

Tuesday 14th of September 2010

19:30-21:30

Opening Reception at the Conference Hotel Kapsis

Wednesday 15th of September 2010

8:30-9:00 Registration

9:00-10:00 am

Room: A

Keynote Plenary #1

Title: "The Predictive Brain: Autonomous Search, Learning, Recognition, and Navigation in a Changing World" S. Grossberg

Chair: Włodzisław Duch

COFFEE BREAK

10:00-10:20

Session 1: ADA

Adaptive Algorithms

Room: A

Chair: Sergios Theodoridis

10:20-11:50 (90')

"Adaptive Critic Design with ESN Critic for Optimization of PHB Production Process" <i>Petia Koprinkova-Hristova and Guenther Palm</i>	10:20-10:40
"Multi Class Semi-supervised Classification with Graph Construction Based on Adaptive Metric Learning" <i>Shogo Okada and Toyooki Nishida</i>	10:40-11:00
"Correcting Errors in Optical Data Transmission using Neural Networks" <i>Stephen Hunt, Yi Sun, Alex Shafarenko, Neil Davey, Brendan Slater, Ranjeet Bhamber, Sonia Boscolo and Sergej Turitsyn</i>	11:00-11:20
"Genetically Tuned Controller of an Adaptive Cruise Control for Urban Traffic Based on Ultrasounds" <i>Luciano Alonso, Juan Perez, Monica Fernandez, Cristina Rodriguez, Jesus Arce, Manuel Ibarra and Victor Ordonez</i>	11:20-11:35
"Adaptive Local Fusion with Neural Networks" <i>Ahmed Chamseddine Ben Abdallah, Hichem Frigui and Paul Gader</i>	11:35-11:50

Session 2: BIOM

Biomedical ANN

Room: B

Chair: Charis Papadopoulos

10:20-11:50 (90')

"Towards Better Receptor-Ligand Prioritization" Ernesto Iacucci and Yves Moreau	10:20-10:40
"A Probabilistic Neural Network for Assessment of the Vesicoureteral Reflux's Diagnostic Factors Validity" <i>Dimitrios Mantzaris, George Anastassopoulos, Lazaros Iliadis, Aggelos Tsalkidis and Adam Adamopoulos</i>	10:40-11:00
"Shape-based tumor retrieval in mammograms using Relevance-Feedback techniques" <i>Stylianos Tzikopoulos, Harris Georgiou, Michael Mavroforakis and Sergios Theodoridis</i>	11:00-11:20
"Efficient domain decomposition for a neural network learning algorithm" <i>Marc Sauget, Remy Laurent, Julien Henriot, Michel Salomon, Regine Gschwind, Sylvain Contassot-Vivier, Libor Makovicka and Charles Soussen</i>	11:20-11:35
"Dynamics and function of a CA1 model of the hippocampus during theta and ripples" <i>Vassilis Cutsuridis and Michael Hasselmo</i>	11:35-11:50

Session 3: CONE

Computational Neuroscience

Room: C

Chair: Alessandro Villa

10:20-11:50 (90')

"The DAMNED simulator for implementing a dynamic model of the network controlling saccadic eye movements" <i>Anthony Mouraud, Alain Guillaume and Helene Paugam-Moisy</i>	10:20-10:40
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“A Model of Basal Ganglia in Saccade Generation” <i>Ravi Krishnan, Shivakeshavan Ratnadurai, Deepak Subramanian and Srinivasa Chakravarthy</i>	10:40-11:00
“Computational Inferences on Alteration of Neurotransmission in Chemotaxis Learning in <i>Caenorhabditis elegans</i> ” <i>Michiyo Suzuki, Tetsuya Sakashita, Toshio Tsuji and Yasuhiko Kobayashi</i>	11:00-11:20
“A Model for Center-Surround Stimulus-Dependent Receptive Fields” <i>Jose Torreao and Silvia Victor</i>	11:20-11:35
“Simple constraints for zero-lag synchronous oscillations under STDP” <i>Florian Hauser, David Bouchain and Gunther Palm</i>	11:35-11:50

Session 4: LEMOD1

Learning models 1

Room: D

Chair: Timo Honkela

10:20-11:55 (95')

“Adaptive Classifiers with ICI-based Adaptive Knowledge Base Management” <i>Cesare Alippi, Giacomo Boracchi and Manuel Roveri</i>	10:20-10:40
“TopoART: A Topology Learning Hierarchical ART Network” <i>Marko Tscherepanow</i>	10:40-11:00
“Policy Gradients for Cryptanalysis” <i>Frank Sehnke, Christian Osendorfer, Jan Solter, Jurgen Schmidhuber and Ulrich Ruhmair</i>	11:00-11:20
“Linear Projection Method based on Information Theoretic Learning” <i>Pablo Vera, Pablo A Estevez and Jose C Principe</i>	11:20-11:40
“Assessing Statistical Reliability of LiNGAM via Multiscale Bootstrap” <i>Yusuke Komatsu, Shohei Shimizu and Hidetoshi Shimodaira</i>	11:40-11:55

Session 5: BIINS1

Bio-inspired ANN #1

Room: E

Chair: Lazaros Iliadis

10:20-11:55 (95')

