

20 October 2006

# SCAI/STeP 2006 program

## Wednesday, 25th of October, 2006

Time	SCAI
19:00	Registration & Welcome reception (TUAS)

## Thursday, 26th of October, 2006

Time	SCAI	STeP
8:30	Registration (TUAS)	
9:00	Conference opening (AS1)	
9:15	Session: Analysing Interdisciplinarity (AS1)	Registration (TUAS)
10:50	Coffee break	Coffee break
11:10	Keynote: Ora Lassila (AS1)	Keynote: Ora Lassila (AS1)
12:00	Lunch	Lunch
13:00	Session: Genetic algorithms and computer vision (AS1)	Session: Semantic web at work I (TU1)
15:35	Coffee break	Coffee break
15:50	Session: Elastic systems (AS1)	Session: Semantic web at work II (TU1)
16:10	Session: Machine learning (AS1)	
17:55	End	End
19:00	Banquet at Radisson SAS Hotel Espoo	Banquet at Radisson SAS Hotel Espoo

## Friday, 27th of October, 2006

Time	SCAI	STeP
9:00	Announcements (AS1)	Announcements (AS1)
9:10	Keynote: Tom Ziemke (AS1)	Keynote: Tom Ziemke (AS1)
10:00	Coffee break	Coffee break
10:15	Session: Robotics and agents (AS1)	Session: Artificial intelligence I (TU1)
11:30	Session: Poster spotlights (AS1)	
12:15	Lunch and posters	Lunch
14:00	Session: Digital games (AS1)	Session: Artificial intelligence II (TU1)
16:00	Coffee break and posters	Coffee
16:20	Session: Elastic systems (AS1)	
18:00	Closing	



# SCAI 2006 program

**Wednesday, 25<sup>th</sup> of October, 2006**

**19:00 Registration & Welcome reception** (location: TUAS House)

**Thursday, 26<sup>th</sup> of October, 2006**

**8:30 Registration** (location: TUAS House)

**9:00 Academician Teuvo Kohonen (Honorary Chair): Conference opening** (location: AS1)

**Tapani Raiko (Organizing Committee Chair): Announcements**

**9:15 Session: Analysing Interdisciplinarity**

(location: AS1, chair: Timo Honkela)

9:15-9:35 Timo Honkela (Helsinki University of Technology):  
*Introduction*

9:35-10:00 Henrik Bruun, Sampsa Laine (University of Turku, Datarangers Oy):  
*Using the Self-Organizing Map for Measuring Interdisciplinary Research*

10:00-10:25 Gordana Dodig-Crnkovic (Mälardalen University):  
*Professional Ethics in Computing and Intelligent Systems*

10:25-10:50 Matti Pöllä, Timo Honkela, Henrik Bruun, Ann Russell (Helsinki University of Technology, University of Turku, University of Toronto):  
*Analysis of Interdisciplinary Text Corpora*

**10:50 Coffee break**

**11:10 Keynote: Ora Lassila (Nokia Research Center Cambridge)**

(location: AS1, chair: Eero Hyvönen)

*Semantic Web*

**12:00 Lunch**

**13:00 Session: Genetic algorithms and computer vision**

(location: AS1, chairs: Jarmo Alander and Jorma Laaksonen)

13:00-13:30 Jarmo Alander and Jorma Laaksonen (University of Vaasa, Helsinki University of Technology):  
*Introduction*

13:30-13:55 Sampath Deegalla, Henrik Boström (Stockholm University, Royal Institute of Technology):  
*Reducing High-Dimensional Data by Principal Component Analysis vs. Random Projection for Nearest Neighbor Classification*

- 13:55-14:20 Jorma Laaksonen, Ville Viitaniemi (Helsinki University of Technology):  
*Emergence of ontological relations from visual data with Self-Organizing Maps*
- 14:20-14:45 Perttu Hämäläinen, Timo Aila, Tapio Takala, Jarmo Alander (Helsinki University of Technology, University of Vaasa):  
*Mutated Kd-tree Importance Sampling for Optimization*
- 14:45-15:10 Janne Koljonen, Jarmo T. Alander (University of Vaasa):  
*Genetic algorithm for optimizing fuzzy image pattern matching*
- 15:10-15:35 Janne Koljonen, Jarmo T. Alander (University of Vaasa):  
*Effects of population size and relative elitism on optimization speed and reliability of genetic algorithms*

