

ICANN 2008

International Conference on Artificial Neural Networks – ICANN 2008

Preliminary Programme (July 22, 2008)

Wednesday, September 3, 2008

Conference Opening	9:00–9:15
Invited Plenary Speech Information Geometry of Multiple Neural Spike Trains <i>Shun-ichi Amari</i>	9:15–10:15 Hall A–D
Coffee Break	10:15–10:45
Session WM1 Connectionistic Cognitive Science I	10:45–12:45 Hall A
<ol style="list-style-type: none">1. Auto-structure of presynaptic activity defines postsynaptic firing statistics and can modulate STDP-based structure formation and learning <i>Gordon Pipa, Raúl Vicente, Alexander Tikhonov</i>2. A Computational Model of Saliency Map Read-Out During Visual Search <i>Mia Šetić, Dražen Domijan</i>3. A Corpus-based Computational Model of Metaphor Understanding Incorporating Dynamic Interaction <i>Asuka Terai, Masanori Nakagawa</i>4. Deterministic coincidence detection and adaptation via delayed inputs <i>Zhijun Yang, Alan Murray, Juan Huo</i>5. Synaptic formation rate as a control parameter in a model for the ontogenesis of retinotopy <i>Junmei Zhu</i>6. Decision Making Logic of Visual Brain <i>Andrzej W. Przybylski</i>	
Session WM2 Reinforcement Learning	10:45–12:45 Hall B
<ol style="list-style-type: none">1. Multigrid Reinforcement Learning with Reward Shaping <i>Marek Grześ, Daniel Kudenko</i>2. Robust Population Coding in Free-Energy-Based Reinforcement Learning <i>Makoto Otsuka, Junichiro Yoshimoto, Kenji Doya</i>	

3. Policy Gradients with Parameter-based Exploration for Control
Frank Sehnke, Christian Osendorfer, Thomas Rückstieß, Alex Graves, Jan Peters, Juergen Schmidhuber
4. Episodic Reinforcement Learning by Logistic Reward-Weighted Regression
Daan Wierstra, Tom Schaul, Jan Peters, Juergen Schmidhuber
5. Error-entropy minimization for dynamical systems modeling
Jernej Zupanc
6. Mixture of Expert Used to Learn Game Play
Peter Lacko, Vladimír Kvasnička

Session WM3
Image Processing I

10:45–12:45
Hall C

1. Image classification by histogram features created with Learning Vector Quantization
Marcin Blachnik, Jorma Laaksonen
2. Spatio-temporal summarizing method of periodic image sequences with Kohonen Maps
Mohamed Berkane, Patrick Clarysse, Isabelle Magnin
3. Partially Monotone Networks Applied to Breast Cancer Detection on Mammograms
Marina Velikova, Hennie Daniels, Maurice Samulski
4. Surface Reconstruction Techniques Using Neural Networks to Recover Noisy 3D Scenes
David A. Elizondo, Shang-Ming Zhou, Charalambos Chrysostomou
5. A Spatio-Temporal Extension of the SUSAN-Filter
Benedikt Kaiser, Gunther Heidemann
6. A Statistical Model for Histogram Refinement
Nizar Bouguila, Walid ElGuebaly

Session WM4
Control and Robotics

10:45–12:45
Hall D

1. Echo State Networks for Online Prediction of Movement Data Comparing Investigations
Sven Hellbach, Sören Strauss, Julian Eggert, Edgar Körner, Horst-Micheal Gross
2. Comparison of RBF Network Learning and Reinforcement Learning on the Maze Exploration Problem
Stanislav Slušný, Roman Neruda, Petra Vidnerová
3. Modular Neural Networks for Model-free Behavioral Learning
Johane Takeuchi, Osamu Shouno, Hiroshi Tsujino
4. From Exploration to Planning
Cornelius Weber, Jochen Triesch
5. Embedded Neural Network for Swarm Learning of Physical Robots
Pitoyo Hartono, Sachiko Kakita
6. Heuristics-based High-level Strategy for Multi-agent Systems
Péter Gasztonyi, István Harmati