“Action Potential Bursts Modulate the NMDA-R Mediated Spike Timing Dependent Plasticity in a Biophysical Model” <i>Vassilis Cutsuridis</i>	10:20-10:40
“Cell Microscopic Segmentation with Spiking Neuron Networks” <i>Boudjelal Meftah, Olivier Lezoray and Abdelkader Benyettou</i>	10:40-11:00
“Investigation of Brain-Computer Interfaces that Apply Sound-evoked Event-related Potentials” <i>Masumi Kogure, Shuichi Matsuzaki and Yasuhiro Wada</i>	11:00-11:20
“Functional connectivity driven by external stimuli in a network of hierarchically organized neural modules” <i>Vladyslav SHAPOSHNYK, Pierre Dutoit, Stephen Perrig and Alessandro Villa</i>	11:20-11:40
“Multilayer and Multipathway Simulation on Retina” <i>Hui Wei and Xudong Guan</i>	11:40-11:55

Room: A

TUTORIAL 1: Attention versus Consciousness: Independent or Conjoined?

Prof Dr John Taylor, Stathis Kasderidis

11:55-13:00

LUNCH

13:00-14:20

Poster Session 1

14:20-16:20

Prediction of Compaction Characteristics of Granular Soils by Neural Networks” <i>Marzena Klos and Zenon Waszczyszyn</i>
“Modelling Power Output at Nuclear Power Plant by Neural Networks” <i>Jaakko Talonen, Miki Sirola and Eimontas Augilius</i>

“Time series forecasting by evolving artificial neural networks using “Shuffle”, crossvalidation and ensembles” Juan Peralta, German Gutierrez Sanchez and Araceli Sanchis de Miguel
“Application of semi-Bayesian Neural Networks in the Identification of Load Causing Beam Yielding” Bartosz Miller
“Simulating Biological-Inspired Spiking Neuronal Networks with OpenCL” Joern Hoffmann, Karim El-Laithy, Frank Guettler and Martin Bogdan
“Biological-inspired architecture for human detection” Daniel Alejandro Gonzalez Bandala, Pedro Luis Sanchez Orellana and Claudio Castellanos Sanchez
“Visual Shape Recognition Neural Network Using BESOM Model” Hiroaki Hasegawa and Masafumi Hagiwara
“The parameter optimization of the pulse coupled neural network for the pattern recognition” Masato Yonekawa and Hiroaki Kurokawa
“The use of feed forward neural network for recognizing characters of dactyl alphabet” Roman Zalusky, Emil Raschman, Mario Krajmer and Daniela Durackova
“A Path Planning Method for Human Tracking Agents using Variable-term Prediction” Noriko Takemura, Yutaka Nakamura, Yoshio Matsumoto and Hiroshi Ishiguro
“Neuro-Symbolic Representation of Logic Programs Defining Infinite Sets” Ekaterina Komendantskaya, Krysia Broda and Artur Garcez
“Self-adaptive Artificial Neural Network in Numerical Models Calibration” Anna Kucerova and Tomas Mares
“Measuring Adjective Spaces” Timo Honkela, Tiina Lindh-Knuutila and Krista Lagus
“Automatic Segmentation of Color Lip Images Based on Morphological Filter” Yiu-ming Cheung and Meng Li
“Color Segmentation Using Self-Organizing Feature Maps (SOFMs) Defined Upon Color and Spatial Image Space” Ioannis Stephanakis, George Anastassopoulos and Lazaros Iliadis

Session 6: COINT1

Computational Intelligence #1

Room: A

Chair: Kostas Goulianas

14:20-15:55 (95')

“Some Comparisons of Model Complexity in Linear and Neural-Network Approximation” Giorgio Gnecco, Vera Kurkova and Marcello Sanguineti	14:20-14:40
“A Funny Proverb Generation System Based on Sukashi” Hiroaki Yamane and Masafumi Hagiwara	14:40-15:00
“Supervised Neural Fuzzy Schemes in Video Transmission over Bluetooth” Hassan Kazemian, Guillaume Remy and Phil Picton	15:00-15:20
“A graph based framework for clustering and characterization of SOM” Khalid Benabdeslem, Haytham Elghazel and Rakia Jaziri	15:20-15:40
“A Rough-Neuro Fuzzy Network Applied to Polymer Processing” Carlos Affonso and Renato Sassi	15:40-15:55

Session 7: GENEV

Genetic & Evolutionary Algorithms

Room: B

Chair: Shigeo Abe

14:20-15:55 (95')

“A Novel Tuning Method for Neural Oscillators with a Ladder-like Structure based on Oscillation Analysis” Yuya Hattori, Michiyo Suzuki, Zu Soh, Yasuhiko Kobayashi and Toshio Tsuji	14:20-14:40
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"A Privacy-preserving Distributed and Incremental Learning Method for Intrusion Detection" Bertha Guijarro-Berdinas, Santiago Fernandez-Lorenzo, Noelia Sanchez-Marono and Oscar Fontenla-Romero	14:40-14:55
"Using Evolutionary Multiobjective Techniques for Imbalanced Classification Data" Sandra Garcia, Ricardo Aler and Ines M Galvan	14:55-15:10
"Modeling the ase 20 Greek index using artificial neural networks combined with genetic algorithms" Andreas Karathanasopoulos, Konstantinos Theofilatos, Panagiotis Leloudas and Spiridon Likothanassis	15:10-15:25
"A Hybrid Approach for Artifact Detection in EEG Data" Jacqueline Fairley ¹ , George Georgoulas, Chrysostomos Stylios and David Rye	15:25-15:40
"Improving the scalability of recommender systems by clustering using genetic algorithms" Olga Georgiou and Nicolas Tsapatsoulis	15:40-15:55