**15:35 Coffee break**

**15:50 Session: Elastic systems**

(location: AS1, chair: Brian Mayoh)

- 15:50-16:10 Heikki Hyötyniemi (Helsinki University of Technology):  
*Introduction*

**16:10 Session: Machine learning**

(location: AS1, chair: Brian Mayoh)

- 16:10-16:40 Tapio Pahikkala, Jorma Boberg, Tapio Salakoski (University of Turku):  
*Fast n-Fold Cross-Validation for Regularized Least-Squares*
- 16:40-17:05 Richard Elling Moe (University of Bergen):  
*First order axiomatization of typed feature structures*
- 17:05-17:30 Jaakko J. Väyrynen, Tiina Lindh-Knuutila (Helsinki University of Technology):  
*Emergence of multilingual representations by independent component analysis using parallel corpora*
- 17:30-17:55 Oleg Okun, Helen Priisalu (University of Oulu, Tallinn University of Technology):  
*Ensembles of nearest neighbour classifiers and serial analysis of gene expression*

**(Scandinavian AI-societies meeting)**

**19:00 Banquet at Radisson SAS Hotel Espoo**

**(location: Otaranta 2, walking distance from the conference site)**

## Friday, 27<sup>th</sup> of October, 2006

**9:00 Announcements** (location: AS1)

**9:10 Keynote: Tom Ziemke (Skövde University) (location: AS1)**

*Integrating Cognition, Emotion & Autonomy*

**10:00 Coffee break**

**10:15 Session: Robotics and agents**

(location: AS1, chair: Ville Könönen)

10:15-10:40 Magnus Johnsson, Christian Balkenius (Lund University):

*Haptic Perception with a Robotic Hand*

10:40-11:05 Harri Valpola (Helsinki University of Technology):

*Learning Anticipatory Behaviour Using a Simple Cerebellar Model*

11:05-11:30 Kevin Westwood, Vicki Allan (Utah State University):

*Heuristics for Co-opetition in Agent Coalition Formation*

**11:30 Session: Poster spotlights**

(location: AS1, chair: Jukka Kortela)

11:30-11:35 Dereje Teferi, Josef Bigun (Halmstad University):

*Building Video Databases to Boost Performance Quantification -- The DXM2VTS Database*

11:35-11:40 Alireza Derakhshan, Frodi Hammer, Henrik Hautop Lund, Yves Demazeau, Luigi Pagliarini (University of Southern Denmark):

*Adapting Playgrounds using Multi-Agent Systems*

11:40-11:45 Janne Koljonen (University of Vaasa):

*On fitness distance distributions and correlations, GA hardness, and population size with a family of square-root fitness functions*

11:45-11:50 Sumon Shahriar, Ahammad Tofail, Hafiz Md. Hasan Babu (University of South Australia, BRAC University, University of Dhaka):

*On the realization of asymmetric high radix signed digital adder using Neural Network*

11:50-11:55 Tapani Raiko (Helsinki University of Technology):

*Higher Order Statistics in Play-Out Analysis*

11:55-12:00 Thashmee Karunaratne, Henrik Boström (Stockholm University, Royal Institute of Technology):

*Learning from Structured Data by Finger Printing*

12:00-12:05 Morten Lynge Jensen (University of Aarhus):

*Evolving poker players using NeuroEvolution of Augmenting Topologies*

12:05-12:10 Heikki Hyötyniemi (Helsinki University of Technology):

*Elastic Systems: Case of Hebbian Neurons*

12:10-12:15 Timo Mantere (University of Vaasa):  
*A Min-Max Genetic Algorithm with Alternating Multiple Sorting for Solving Constrained Problems*

**12:15 Lunch and posters**

**14:00 Session: Digital games**

(location: AS1, chair: Tomi A. Pasanen)