Session WM5
Self-organization I

10:45–12:45
Hall E

1. Adaptive Translation: Finding Interlingual Mappings using Self-Organizing Maps
Timo Honkela, Sami Virpioja, Jaakko Väyrynen
2. Clustering Quality and Topology Preservation in Fast Learning SOMs
Antonino Fiannaca, Giuseppe Di Fatta, Salvatore Gaglio, Riccardo Rizzo, Alfonso M. Urso
3. Enhancing Topology Preservation during Neural Field Development via Wiring Length Minimization
Claudius Gläser, Frank Joublin, Christian Goerick
4. Matrix Learning for Topographic Neural Maps
Banchar Arnonkijpanich, Barbara Hammer, Alexander Hasenfuss
5. Self-Organizing Neural Grove: Efficient Multiple Classifier System with Pruned Self-Generating Neural Trees
Hirota Inoue
6. A Hierarchic Method for Footprint Segmentation based on SOM
Marco Mora, Ruben Valenzuela, Girma Berhe

Lunch

12:45–14:00

Invited Plenary Speech

14:00–15:00

Quantum Computing: Targets, Principles and Obstacles

Mika Hirvensalo

Hall A–D

Coffee Break

15:00–15:30

Tutorial WA1 by **Věra Kůrková**
Learning From Data as an Inverse Problem

15:30–17:30
Hall A

Session WA2
Image Processing II

15:30–17:30
Hall B

1. Efficient Video Shot Summarization Using an Enhanced Spectral Clustering Approach
Vasileios Chasanis, Aristidis Likas, Nikolaos Galatsanos
2. A Neighborhood-Based Competitive Network for Video Segmentation and Object Detection
Rafael Marcos Luque, Enrique Dominguez, Domingo López-Rodríguez, Esteban J. Palomo
3. Co-occurrence matrixes for the quality assessment of coded images
Judith Redi, Paolo Gastaldo, Rodolfo Zunino, Ingrid Heynderickx
4. Semantic Adaptation of Neural Network Classifiers in Image Segmentation
Nikolaos Simou, Thanos Athanasiadis, Stefanos Kollias, Giorgos Stamou, Andreas Stafylopatis
5. Recognizing Facial Expressions: A comparison of Computational approaches
Aruna Shenoy, Tim Gale, Neil Davey, Bruce Christiansen, Ray Frank

6. A Probabilistic Prediction Method for Object Contour Tracking
Daniel Weiler, Volker Willert, Julian Eggert

Session WA3
Support Vector Machines

15:30–17:30
Hall C

1. A Kernel Method for the Optimization of the Margin Distribution
Fabio Aioli, Giovanni Da San Martino, Alessandro Sperduti
2. A 4vector MDM Algorithm for Support Vector Training
Álvaro Barbero, Jorge López, José Dorronsoro
3. Online Clustering of Non-stationary Data Using Incremental and Decremental SVM
Boukharouba Khaled, Lecoeuche Stéphane
4. Support Vector Machines for visualization and dimensionality reduction
Tomasz Maszczyk, Włodzisław Duch
5. Batch Support Vector Training Based on Exact Incremental Training
Shigeo Abe
6. Implementation Issues of an Incremental and Decremental SVM
Honorius Gálmeanu, Răzvan Andonie

Session WA4
Self-organization II

15:30–17:30
Hall D

1. FLSOM with different rates for classification in imbalanced datasets
Iván Machón-González, Hilario López-García
2. A Self-Organizing Neural System for Background and Foreground Modeling
Lucia Maddalena, Alfredo Petrosino
3. A New GHSOM Model Applied to Network Security
Esteban J. Palomo, Enrique Domínguez, Rafael Marcos Luque, Jos Muñoz
4. Reduction of Visual Information in Neural Network Learning Visualization
Matúš Užák, Rudolf Jakša, Peter Sinčák
5. Temporal Hebbian Self-organizing Map for Sequences
Jan Koutník, Miroslav Šnorek
6. Analyzing the Behavior of the SOM through Wavelet Decomposition of Time Series Generated during its Execution
Víctor Mireles, Antonio Neme