Session 8: PATTRE1

Classification - Pattern Recognition #1

Room: C

Chair: Wlodzislaw Duch

14:35-15:45 (70')

"Deep Bottleneck Classifiers in Supervised Dimension Reduction" Elina Parviainen	14:35-14:55
"Learning of Lateral Connections for Representational Invariant Recognition" Christian Keck and Jorg Lucke	14:55-15:15
"Detecting DDoS Attack towards DNS Server Using a Neural Network Classifier" Jun Wu	15:15-15:30
"Classification of aging voice using parameters extracted from the glottal signal" Leonardo Alfredo Forero Mendoza, Edson Cataldo, Marley Vellasco and Marco Aurelio Silva	15:30-15:45

Session 9: GENEX

Gene Expression

Room: D

Chair: Vasilis Koutsouridis

14:30-15:45 (75')

"Local Modeling Classifier for Microarray Gene-Expression Data" Iago Porto-Diaz, Veronica Bolon-Canedo, Amparo Alonso-Betanzos and Oscar Fontenla-Romero	14:30-14:50
"Evolutionary q-Gaussian Radial Basis Functions for improving prediction accuracy of gene classification using feature selection" Francisco Fernandez-Navarro, Cesar Hervas Martinez, Pedro Gutierrez-Pena, Roberto Ruiz and J C Riquelme	14:50-15:10
"Sparse Coding for Feature Selection on Genome-wide Association Data" Ingrid Braenne, Kai Labusch and Amir Madany Mamlouk	15:10-15:30
"Machine Learning and Personalized Modeling based Gene Selection for acute GvHD Gene Expression Data Analysis" Maurizio Fiasche ¹ , Maria Cuzzola, Roberta Fedele, Pasquale Lacopino and Francesco Carlo Morabito	15:30-15:45

COFFEE BREAK

15:55-16:15

WCVA

Room: A

1st Consciousness Versus Attention Workshop CVA (80')

16:15-17:35

"How do Attention, Intention, and Consciousness Interact?" Stephen Grossberg	16:15-16:35
"Consciousness Versus Attention" JG Taylor	16:35-16:50
"On the Fringe of Awareness: the Glance-Look Model of Attention-Emotion Interactions" Li Su and Philip Barnard	16:50-17:05

"No stopping and no slowing: removing visual attention with no effect on reversals of phenomenal appearance" Alexander Pastukhov, Victoria Vonau and Jochen Braun	17:05-17:20
"Modelling Neurotic Psychopathology: Memory, Attention and Symbolization" Roseli S. Wedemann, Luis Alfredo V. de Carvalho and Raul Donangelo	17:20-17:35

18:00 ENNS Board Meeting

Thursday 16th of September 2010

8:30-9:00 Registration

9:00-10:00 am

Room: A

Keynote Plenary #2

Title: "Spatiotemporal firing patterns and dynamical systems in neural networks" Professor Alessandro E.P. Villa

Chair: Nikola Kasabov

COFFEE BREAK

10:00-10:20

Session 1: IMVA1

Image Video & Audio #1

Room: A

Chair: Anastasios Tefas

10:20-11:55 (95')

"Learning Internal Representation of Visual Context in a Neural Coding Network" Jun Miao and Baixian Zou	10:20-10:40
"A Directional Laplacian Density for Underdetermined Audio Source Separation" Nikolaos Mitianoudis	10:40-11:00
"Frontal view recognition using Spectral Clustering and Subspace Learning methods" Anastasios Maronidis, Anastasios Tefas and Ioannis Pitas	11:00-11:20
"Improving the Robustness of Subspace Learning Techniques for Facial Expression Recognition" Dimitris Bolis, Anastasios Maronidis, Anastasios Tefas and Ioannis Pitas	11:20-11:40
"Classification Based on Multiple-Resolution Data View" Mateusz Kobos and Jacek Mandziuk	11:40-11:55

Session 2: REITEL

Reinforcement & Temporal Learning

Room: B

Chair: Johane Takeuchi

10:20-11:50 (90')

"Representing, Learning and Extracting Temporal Knowledge Models in Neural Networks" Rafael Borges, Artur d'Avila Garcez and Luis Lamb	10:20-10:40
"Using reinforcement learning to guide the development of self-organising feature maps for visual orienting" Kevin Brohan, Kevin Gurney and Piotr Dudek	10:40-11:00
"Exploring Continuous Action Spaces with Diffusion Trees for Reinforcement Learning" Christian Vollmer, Erik Schaffernicht and Horst-Michael Gross	11:00-11:20
"Reinforcement Learning based Neural Controllers for Dynamic Processes without Exploration" Frank-Florian Steege, Andre Hartmann, Erik Schaffernicht and Horst-Michael Gro	11:20-11:35
"A Neurocomputational Model of Nicotine Addiction Based on Reinforcement Learning" Selin Metin and Neslihan Serap Sengor	11:35-11:50

Session 3: KERMET1

Kernel Methods #1

Room: C

Chair: Nicolas Tsapatsoulis

10:20-11:50 (90')