14:00-14:20 Tomi A. Pasanen (University of Helsinki):  
*Introduction*

14:20-14:45 Arild Sandven, Bjørnar Tessem (University of Bergen):  
*A Case-Based Learner for Poker*

14:45-15:10 Jouni Smed, Timo Knuutila, Harri Hakonen (University of Turku):  
*Can We Prevent Collusion in Multiplayer Online Games?*

15:10-15:35 Jarmo Kauko, Ville-Veikko Mattila (Nokia Research Center):  
*Mobile Games Pathfinding*

15:35-16:00 Ismo Puustinen, Tomi A. Pasanen (University of Helsinki):  
*Game Theoretic Methods for Action Games*

**16:00 Coffee break and posters**

**16:20 Session: Elastic systems**

(location: AS1, chair: Heikki Hyötyniemi)

16:20-16:45 Heikki Hyötyniemi (Helsinki University of Technology):  
*Elastic Systems: Another View at Complexity*

16:45-17:10 Olli Haavisto, Heikki Hyötyniemi (Helsinki University of Technology):  
*Neocybernetic Modeling of a Biological Cell*

17:10-17:35 Kalle Halmevaara, Heikki Hyötyniemi (Helsinki University of Technology):  
*Application of Elastic Intuitions to Process Engineering*

17:35-18:00 Michael Sailer, Heikki Hyötyniemi (Helsinki University of Technology):  
*Emergent Behavior in Sensor/Actor Networks in the Neocybernetic Framework of Elastic Systems*

**18:00 Tapani Raiko: Closing**

# STeP 2006 program

Thursday, 26<sup>th</sup> of October, 2006

**(9:15) Registration**

**10:50 Coffee break**

**11:10 Keynote: Ora Lassila (Nokia Research Center Cambridge)**

(location: AS1, chair: Eero Hyvönen)

*Semantic Web*

**12:00 Lunch**

**13:00 Session: Semantic Web at Work I**

(location: TU1, chairs: Eetu Mäkelä, Onni Valkeapää)

13:00-13:05 Tapani Raiko (Finnish Artificial Intelligence Society):

*Welcome to STeP 2006*

13:05-13:25 Asta Bäck, Sari Vainikainen, Pirjo Näkki (VTT Technical Research Centre of Finland):

*Semantic media application for combining and playing with user created and professional content*

13:25-13:35 Miikka Junnila, Eero Hyvönen, and Mirva Salminen (University of Helsinki, Helsinki Institute for Information Technology, Helsinki University of Technology):

*Describing and Linking Cultural Semantic Content by Using Situations and Actions*

13:35-13:55 Eero Hyvönen, Tuukka Ruotsalo, Thomas Häggström, Mirva Salminen, Miikka Junnila, Mikko Virkkilä, Mikko Haaramo, Eetu Mäkelä, Tomi Kauppinen, and Kim Viljanen (University of Helsinki, Helsinki Institute for Information Technology, Helsinki University of Technology):

*CultureSampo—Finnish Culture on the Semantic Web: The Vision and First Results*

13:55-14:15 Tomi Kauppinen, Riikka Henriksson, Jari Väättäinen, Christine Deichstetter, and Eero Hyvönen (Helsinki University of Technology, University of Helsinki, Geological Survey of Finland):

*Ontology-based Modeling and Visualization of Cultural Spatio-temporal Knowledge*

14:15-14:35 Seppo Nyrkkö, Lauri Carlson, Matti Keijola, Helena Ahonen-Myka, Jyrki Niemi, Jussi Piitulainen, Sirke Viitanen, Martti Meri, Lauri Seitsonen, Petri Mannonen, Jani Juvonen (University of Helsinki, Helsinki University of Technology, VTT Technical Research Centre of Finland):

*Ontology-based Knowledge in Interactive Maintenance Guide*

14:35-14:55 Juha Puustjärvi, Leena Puustjärvi (Lappeenranta University of Technology):