Session WA5
Neural Dynamics

15:30–17:30
Hall E

1. Learning of Neural Information Routing for Correspondence Finding
Jan Bouecka, Jörg Lücke
2. A globally asymptotically stable plasticity rule for firing rate homeostasis
Prashant Joshi, Jochen Triesch
3. Analysis and visualization of the dynamics of recurrent neural networks for symbolic sequences processing
Matej Makula, Ľubica Beňušková

4. Chaotic Search for Traveling Salesman Problems by Using 2-opt and Or-opt Algorithms
Takafumi Matsuura, Tohru Ikeguchi
5. Self-organized Complex Neural Networks through Nonlinear Temporally Asymmetric Hebbian Plasticity
Hideyuki Kato, Tohru Ikeguchi
6. Comparison of Neural Networks Incorporating Partial Monotonicity by Structure
Alexey Minin, Bernhard Lang

Welcome Party

18:30

Thursday, September 4, 2008

Invited Plenary Speech	To be specified <i>Pierre Baldi</i>	9:00–10:00 Hall A–D
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Coffee Break 10:00–10:30

Session TM1 Mathematical Theory of Neurocomputing I 10:30–12:30 Hall A

1. Estimates of Network Complexity and Integral Representations
Paul C. Kainen, Věra Kůrková
2. Multi-Category Bayesian Decision by Neural Networks
Yoshifusa Ito, Cidambi Srinivasan, Hiroyuki Izumi
3. Several Enhancements to Hermite-Based Approximation of One-Variable Functions
Bartłomiej Beliczynski, Bernardete Ribeiro
4. Reliability of Cross-Validation for SVMs in High-Dimensional, Low Sample Size Scenarios
Sascha Klement, Amir Madany Mamlouk, Thomas Martinetz
5. Generalization of Concave and Convex Decomposition in Kikuchi Free Energy
Yu Nishiyama, Sumio Watanabe
6. Dimension Reduction for Mixtures of Exponential Families
Shotaro Akaho

Session TM2 Image Processing III – Recognition Systems 10:30–12:30 Hall B

1. Invariant Object Recognition with Slow Feature Analysis
Mathias Franzius, Niko Wilbert, Laurenz Wiskott
2. Analysis-by-Synthesis by Learning to Invert Generative Black Boxes
Vinod Nair, Josh Susskind, Geoffrey Hinton
3. A Visual Object Recognition System Invariant to Scale and Rotation
Yasuomi Sato, Jenia Jitsev, Christoph von der Malsburg
4. A bio-inspired connectionist architecture for visual classification of moving objects
Pedro L. Sánchez Orellana, Claudio Castellanos Sánchez
5. TriangleVision: a toy visual system
Thomas Bangert
6. Face Recognition with VG-RAM Weightless Neural Networks
Alberto F. De Souza, Claudine Badue, Pedroni' Felipe, Elias Oliveira, Stiven Dias, Hallysson Oliveira, Soterio F. De Souza

Session TM3
Learning Algorithms I

10:30–12:30
Hall C

1. Improving Performance of a Binary Classifier by Training Set Selection
Cezary Dendek, Jacek Mańdziuk
2. BICA: a Boolean Independent Component Analysis Approach
Bruno Apolloni, Simone Bassis, Andrea Brega
3. Robust Nonparametric Probability Density Estimation by Soft Clustering
Ezequiel López-Rubio, Juan Miguel Ortiz-de-Lazcano-Lobato, Domingo López-Rodríguez, María del Carmen Vargas-Gonzalez
4. Semi-Supervised Learning of Tree-Structured RBF Networks using Co-Training
Mohamed Farouk Abdel Hady, Friedhelm Schwenker, Günther Palm
5. Quadratically Constrained Quadratic Programming for Subspace Selection in Kernel Regression Estimation
Marco Signoretto, Kristiaan Pelckmans, Johan Suykens
6. Natural Conjugate Gradient on Complex Flag Manifolds for Complex Independent Subspace Analysis
Yasunori Nishimori, Shotaro Akaho, Mark Plumbley