"Convergence Improvement of Active Set Training for Support Vector Regressors" Shigeo Abe and Ryouusuke Yabuwaki	10:20-10:40
"The Complex Gaussian Kernel LMS algorithm" Pantelis Bouboulis and Sergios Theodoridis	10:40-11:00
"Faster Directions for Second Order SMO" Alvaro Barbero and Jose R Dorronsoro	11:00-11:20
"Semi-Supervised Facial Expressions Annotation Using Co-Training with Fast Probabilistic Tri-Class SVMs" Mohamed Farouk Abdel Hady, Martin Schels, Friedhelm Schwenker and Gunther Palm	11:20-11:35
"An Online Incremental Learning Support Vector Machine for Large-scale Data" Jun Zheng, Hui Yu, Furoo Shen and Jinxi Zhao	11:35-11:50

Session 4: LEMOD2

Learning models 2

Room: D

Chair: Stephen Grossberg

10:20-11:55 (95')

"Continuous Visual Codebooks with a Limited Branching Tree Growing Neural Gas" Marco Kortkamp and Sven Wachsmuth	10:20-10:40
"An Efficient Collaborative Recommender System based on k-separability" Georgios Alexandridis, Georgios Siolas and Andreas Stafylopatis	10:40-11:00
"Empirical Analysis of the Divergence of Gibbs Sampling Based Learning Algorithms for Restricted Boltzmann Machines" Asja Fischer and Christian Igel	11:00-11:20
"Multitask semi-supervised learning with constraints and constraint exceptions" Marco Maggini and Tiziano Papini	11:20-11:40
"A controlling strategy for an active vision system based on auditory and visual cues" Miranda Grahl, Frank Joublin and Franz Kummert	11:40-11:55

11:55-13:00 ENNS: ENNS Plenary Meeting

LUNCH

13:00-14:20

Session 5: APPL1

ANN Applications #1

Room: A

Chair: Furoo Shen

14:20-16:00 (100')

"IF-Inference Systems Design for Prediction of Ozone Time Series" Vladimir Olej and Petr Hajek	14:20-14:40
"Superior-Order Curvature-Corrected Voltage Reference Using a Current Generator" Cosmin Popa	14:40-15:00
"A Neural Network-Based Method for Affine 3D Registration of FMRI Time Series" Luis Freire, Ana Gouveia and Fernando Godinho	15:00-15:20
"Neural Networks Regression Inductive Conformal Predictor and its Application to the Prediction of Total Electron Content" Harris Papadopoulos and Haris Haralambous	15:20-15:40
"Application of SOM-based Visualization Maps for Time-Response Analysis of Industrial Processes" Miguel Angel Prada, Manuel Dominguez, Ignacio Diaz-Blanco, Juan Jose Fuertes and Perfecto Reguera	15:40-16:00

Session 6: OPT

Optimization

Room: B

Chair: K. Karatzas

14:20-16:00 (100')

"A One-layer Dual Neural Network with a Unipolar hardLimiting Activation Function for Shortest-Path Routing" Qingshan Liu and Jun Wang	14:20-14:40
"Optimizing Hierarchical Temporal Memory for Multivariable Time Series Recognition" David Rozado, Francisco B Rodriguez and Pablo Varona	14:40-15:00
"Learning with convex constraints" Marco Gori and Stefano Melacci	15:00-15:15
"Binary minimization: Increasing the attraction area of the global minimum in the binary optimization problem" Iakov Karandashev and Boris Kryzhanovsky	15:15-15:30
"An Artificial Immune Network for Multi-objective Optimization" Aris Lanaridis and Andreas Stafylopatis	15:30-15:45
"Solving Independent Component Analysis contrast functions with Particle Swarm Optimization" Jorge Igual, Jehad Ababneh, Raul Llinares, Julio Miro-borras and Vicente Zarzoso	15:45-16:00

Session 7: ROB1

Robotics #1

Room: C

Chair: Demosthenis Stamatis

14:20-16:00 (100')

"Teaching Humanoids to Imitate 'Shapes' of Movements" Vishwanathan Mohan, Jacopo Zenzeri, Pietro Morasso and Giorgio Metta	14:20-14:40
"The dynamics of a neural network of coupled phase oscillators with synaptic plasticity controlling a minimally cognitive agent" Renan Moiola, Patricia Vargas and Phil Husbands	14:40-15:00
"Integrative Learning between Language and Action: A Neuro-Robotics Experiment" Hiroaki Arie, Tetsuro Endo, Sungmoon Jeong, Minho Lee, Shigeki Sugano and Jun Tani	15:00-15:20
"Sliding Mode Control of Robot Based on Neural Network Model with Positive Definite Inertia Matrix" Jakub Mozaryn and Jerzy Kurek	15:20-15:40
"Hardware implementation of a CPG-based locomotion control for quadruped robots" Jose Hugo Barron-Zambrano, Cesar Torres-Huitzil and Bernard Girau	15:40-16:00

Session 8: : KERMET2

Kernel Methods #2

Room: D

Chair: Jacek Mandziuk

14:20-16:05 (105')

"Almost Random Projection Machine with Margin Maximization and Kernel Features" Tomasz Maszczyk and Wlodzislaw Duch	14:20-14:40
"A New Tree Kernel Based on SOM-SD" Fabio Aioli, Giovanni Da San Martino and Alessandro Sperduti	14:40-15:00
"Kernel-based Learning from Infinite Dimensional 2-way Tensors" Marco Signoretto, Lieven De Lathawer and Johan Suykens	15:00-15:20
"Prediction of power consumption for small power region using indexing approach and neural network" Stanislaw Osowski, Krzysztof Siwek, Bartosz Swiderski and Lukasz Mycka	15:20-15:35
"A Common Framework for the Convergence of the GSK, MDM and SMO Algorithms" Jorge Lopez and Jose R Dorronsoro	15:35-15:50
"The Support Feature Machine for Classifying with the Least Number of Features" Sascha Klement and Thomas Martinetz	15:50-16:05

