

Present Affiliation

Czech Technical University in Prague (CTU), associate professor in artificial intelligence, head of the Agent Technology Group at the Gerstner Laboratory, CTU (full-time) and CERTICON a.s., manager of Applied research department/chief scientist (part-time)

Education

Engineering degree (eq. to M.Sc.) in Technical Cybernetics at Czech Technical University in Prague (1995)
M.Sc. in IT: Knowledge based systems, at Department of Artificial Intelligence, University of Edinburgh (1996)
PhD in Artificial Intelligence and Biocybernetics at Czech Technical University in Prague (1998)

Past Visiting Academic Affiliations

- Visiting scientist at Artificial Intelligence Application Institute, University of Edinburgh, Royal Society of Edinburgh grant holder (2006)
- Visiting professor at State University of New York - University of Bingahmton, lecturing a full semester course on Agent Technologies and Multi-Agent Systems (2003)
- Visiting postdoctoral researcher at the University of Calgary, Supported by Nortel Chair for Intelligent Manufacturing (2000)

PI and Management Track Record

From within ATG:

Founder and manager of the Agent Technology Group (ATG) at the Gerstner Laboratory, Department of Cybernetics, CTU (since 2000). In 2007 ATG has 25 members (researchers and graduate students). The operation of ATG has been funded through EC, government grants and direct industrial contracts. ATG contributes to basic and applied research in agent based computing, and building large scale agent prototypes and demonstrators (http://agents.felk.cvut.cz/).

Principal investigator on the following research projects to Air Force Research Laboratory, NY AFOSR/EOARD:

- Agent-based Computing in Distributed Adversarial Planning, FA8655-07-1-3083 (2007-2008)
- Autonomous Agents for UAV Air-Traffic Control, FA8655-04-1-3044-P00001 (2005-2007)
- Modeling agents autonomy and agents' in adversarial environment, FA8655-04-1-3044 (2004-2005)
- Meta-reasoning and Monitoring in the Multi-Agent Systems FA8655-02-M4056 (2002-2003)
- Agents Inaccessibility in Multi-agent Systems FA-8655-02-M-4057 (2002-2004)
- Acquaintance Models in Operations Other Than War Coalition Formation F61775-00-WE043 (2002-2003)
- Multi-Agent Systems in Communication, investigator, F61775-99-WE099 (1999 - 2000)

Principal investigator on the research projects to CERDEC US Army NJ:

- Distributed Planning and Coordination of Team-oriented Activities N62558-06-P-0353, subcontract provided to University of Edinburgh (2006-2008)
- Cooperative Adaptive Mechanism for Network Protection N62558-07-C-0001, subcontract provided to Masaryk University (2007)
- Modeling Individual, Collaborative and Adversarial Reflection in MAS N62558-05-C-0028 (2005-2007)
- Reflective/Cognitive Agent in Distributed Decision Making N62558-04-C-6001 (2004-2005)
- Modeling in Multi-agent Systems: A Technology Primer, co-pi, N62558-03-0819, (2004)

Principal investigator on the research projects to Naval Research Laboratory, ONR/NRL:

- Meta-reasoning and Adjustable Autonomy in Computational MAS N00014-06-1-0232 (2005-2008)
- Robot coordination using PIM, subcontract awarded by Florida IHMC, US N00014-06-1-07756 (2007)
- Meta-reasoning for Modeling and Simulation in Multi-Agent Systems N00014-03-1-0292 (2003-2005)

Principal Investigator the following industrial research contracts:

- DENSO Automotive, GmbH: Agent based diagnostics in vehicle electronics (2005-2007)
- CADENCE Design Systems: A/GLOBE multi-agent system deployment for design process and assessment modeling (2006)

Local Coordinator of the European Commission FP5 and FP6 RTD Projects:

- CONTRACT - Contract Methods for Verifiable Cross-Organizational Networked Business Apps (2006-2008)
- PANDA - Collaborative Process Automation Support using Service Level Agreements (2006-2008)
- ExtraPLANT/EUTIST-AMI IST project, agent-based solution for supply chain management (2003-2004)
- ExPlanTech IST project, development and take-up of production planning multi-agent system (2000-2002)
- MPA GROWTH project, agent-based modular planning and simulation architecture (2002-2003)

Principal investigator on the subcontract provided by Institute for Human and Machine Cognition within the framework of HYRES project funded by NASA - development of an agent based root-cause detection, in hydrogen production facility (2003)

Coordination of the consulting project to GEDAS in cooperation with CERTICON, a.s. aimed the design of the agent based solution for engine manufacturing in SKODAAuto (2004)

Consulting (via ATG) to Rockwell Automation Research Center in Prague, design of the agent-based reconfiguration shipboard automation for the chilling system (2002)

From outside ATG:

Since 2006 manager of the applied research department (part-time) with CERTICON a.s. Responsible for identifying and guiding the company research vision, running the research technology transfer projects and managing the relationship with research community and academia. During 2000-2006, senior consultant in agent technology.

Expert reviewer to EC in research and technology transfer projects (WIDE, SpiderWin, FluidWin – since 2004), Reviewer to projects funded by NOW – Netherlands Organization for Scientific Research and IWT – the Research Funding and Innovation Stimulation Agency of the Flanders.

During 2005-2007, independent consultant to CADENCE Design System, GmBH, Munich: research quality reviewer and project management consultant on the PSI international research project.

PhD Committee member and an opponent on PhD thesis submitted to University of Edinburgh and Blekinge Institute of technology.