Session TM4
Connectionistic Cognitive Science II

10:30–12:30
Hall D

1. Neural Network Capable of Amodal Completion
Kunihiko Fukushima
2. Selective Attention Model of Moving Objects
Roman Borisyuk, David Chik, Yakov Kazanovich
3. Tempotron-like Learning with ReSuMe
Razvan V. Florian
4. Predictive Coding in Cortical Microcircuits
Andreea Lazar, Gordon Pipa, Jochen Triesch
5. A Biologically Inspired Spiking Neural Network for Sound Localisation by the Inferior Colliculus
Jindong Liu, Harry Erwin, Stefan Wermter, Mahmoud Elsaid
6. Learning Structurally Analogous Tasks
Paul Munro

Session TM5
Pattern Recognition and Data Analysis I

10:30–12:30
Hall E

1. Investigating Similarity of Ontology Instances and its Causes
Anton Andrejko, Mária Bielíková
2. A model-based relevance estimation approach for feature selection in microarray datasets
Gianluca Bontempi, Patrick E. Meyer
3. Extraction of Binary Features by Probabilistic Neural Networks
Jiří Grim
4. Correlation Integral Decomposition for Classification
Marcel Jiřina, Marcel jr. Jiřina

5. Modified q-state Potts Model with Binarized Synaptic Coefficients
Vladimir Kryzhanovskiy
6. Efficient feature selection for PTR-MS fingerprinting of agroindustrial products
Pablo M. Granitto, Franco Biasioli, Cesare Furlanello, Flavia Gasperi

Lunch 12:30–13:45

ENNS Plenary Meeting 13:45–14:30

Invited Plenary Speech	14:30–15:30
Modeling Embodied Cognition and Emotion <i>Tom Ziemke</i>	
	Hall A–D

Coffee Break 15:30–16:00

Tutorial TA1 by Mika Hirvensalo Quantum algorithms and protocols	16:00–18:00 Hall A
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Session TA2 Signal and Time Series Processing	16:00–18:00 Hall B
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1. Sentence-level Evaluation Using Co-occurences of N-grams
Theologos Athanaselis, Stelios Bakamidis, Konstantinos Mamouras, Ioannis Dologlou
2. Identifying Single Source Data for Mixing Matrix Estimation in Instantaneous Blind Source Separation
Pau Bofill
3. ECG Signal Classification using GAME Neural Network and its comparison to other classifiers
Miroslav Čepek, Miroslav Šnorek, Václav Chudáček
4. Predictive Modeling with Echo State Networks
Michal Čerňanský, Peter Tiňo
5. Sparse Coding Neural Gas for the Separation of Noisy Overcomplete Sources
Kai Labusch, Erhardt Barth, Thomas Martinetz
6. Stable output feedback in reservoir computing using ridge regression
Francis Wyffels, Benjamin Schrauwen, Dirk Stroobandt
7. Mutual Information Based Input Variable Selection Algorithm and Wavelet Neural Network for Time Series Prediction
Parviz Rashidi Khazaei, Naser Mozayani, Mohammad Reza Jahed Motlagh

Session TA3 Hardware, Embedded systems	16:00–18:00 Hall C
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1. Blind Source-Separation in Mixed-Signal VLSI using the InfoMax Algorithm
Waldo Valenzuela, Gonzalo Carvajal, Miguel Figueroa