COFFEE BREAK

16:05 -16:25

WSOINN

Room: A

1st Self-Organizing Incremental Neural Network Workshop SOINN (105')

16:25-18:10

"How to use the SOINN software: User's Guide (Version 1.0)" Kazuhiro Yamasaki, Naoya Makibuchi, Furoo Shen and Osamu Hasegawa	16:25-16:40
"Unguided Robot Navigation Using Continuous Action Space" Sirinart Tangruamsub, Manabu Tsuboyama, Aram Kawewong and Osamu Hasegawa	16:40-16:55
"Self-organizing incremental neural network and its application" Furoo Shen and Osamu Hasegawa	16:55-17:10
"Machine Learning Approaches for Time-series Data Based on Self-Organizing Incremental Neural Network" Shogo Okada, Osamu Hasegawa and Toyoaki Nishida	17:10-17:25
"Online Knowledge Acquisition and General Problem Solving in a Real World by Humanoid Robots" Naoya Makibuchi, Furoo Shen and Osamu Hasegawa	17:25-17:40
"Incremental Learning Using Self-Organizing Neural Grove" Hirotaka Inoue	17:40-17:55
"Fast and Incremental Attribute Transferring and Classifying System for Detecting Unseen Object Classes" Aram Kawewong, Osamu Hasegawa	17:55-18:10

Friday 17th of September 2010

8:30-9:00 Registration

9:00-10:00 am

Room: A

Keynote Plenary #3

Title: "Adaptive Learning in a World of Projections" Professor Sergios Theodoridis

Chair: Dominic Palmer Brown

COFFEE BREAK

10:00-10:20

Session 1: BAYES

Bayesian ANN & Decision making

Room: A

Chair: Ioannis Vlahavas

10:20-11:55 (95')

"Discovery of Exogenous Variables in Data with More Variables than Observations" Yasuhiro Sogawa, Shohei Shimizu, Aapo Hyvarinen, Takashi Washio, Teppei Shimamura and Seiya Imoto	10:20-10:40
"Bayesian Joint Optimization for Topic Model and Clustering" Tikara Hosino	10:40-11:00
"An Incremental Bayesian Approach for Training Multilayer Perceptrons" Dimitris Tzikas and Aristidis Likas	11:00-11:20
"Hidden Markov model for human decision process in a partially observable environment" Masahiro Adomi, Yumi Shikauchi and Shin Ishii	11:20-11:40
"Globally Optimal Structure Learning of Bayesian Networks from Data" Kobra Etminani, Mahmoud Naghibzadeh and Amir Reza Razavi	11:40-11:55

Session 2: PATTRE2

Classification - Pattern Recognition #2

Room: B

Chair: Christina Draganova

10:20-11:50 (90')

"Computational Properties of Probabilistic Neural Networks" Jiri Grim and Jan Hora	10:20-10:40
"Local Minima of a Quadratic Binary Functional with a Quasi-Hebbian Connection Matrix" Leonid Litinskii, Boris Kryzhanovsky and Yakov Karandashev	10:40-11:00

"A Learned Saliency Predictor for Dynamic Natural Scenes" Eleonora Vig, Michael Dorr, Thomas Martinetz and Erhardt Barth	11:00-11:20
"Identification of the Head-and-Shoulders Technical Analysis Pattern with Neural Networks" Achilleas Zaprakis and Prodromos Tsinaslanidis	11:20-11:35
"Analyzing Classification Methods in Multi-label Tasks" Anne Canuto and Araken Santos	11:35-11:50

Session 3: LEMOD3

Learning Models #3

Room: C

Chair: Giacomo Boracchi

10:20-11:55 (95')

"Tumble Tree - Reducing Complexity of the Growing Cells Approach" Hendrik Annuth and Christian-A Bohn	10:20-10:40
"Sentence Extraction by Graph Neural Networks" Donatella Muratore, Markus Hagenbuchner, Franco Scarselli and Ah Chung Tsoi	10:40-11:00
"Autonomous generation of internal representations for associative learning" Michael Garcia Ortiz, Alexander Gepperth, Benjamin Dittes and Jannik Fritsch	11:00-11:20
"Improving accuracy of LVQ algorithm by instance weighting" Marcin Blachnik and Wlodzislaw Duch	11:20-11:40
"Leaning CA3 weights in a unitary coherent particle filter model of hippocampus" Charles Fox and Tony Prescott	11:40-11:55

Session 4: IMVA2

Image Video & Audio #2

Room: D

Chair: Hasan Kazemian

10:20-11:55 (95')