*Improving the Quality of Medication by Semantic Web Technologies*

- 14:55-15:15 Olli Lyytinen, Aki Kivelä (Grip Studios Interactive Ltd):  
*Building Internet Services with Layered Topic Maps*
- 15:15-15:35 Vagan Terziyan (University of Jyväskylä):  
*Smart Resource Technology for Enabling Semantic Web-Based EAI Platforms*

**15:35 Coffee break**

**16:00 Session: Semantic Web at Work II**

(location: TU1, chair: Tomi Kauppinen)

- 16:00-16:20 Paavo Kotinurmi, Armin Haller (Helsinki University of Technology, DERI Ireland):  
*RosettaNet and Semantic Web Services*
- 16:20-16:40 Heikki Helin, Ahti Syreeni (TeliaSonera Finland):  
*CASCOM: Context-Aware Service Coordination in Mobile Computing Environments*
- 16:40-17:00 Eero Hyvönen (Helsinki University of Technology, University of Helsinki):  
*FinnONTO: Building a National Semantic Web in Finland*
- 17:00-17:20 Samppa Saarela, Timo Westkämper (Mysema Ltd):  
*Building a Semantic Content Management and eCommerce Platform*
- 17:20-17:40 Timo Honkela, Matti Pöllä (Helsinki University of Technology):  
*Describing Rich Content: Future Directions for the Semantic Web*

**19:00 Banquet at Radisson SAS Hotel Espoo**

(location: Otaranta 2, walking distance from the conference site)

**Friday, 27<sup>th</sup> of October, 2006**

**9:00 Announcements** (location: AS1)

**9:10 Keynote: Tom Ziemke (Skövde University)**

(location: AS1, chair: Harri Valpola)

*Integrating Cognition, Emotion & Autonomy*

**10:00 Coffee break**

**10:15 Session: Artificial Intelligence I**

(location: TU1, chair: Mikko Hiirsalmi)

- 10:15-10:35 Jari Yli-Hietanen, Samuli Niiranen (Tampere University of Technology):  
*Towards reflective information management*
- 10:35-10:55 Heikki Hyötyniemi (Helsinki University of Technology):  
*Elastic Systems: Role of Models and Control*

- 10:55-11:15 Jarmo Alametsä, Antti Saastamoinen, Eero Huupponen, Alpo Värri, Atte Joutsen, Joel Hasan, Esa Rauhala, Sari-Leena Himanen (Tampere University of Technology, Tampere University Hospital, Satakunta Central Hospital):  
*Prolonged Spiking Periods Pattern Detection Method by Using EMFit and SCSB Signals*
- 11:15-11:35 Risto Lahdelma (University of Turku):  
*Object-oriented declarative model specification in C++*
- 11:35-11:55 Timo Mantere, Janne Koljonen (University of Vaasa):  
*Solving and Rating Sudoku Puzzles with Genetic Algorithms*
- 11:55-12:15 Jussi Ahola, Mikko Hiirsalmi (VTT Technical Research Centre of Finland):  
*Using SOM based resampling techniques to boost MLP training performance*

## 12:15 Lunch

## 14:00 Session: Artificial Intelligence II

(location: TU1, chair: Janne Koljonen)

- 14:00-14:20 Hans-Christian Pfisterer, Heikki Hyötyniemi (Helsinki University of Technology):  
*Data-Based Modeling of Electroless Nickel Plating*
- 14:20-14:40 Erkki Laitila (University of Jyväskylä):  
*Lähdekoodin symbolinen analysointi tekoälyn näkökulmasta*
- 14:40-15:00 Risto Lahdelma, Aiyong Rong (University of Turku):  
*Scrap charge optimization using fuzzy chance constrained linear programming*
- 15:00-15:20 Timo Honkela, Ville Könönen, Tiina Lindh-Knuutila, Mari-Sanna Paukkeri (Helsinki University of Technology):  
*Simulating processes of language emergence, communication and agent modeling*
- 15:20-15:40 Erkki Laitila (SwMaster Ltd, University of Jyväskylä):  
*Program comprehension theories and Prolog-based methodologies*
- 15:40 Closing

## 16:00 Coffee