2. Distribution stream of tasks in dual-processor system
Mikhail Kryzhanovsky, Magomed Malsagov
3. Efficient Implementation of the THSOM Neural Network
Rudolf Marek, Miroslav Skrbek
4. Neural Network Training with Extended Kalman Filter Using Graphics Processing Unit
Peter Trebatický, Jiří Pospíchal
5. Reconfigurable MAC-based Architecture for Parallel Hardware Implementation on FPGAs of Artificial Neural Networks
Nadia Nedjah, Rodrigo M. da Silva, Luiza de Macedo Mourelle, Marcus V. C. da Silva
6. Implementation of Central Pattern Generator in an FPGA-based Embedded System
Cesar Torres-Huitzil, Bernard Girau
7. Biologically-inspired Digital Architecture for a Cortical Model of Orientation Selectivity
Cesar Torres-Huitzil, Bernard Girau, Miguel Arias-Estrada

Session TA4
Hybrid Systems

16:00–18:00
Hall D

1. Building Localized Basis Function Networks Using Context Dependent Clustering
Marcin Blachnik, Włodzisław Duch
2. Using ARTMAP-based Ensemble Systems Designed by Three Variants of Boosting
Araken Santos, Anne Canuto
3. Neuro-Fuzzy System for Road Signs Recognition
Bogusław Cyganek
4. Neuro-inspired Speech Recognition With Recurrent Spiking Neurons
Arfan Ghani, T. Martin McGinnity, Liam P. Maguire, Jim Harkin
5. Adaptation of Connectionist Weighted Fuzzy Logic Programs with Kripke-Kleene Semantics
Alexandros Chortaras, Giorgos Stamou, Andreas Stafylopatis, Stefanos Kollias
6. Application of Potts-model Perceptron for Binary Patterns Identification
Vladimir Kryzhanovsky, Boris Kryzhanovsky, Anatoliy Fonarev

Session TA5
Neuroinformatics I

16:00–18:00
Hall E

1. Fuzzy Symbolic Dynamics for Neurodynamical Systems
Krzysztof Dobosz, Włodzisław Duch
2. Real and Modeled Spike Trains: Where Do They Meet?
Vasile Vlad Moca, Danko Nikolić, Raul C. Mureşan
3. The InfoPhase Method or How to Read Neurons with Neurons
Raul C. Mureşan, Wolf Singer, Danko Nikolić
4. Artifact Processor for Neuronal Activity Analysis During Deep Brain Stimulation
Dimitri Nowicki, Brigitte Piallat, Alim-Louis Benabid, Tatiana Aksenova

Concert

19:00

Friday, September 5, 2008

Invited Plenary Speech	To be specified <i>Nello Cristianini</i>	9:00–10:00
		Hall A–D

Coffee Break	10:00–10:30
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Session FM1	10:30–12:30
Learning Algorithms II	Hall A

1. The Influence of the Risk Functional in Data Classification with MLPs
Luís Silva, Mark Embrechts, Jorge Santos, Joaquim Marques de Sá
2. Nonnegative Least Squares Learning for the Random Neural Network
Stelios Timotheou
3. Adding Diversity in Ensembles of Neural Networks by Reordering the Training Set
Joaquín Torres-Sospedra, Carlos Hernández-Espinosa, Mercedes Fernández-Redondo
4. New Results on Combination Methods for Boosting Ensembles
Joaquín Torres-Sospedra, Carlos Hernández-Espinosa, Mercedes Fernández-Redondo
5. Using Feature Distribution Methods in Ensemble Systems Combined by Fusion and Selection-Based Methods
Laura Santana, Anne Canuto
6. Predicting the Performance of Learning Algorithms Using Support Vector Machines as Meta-Regressors
Silvio Guerra, Ricardo Prudêncio, Teresa Ludermir