"A Novel Approach for Hardware Based Sound Localization" Mauricio Kugler, Takano Hishida, Susumu Kuroyanagi and Akira Iwata	10:20-10:40
"Independent Component Analysis of Multi-Channel Near-Infrared Spectroscopic Signals by Time-delayed Decorrelation" Toshifumi Sano, Shuichi Matsuzaki and Yasuhiro Wada	10:40-11:00
"Micro Nucleus Detection in Human Lymphocytes Using Convolutional Neural Network" Ihor Paliy, Francesco Lamonaca, Volodymyr Turchenko, Domenico Grimaldi and Anatoly Sachenko	11:00-11:20
"No-Reference Video Quality Assessment Design Framework Based on Modular Neural Networks" Dragan Kukolj, Maja Pokric, Vladimir Zlokolica, Jovana Filipovic and Miodrag Temerinac	11:20-11:35
"Learning Bimanual Coordination Patterns for Rhythmic Movements" Rikke Amilde Lovlid and Pinar Ozturk	11:35-11:50

Poster Session 2

11:55-12:55

"Using Genetic Algorithms and Classifier Ensembles for Cancellable Fingerprint" Anne Canuto, Michael Fairhurst, Antonino Feitosa-neto and Fernando Pinto
"A Neural Approach to Image Thresholding" Ahmed Othman and Hamid Tizhoosh
"Bubbles Detection on Sea Surface Images" Carlos M Travieso Gonzalez, Miguel Angel Ferrer Ballester and Jesus B Alonso Hernandez
"Algorithms Creating Algorithms" Boyan Lalov
"Weighted learning vector quantization approaches to cost-sensitive learning" Ning chen, Bernardete Ribeiro, Armando Vieira, Joao Duarte and Joao Neves

“Solution Space of Perceptron” Cheng-Yuan Liou and Jau-Chi Huang
“Natural Language Processing Neural Network for Recall and Inference” Tsukasa Sagara and Masafumi Hagiwara
“Nominally Conditioned Linear Regression” Yusuke Tanahashi, Ryohei Nakano and Kazumi Saito
“A Novel Continuous Dual Mode Neural Network in Stereo-Matching Process” Lukasz Laskowski
“Learning Invariant Visual Shape Representations from Physics” Mathias Franzius and Heiko Wersing
“Selection of training data for locally recurrent neural network” Krzysztof Patan and Maciej Patan
“A Statistical Approach to Image Reconstruction from Projections Problem Using Recurrent Neural Network” Robert Cierniak
“An Alternative Approach to the Revision of Ordinal Conditional Functions in the Context of Multi-Valued Logic” Klaus Haming and Gabriele Peters
“Fault severity estimation in rotating mechanical systems using feature based fusion and Self-Organizing Maps” Dimitrios Moshou, Dimitrios Kateris, Nader Sawalhi, Spyridon Loutridis and Ioannis Gravalos
“Comparing feature extraction techniques and classifiers in the handwritten letters classification problem” Antonio Garcia

LUNCH

13:00-14:20

Session 5: BIINS2

Bio-inspired ANN #2

Room: A

Chair: Nikola Kasabov

14:20-16:05 (105')

“Transmission of distributed deterministic temporal information through a diverging/converging three-layers neural network” Yoshiyuki Asai and Alessandro Villa	14:20-14:40
“Noise-induced collective migration for neural crest cells” Masataka Yamao, Honda Naoki and Shin Ishii	14:40-15:00
“Unsupervised Learning of Relations” Florian Jug, Christoph Krautz, Matthew Cook and Angelika Steger	15:00-15:20
“Analysis of Astrophysical Ice Analogs using Regularized Alternating Least Squares” Raul Llinares, Jorge Iguar, Julio Miro-Borras and Andres Camacho	15:20-15:35
“A Supervised Associative Learning in Spiking Neural Network” Nooraini Yusoff and Andre Gruning	15:35-15:50
“Model of the Hippocampal Learning of Spatio-temporal Sequences” Julien Hirel, Philippe Gaussier and Mathias Quoy	15:50-16:05

Session 6: SOA1

Self Organizing ANN #1

Room: B

Chair: Nikolaos Laskaris

14:20-16:00 (100')

“Generation of Comprehensible Representations by Supposed Maximum Information” Ryotaro Kamimura	14:20-14:40
“Visualization of Changes in Process Dynamics Using Self-Organizing Maps” Ignacio Diaz, Abel A Cuadrado, Alberto B Diez, Manuel Dominguez, Juan J Fuertes and Miguel A Prada	14:40-15:00
“Self-Organization of Steerable Topographic Mappings as Basis for Translation Invariance” Junmei Zhu, Urs Bergmann and Christoph von der Malsburg	15:00-15:15

"A Self-Organizing Map for Controlling Artificial Locomotion" Orivaldo Santana and Aluizio Araujo	15:15-15:30
"Visualising cluster structures on Self-Organising Maps with Minimum Spanning Trees" Rudolf Mayer	15:30-15:45
"Elementary logical reasoning in the SOM output space" Jorge Ramon Letosa and Timo Honkela	15:45-16:00

Session 7: COINT2

Computational Intelligence #2

Room: C

Chair: Vera Kurkova

14:20-15:55 (95')

"Clustering Using Elements of Information Theory" Daniel Araujo, Adriaio Doria Neto, Jorge Dantas and Allan Martins	14:20-14:40
"Three-layer Feedforward Structures Smoothly Approximating Polynomial Functions" Yuichi Nakamura and Masahiro Nakagawa	14:40-14:55
"Neural Networks Training for Weapon Selection in First-Person Shooter Games" Stelios Petrakis and Anastasios Tefas	14:55-15:10
"Efficient Confidence Bounds for RBF Networks for Sparse and High Dimensional Data" Abner Rodrigues Neto, Mauro Roisenberg and Guenther Schwedersky Neto	15:10-15:25
"Large Scale Problem Solving with Neural Networks: The Netflix Prize Case" Nicholas Ampazis	15:25-15:40
"A Cooperative and Penalized Competitive Learning Approach to Gaussian Mixture Clustering" Yiu-ming Cheung and Hong Jia	15:40-15:55