Membership, Awards and Honorary Affiliation

Honorary/Visiting Member of Artificial Intelligence Application Institute, University of Edinburgh (since 2005)
Member of Advisory Board of Center for Advanced Information Technologies (CAIT), State University of New York (SUNY) in Binghamton (since 2005)
Member of the AgentLinkIII European Coordinating Action management committee (http://www.agentlink.org), coordinator of industrial take-up of agent technology (2004-2006)

The 2006 DARPA Award for Best Industrial and Applied Paper at AAMAS 2006 (for collective of authors)
The 2005 Czech Technical University Chancellor Research Team Award to the Agent Technology Group, GL
The 2005 IEEE/WIC/ Intelligent Agent Technology Best Demo Award (for collective of authors)
The 2004 CTU Chancellor Award (3rd main prize) for excellence in industrial deployment of research results
The 2004 CIA (Cooperative Information Agents) System Innovation Award (for collective of authors)
Best paper award at EMSCR 1998 (for collective of authors)
Siemens Dissertation Award 1998

Chairman of EUMAS AB (European Workshop on Multi-Agent Systems Advisory Board) (2004-2006)
AAMAS 2006 (Autonomous Agents and Multi-Agent Systems) senior program committee member; AAMAS 2005/2006 (Autonomous Agents and Multi-Agent Systems) industry track co-chair; KSCO2002 (Knowledge Systems for Coalition Operation), KSCO 2004 co-chair; HoloMAS (Industrial Application of Holonic and Multi-Agent Systems) 2000 - 2002 co-chair; CEEMAS (Central and Eastern European Conference on Multi-Agent Systems) 2003, 2005 co-chair; program committee member of ESAW, ECAI (European Conference on Artificial Intelligence), CIA (Cooperative Information Agents), AAMAS (Autonomous Agents and Multi-Agent Systems),

Excalibur Alumni - Association of Czech Graduates of British Universities, founding member and chairman;
Member of CSKI –Czech Society for Cybernetics and Informatics (an ECCAI member);
Member of Academic Senate, Faculty of Electrical Engineering, Czech Technical University

Selected Publications

Michal Pechoucek, Vladimir Marik: Industrial Deployment of Multi-Agent Technologies: Review and Selected Case Studies. *to apear in: International Journal on Autonomous Agents and Multi-Agent Systems*. 2008.

Petr Becvar, Lubos Smid, Josef Psutka, Michal Pechoucek: An Intelligent Telephony Interface of Multiagent Decision Support Systems. *IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews,*. 2007, vol. 37, p. 553-560. ISSN 1094-6977.

David Sislak, Premysl Volf, Antonin Komenda, Jiri Samek, Michal Pechoucek: Agent-Based Multi-Layer Collision Avoidance among Unmanned Aerial Vehicles. In *Proceedings of 2007 International Conference on Integration of Knowledge Intensive Multi Agent Systems*. IEEE, 2007. ISBN 1-4244-0945-4.

Michal Pechoucek, Martin Rehak, Petr Charvat, Tomas Vlcek: Agent-Based Approach to Mass-Oriented Production Planning: Case Study. *IEEE Transactions on Systems, Man, and Cybernetics, Part C*. 2007, vol. 37, p. 386-395. ISSN 1094-6977.

Martin Rehak, Milos Gregor, Michal Pechoucek, Jeffrey M. Bradshaw: Representing Context for Multiagent Trust Modeling. In *IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT 2006 Main Conference Proceedings) (IAT'06)*. Los Alamitos, CA, USA: IEEE Computer Society, 2006. ISBN 0-7695-2748-5.

Michal Pechoucek, Ondrej Lerch, Jiri Biba: Iterative Query-Based Approach to Efficient Task Decomposition and Resource Allocation. In *Cooperative Information Agents X*. Springer, 2006. ISBN 3-540-38569-X.

Steve Munroe, Tim Miller, Roxana A. Belecheanu, Michal Pechoucek, Peter McBurney, Mike Luck: Crossing the agent technology chasm: Lessons, experiences and challenges incommercial applications of agents. *The Knowledge Engineering Review*. 2006, vol. 21, p. 345 - 392.

Michal Pechoucek, Jan Tozicka, Martin Rehak: Towards Formal Model of Adversarial Action in Multi-Agent Systems. In *AAMAS '06: Proceedings of the fifth international joint conference on Autonomous agents and multiagent systems*. New York, NY, USA: ACM Press, 2006.

Michal Pechoucek, Vladimir Marik, Jaroslav Barta: Role of acquaintance models in agent's private and semi-knowledge disclosure. *Knowledge-Based Systems*. 2006, p. 259-271.

Michal Pechoucek, Jiri Vokrinek, Petr Becvar: ExPlanTech: Multiagent Support for Manufacturing Decision Making. *IEEE Intelligent Systems*. 2005, vol. 20, p. 67-74.

Michal Pechoucek: Decision planning knowledge representation framework: A case-study. *Annals of Mathematics and Artificial Intelligence*. 2003, vol. 39, p. 147-174. ISSN 1012-2443.

Michal Pechoucek, Vladimir Marik, Jaroslav Barta: A Knowledge-Based Approach to Coalition Formation. *IEEE Intelligent Systems*. 2002, vol. 17, p. 17-25. ISSN 1094-7167.

Full list of publications and SCI references available upon request.

Extras

hiker, climber, skier, runner, interested in architecture, cooking, sustainable development, supporter of People in Need Foundation (http://www.pinf.cz)