Session FM2	10:30–12:30
Pattern Recognition and Data Analysis II	Hall B

1. Learning similarity measures from pairwise constraints with neural networks
Marco Maggini, Stefano Melacci, Lorenzo Sarti
2. A neural model for delay correction in a distributed control system
Ana Antunes, Fernando Morgado Dias, Alexandre Mota
3. Non-stationary data mining: the Network Security issue
Sergio Decherchi, Paolo Gastaldo, Judith Redi, Rodolfo Zunino
4. Prediction of Binding Sites in the Mouse Genome Using Support Vector Machines
Yi Sun, Mark Robinson, Rod Adams, Alistair Rust, Neil Davey
5. MLP-based Detection of Targets in Clutter: Robustness with Respect to the Shape Parameter of Weibull-distributed Clutter
Raul Vicen-Bueno, Eduardo Galán-Fernández, Manuel Rosa-Zurera, Maria P. Jarabo-Amores
6. Associative Memories Applied to Pattern Recognition
Roberto A. Vazquez, Humberto Sossa

Session FM3
Computational Neuroscience I

10:30–12:30
Hall C

1. Synaptic Rewiring for Topographic Map Formation
Simeon Bamford, Alan Murray, David Willshaw
2. Implementing Fuzzy Reasoning on a Spiking Neural Network
Cornelius Glackin, Liam McDaid, Liam P. Maguire, Heather Sayers
3. Short term plasticity provides temporal filtering at chemical synapses
Bruce Graham, Christian Stricker
4. Observational versus trial and error effects in a model of an infant learning paradigm
Matthew Hartley, Jacqueline Fagard, Rana Esseily, John Taylor
5. Lateral Excitation between Dissimilar Orientation Columns for Ongoing Subthreshold Membrane Oscillations in Primary Visual Cortex
Yuuto Nakamura, Kazuhiro Tsuboi, Osamu Hoshino
6. Fast Multi-Command SSVEP Brain Machine Interface without training
Pablo Martinez, Hovagim Bakardjian, Montserrat Vallverdu, Andrzej Cichocki

Session FM4
Neuroinformatics II

10:30–12:30
Hall D

1. Analysis of Human Brain NMR Spectra in Vivo Using Artificial Neural Networks
Erik Saudek, Daniel Novák, Dita Wagnerová, Milan Hájek
2. Multi-Stage FCM-Based Intensity Inhomogeneity Correction for MR Brain Image Segmentation
László Szilágyi, Sándor M. Szilágyi, László Dávid, Zoltán Benyó
3. KCMAC: A Novel Fuzzy Cerebellar Model for Medical Decision Support
S. D. Teddy
4. Decoding Population Neuronal Responses by Topological Clustering
Hujun Yin, Stefano Panzeri, Zareen Mehboob, Mathew Diamond

Special Session FM5
Constructive Neural Networks I

10:30–12:30
Hall E

1. Fuzzy Growing Hierarchical Self-Organizing Networks
Miguel A. Barreto-Sanz, Andrés Pérez-Urbe, Carlos-Andres Peña-Reyes, Marco Tomassini
2. On the Generalization of the m-class RDP Neural Network
David A. Elizondo, Juan M. Ortiz-de-Lazcano-Lobato, Ralph Birkenhead
3. Active learning using a constructive neural network algorithm
José L. Subirats, Leonardo Franco, Ignacio Molina, José M. Jerez
4. Projection Pursuit Constructive Neural Networks Based on Quality of Projected Clusters
Marek Grochowski, Włodzisław Duch
5. Introduction to Constructive and Optimization Aspects of SONN-3
Adrian Horzyk
6. MBabCoNN - a Multiclass Version of a Constructive Neural Network Algorithm Based on Linear Separability and Convex Hull
João R. Bertini, Maria Nicoletti

Lunch		12:30–14:00
Invited Plenary Speech	How to Learn a Program? <i>Juergen Schmidhuber</i>	14:00–15:00 Hall A–D
Coffee Break		15:00–15:30

Tutorial FA1 by Allesandro Villa		15:30–17:30
Breaking the Barriers and Knowledge Sharing in the Neural Network Community: Practical Issues Associated to the OpenAdap.net Approach		Hall A