Session 8: ROBO2

Robotics #2

Room: D

Chair: Vishwanathan Mohan

14:20-15:55 (95')

"Evolutionary Strategies Used For The Mobile Robot Trajectory Tracking Control" Adriana Serbencu, Adrian Emanoil Serbencu and Daniela Cristina Cernega	14:20-14:40
"A Novel Topological Map of Place Cells for Autonomous Robots" Vilson Luiz Dalle Mole and Aluizio F R Araujo	14:40-15:00
"From conditioning of a non specific sensor to emotional regulation of behavior" Cyril Hasson and Philippe Gaussier	15:00-15:20
"Hybrid Control Structure for Multi-Robot Formation" Daniela Cernega and Razvan Solea	15:20-15:40
"A Robot Vision Algorithm for Navigating in and Creating a Topological Map of a Reconfigurable Maze" Eleftherios Karapetsas and Demosthenes Stamatis	15:40-15:55

COFFEE BREAK

16:05 -16:25

WSIEM3

Room: A

Intelligent Environment Monitoring, Modelling & Management Systems for better QoL IEM3

(105')

16:25-18:10

"Data mining methods for quality assurance in an environmental monitoring network" Ioannis N. Athanasiadis, Andrea-Emilio Rizzoli and Daniel W. Beard	16:25-16:40
"Predicting QoL parameters for the Atmospheric Environment in Athens, Greece" Ioannis Kyriakidis, Kostas Karatzas, George Papadourakis	16:40-16:55

"Investigating pollen data with the aid of fuzzy methods" Nikolaos Mitrakis, Kostas Karatzas, Siegfried Jaeger	16:55-17:10
"A new Neural Model for Traffic Simulation" Enrique Merida Casermeiro, Gabriel Aguilera Venegas, Jose Luis Galan Garcia and Pedro Rodriguez Cielos	17:10-17:25
"System Architecture for a Smart University Building" Thanos G. Stavropoulos, Ageliki Tsioliariidou, George Koutitas, Dimitris Vrakas and Ioannis Vlahavas	17:25-17:40
"Monitoring and Assessment of the environmental impact by persistent organic pollutants" Jaroslav Urbánek, Karel Brabec, Ladislav Dušek, Ivan Holoubek, Jiří Hřebíček, Miroslav Kubásek	17:40-17:55
"A feature selection method for air quality forecasting" Luca Mesin, Fiammetta Orione, Riccardo Taormina, Eros Pasero	17:55-18:10

Saturday 18th of September 2010

9:00-10:00 am

Room: A

Keynote Plenary #1

Title: Evolving Integrative Spiking Neural Networks: A Computational Intelligence Approach

Professor Nikola Kasabov

Chair: Kostas Diamantaras

COFFEE BREAK

10:00-10:20

Session 1: LEMOD4

Learning Models #4

Room: A

Chair: Aristidis Likas

10:20-11:55 (95')

"Multifactor Expectation Maximization for Factor Graphs" Jason Rolfe and Matthew Cook	10:20-10:40
"Theoretical analysis of Cross-Validation(CV)-EM algorithm" Takashi Takenouchi and Kazushi Ikeda	10:40-10:55
"Application of BSP-based Computational Cost Model to Predict Parallelization Efficiency of MLP Training Algorithm" Volodymyr Turchenko and Lucio Grandinetti	10:55-11:10
"Dynamic Shape Learning and Forgetting" Nikolaos Tsapanos, Anastasios Tefas and Ioannis Pitas	11:10-10:25
"Novel On-Line Ensemble-Teacher Learning through Perceptron rule with a margin" Kazuyuki Hara, Katsuya Ono and Seiji Miyoshi	11:25-11:40
"Adding nonlinear system dynamics to Levenberg-Marquardt algorithm for Neural Network Control" Mikel Larrea and Eloy Irigoyen	11:40-11:55

Session 2: PATTRE3

Classification - Pattern Recognition #3

Room: B

Chair: Kostas Diamantaras

10:20-11:55 (95')

"Learning a Combination of Heterogeneous Dissimilarities from Incomplete Knowledge" Manuel Martin-Merino	10:20-10:40
"A Bilinear Model for Consistent Topographic Representations" Urs Bergmann and Christoph von der Malsburg	10:40-11:00
"Accelerating Large-Scale Convolutional Neural Networks with Parallel Graphics Multiprocessors" Dominik Scherer and Sven Behnke	11:00-11:20
"Evaluation of Pooling Operations in Convolutional Architectures for Object Recognition" Dominik Scherer and Sven Behnke	11:20-11:40

Session 3: IMVA3**Image Video & Audio #3****Room: C****Chair: Nikolaos Mitianoudis****10:20-11:55 (95')**