Session FA2		15:30–17:30
Mathematical Theory of Neurocomputing II		Hall B

1. Global Dynamics of Finite Cellular Automata
Martin Schüle, Thomas Ott, Ruedi Stoop
2. Tikhonov Regularization Parameter in Reproducing Kernel Hilbert Spaces with Respect to the Sensitivity of the Solution
Kateřina Hlaváčková-Schindler
3. Unsupervised Bayesian Network Learning for Object Recognition in Image Sequences
Daniel Oberhoff, Marina Kolesnik
4. Analysis of chaotic dynamics using measures of the complex network theory
Yutaka Shimada, Takayuki Kimura, Tohru Ikeguchi
5. Sparse Bayes Machines for Binary Classification
Daniel Hernández-Lobato
6. A Comparative Study on Data Smoothing Regularization for Local Factor Analysis
Shikui Tu, Lei Shi, Lei Xu

Session FA3		15:30–17:30
Evolutionary Computing		Hall C

1. Hybrid Evolution of Heterogeneous Neural Networks
Zdeněk Buk, Miroslav Šnorek
2. Ant Colony Optimization with Castes
Oleg Kovářík, Miroslav Skrbek
3. Analysis of Vestibular-Ocular Reflex by Evolutionary Framework
Daniel Novák, Aleš Pilný, Pavel Kordík, Štefan Holiga, Petr Pošík, R. Černý, Richard Brzezny
4. Fetal Weight Prediction Models: Standard Techniques or Computational Intelligence Methods?
Tomáš Siegl, Pavel Kordík, Miroslav Šnorek, Pavel Calda
5. Implementing Boolean Matrix Factorization
Roman Neruda, Václav Snášel, Jan Platoš, Pavel Krömer, Dušan Húsek, Alexander Frolov

6. Evolutionary Canonical Particle Swarm Optimizer – A Proposal of Meta-Optimization in Model Selection
Hong Zhang, Masumi Ishikawa

Session FA4

Computational Neuroscience II

15:30–17:30

Hall D

1. Separating global motion components in transparent visual stimuli - a phenomenological analysis
Andrew Meso, Johannes Zanker
2. Global oscillations of neural fields in CA3
Francesco Ventriglia
3. Implementing Bayes' rule with neural fields
Raymond Cuijpers, Wolfram Erlhagen
4. Modeling the Effects of Dopamine on the Antisaccade Reaction Times (aSRT) of Schizophrenia Patients
Vassilis Cutsuridis, Ioannis Kahramanoglou, Nikolaos Smyrnis, Ioannis Evdokimidis, Stavros Perantonis
5. Encoding and Retrieval in a CA1 Microcircuit Model of the Hippocampus
Vassilis Cutsuridis, Stuart Cobb, Bruce Graham
6. A Bio-Inspired Architecture of an Active Visual Search Model
Vassilis Cutsuridis

Special Session FA5

Constructive Neural Networks II

15:30–17:30

Hall E

1. A Reward-Value Based Constructive Method for the Autonomous Creation of Machine Controllers
Andreas Huemer, David A. Elizondo, Mario Gongora
2. A constructive technique based on linear programming for training Switching Neural Networks
Enrico Ferrari, Marco Muselli
3. Prototype Proliferation in the Growing Neural Gas Algorithm
Héctor Satizábal, Andrés Pérez-Urbe, Marco Tomassini
4. A Brief Review and Comparison of Feedforward Morphological Neural Networks with Applications to Classification
Alexandre Monteiro da Silva, Peter Sussner
5. M-CLANN: Multi-Class Concept Lattice-based Artificial Neural Network for supervised classification
Engelbert Mephu Nguifo, Norbert Tsopzé, Gilbert Tindo

Conference Dinner

18:30

Saturday, September 6, 2008

Invited Plenary Speech	To be specified <i>Ken Stanley</i>	9:00–10:00
		Hall A–D

Coffee Break	10:00–10:30
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Special Session SM1	10:30–12:30
Coupling, Synchronies and Firing Patterns: from Cognition to Disease I	Hall A

1. Effect of the Background Activity on the Reconstruction of Spike Train by Spike Pattern Detection
Yoshiyuki Asai, Alessandro E. P. Villa
2. Assemblies as Phase-Locked Pattern Sets that collectively win the Competition for Coherence
Thomas Burwick
3. A CA2+ Dynamics Model of the STDP Symmetry-to-Asymmetry Transition in the CA1 Pyramidal Cell of the Hippocampus
Vassilis Cutsuridis, Stuart Cobb, Bruce Graham
4. Resonant Spike Propagation in Coupled Neurons with Subthreshold Activity
Belén Sancristóbal, José M. Sancho, Jordi García-Ojalvo
5. Improving Associative Memory in a Network of Spiking Neurons
Russell Hunter, Stuart Cobb, Bruce Graham
6. Effect of feedback strength in coupled spiking neural networks
Javier Iglesias, Jordi García-Ojalvo, Alessandro E. P. Villa

Workshop SM2	10:30–12:30
New Trends in Self-organization and Optimization of Artificial Neural Networks I	Hall B

1. **Invited Lecture:** The Concept of Analog Network as a Unifying Principle for the Evolutionary Synthesis of Artificial Neural Networks
Claudio Mattiussi (Laboratory of Intelligent Systems, EPFL Lausanne)
2. Generating complex connectivity structures for large-scale neural models
Martin Hülse
3. Nature Inspired Methods in the Radial Basis Function Network Learning Process
Miroslav Burša, Lenka Lhotská
4. Tree-based Indirect Encodings for Evolutionary Development of Neural Networks
Jan Drchal, Miroslav Šnorek
5. Evolving Efficient Connection for the Design of Artificial Neural Networks
Min Shi, Haifeng Wu

Workshop SM3
Adaptive Mechanisms of the Perception-Action Cycle

10:30–12:30
Hall C

1. Emergent Common Functional Principles in Control Theory and the Vertebrate Brain: A Case Study with Autonomous Vehicle Control
Amir Hussain, Kevin Gurney, Rudwan Abdullah, Jon Chambers
2. The Schizophrenic Brain: A Broken Hermeneutic Circle
Péter Érdi, Vaibhav Diwadkar, Balázs Ujfalussy
3. Neural Model for the Visual Recognition of Goal-directed Movements
Falk Fleischer, Antonino Casile, Martin A. Giese
4. Towards a neural model of mental simulation
Matthew Hartley, John Taylor
5. Organising the Complexity of Behaviour
Stathis Kasderidis

Lunch

12:30–14:00

Special Session SA1
Coupling, Synchronies and Firing Patterns: from Cognition to Disease II

14:00–16:00
Hall A

1. Bifurcations in Discrete-Time Delayed Hopfield Neural Networks of Two Neurons
Eva Kaslik, Stefan Balint
2. EEG switching: three views from dynamical systems
Carlos Lourenço
3. Modeling Synchronization Loss in Large-Scale Brain Dynamics
Antonio J. Pons, Jose Luis Cantero, Mercedes Atienza, Jordi García-Ojalvo
4. Spatio-temporal dynamics during perceptual processing in an oscillatory neural network
A. Ravishankar Rao, Guillermo Cecchi
5. Contour integration and synchronization in neuronal networks of the visual cortex
Ekkehard Ullner, Raúl Vicente, Gordon Pipa, Jordi García-Ojalvo

Workshop SA2
New Trends in Self-organization and Optimization of Artificial Neural Networks II

14:00–16:00
Hall B

1. A Classification Method of Children with Developmental Dysphasia Based on Disorder Speech Analysis
Marek Bártů, Jana Tučková
2. The GAME Algorithm Applied to Complex Fractionated Atrial Electrograms Data Set
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