"Designing Simple Nonlinear Filters Using Hysteresis of Single Recurrent Neurons for Acoustic Signal Recognition in Robots" Poramate Manoonpong, Frank Pasemann, Christoph Kolodziejcki and Florentin Woergoetter	10:20-10:40
"Region matching techniques for spatial bag of visual words based image category recognition" Ville Viitaniemi and Jorma Laaksonen	10:40-11:00
"Application of k-means and MLP in the Automation of Matching of 2DE Gel Images" Dalius Matuzevicius, Arturas Serackis and Dalius Navakauskas	11:00-11:20
"Robust Workflow Recognition using Holistic Features and Outlier-tolerant Fused Hidden Markov Models" Athanasios Voulodimos, Helmut Grabner, Dimitrios Kosmopoulos, Luc Van Gool and Theodora Varvarigou	11:20-11:40
"Removing an Object from Video Sequence Algorithm Implemented on Analog CNN and DSP Microprocessors" Emel ARSLAN and Sabri ARIK	11:40-11:55

Session 4: REINF**Reinforcement Learning****Room: D****Chair: Lazaros Iliadis****10:20-11:45 (85')**

"A Hebbian-based reinforcement learning framework for spike-timing-dependent synapses" Karim El-laithy and Martin Bogdan	10:20-10:40
"An Incremental Probabilistic Neural Network for Regression and Reinforcement Learning Tasks" Milton Heinen and Paulo Engel	10:40-11:00
"One-shot Supervised Reinforcement Learning for Multi-Targeted Tasks: RL-SAS" Johane Takeuchi and Hiroshi Tsujino	11:00-11:15
"An Oscillatory Neural Network Model for Birdsong Learning and Generation" M Maya, V S Chakravarthy and B Ravindran	11:15-11:30
"A Computational Neuromotor Model of the Role of Basal Ganglia and Hippocampus in Spatial Navigation" S Deepika and V S Chakravarthy	11:30-11:45

Room: A**TUTORIAL 2: "User modelling and machine learning for affective and assistive computing"****Dr Kostas Karpouzis****11:55-13:00****LUNCH****13:00-14:20****Session 5: FEATDIM****Feature Selection & Dimensionality Reduction****Room: A****Chair: George Koutitas****14:20-15:40 (80')**

"Multilinear Decomposition and Topographic Mapping of Binary Tensors" Jakub Mazgut, Peter Tino, Mikael Boden and Hong Yan	14:20-14:40
"Echo State Networks with Sparse Output Connections" Hans-Ulrich Kobiacka and Umer Kayani	14:40-14:55
"On Estimating Mutual Information for Feature Selection" Erik Schaffernicht, Robert Kaltenhauser, Saurabh Shekhar Verma and Horst-Michael Gross	14:55-15:10
"Using Correlation Dimension for Analysing Text Data" Ilkka Kivimaki, Krista Lagus, Ilari T Nieminen, Jaakko J Vayrynen and Timo Honkela	15:10-15:25

"Collaborative Filtering through SVD-based and Hierarchical Nonlinear PCA" Manolis Vozalis, Angelos Markos and Konstantinos Margaritis	15:25-15:40
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Session 6: RECCU

Recurrent ANN

Room: B

Chair: Thanos Voulodimos

14:20-15:45 (85')

"Multi-Dimensional Deep Memory Go-Player for Parameter Exploring Policy Gradients" Mandy Gruttner, Frank Sehnke, Tom Schaul and Jurgen Schmidhuber	14:20-14:40
"Layered Motion Segmentation with a Competitive Recurrent Network" Julian Eggert, Joerg Deigmoeller and Volker Willert	14:40-15:00
"A Computational System of Metaphor Generation with Evaluation Mechanism" Asuka Terai and Masanori Nakagawa	15:00-15:15
"Recurrence Enhances the Spatial Encoding of Static Inputs in Reservoir Networks" Christian Emmerich, R Felix Reinhart and Jochen J Steil	15:15-15:30
"Action Classification in Soccer Videos with Long Short-Term Memory Recurrent Neural Networks" Moez Baccouche, Franck Mamalet, Christian Wolf, Christophe Garcia and Atilla Baskurt	15:30-15:45

Session 7: SOA2

Self Organizing ANN #2

Room: C

Chair: Stephen Hunt

14:20-16:00 (100')

"Functional architectures and hierarchies of time scales" Dionysios Perdakis and Viktor Jirsa	14:20-14:40
"A novel single-trial analysis scheme for characterizing the presaccadic brain activity based on a SON representation" Konstantinos Bozas, Stavros I Dimitriadis, Nikolaos A Laskaris and Areti Tzelepi	14:40-15:00
"Web Spam Detection by Probability Mapping GraphSOMs and Graph Neural Networks" Lucia Di Noi, Markus Hagenbuchner, Franco Scarselli and Ah Chung Tsoi	15:00-15:20
"Self-Organizing Maps for Improving the Channel Estimation and Predictive Modelling Phase of Cognitive Radio Systems" Aimilia Bantouna, Kostas Tsagkaris and Panagiotis Demestichas	15:20-15:40
"Snap-Drift Self Organising Map" Dominic Palmer-Brown and Chrisina Draganova	15:40-16:00

Session 8: APPL2

ANN Applications #2

Room: C

Chair: Kostas Karpouzis

14:20-15:45 (85')

"Variational Bayesian Image Super-Resolution with GPU Acceleration" Giannis Chantas	14:20-14:40
"Support Vector Machines-Kernel algorithms for the estimation of the water supply in Cyprus" Fotis Maris, Lazaros Iliadis, Stavros Tachos, Athanasios Loukas, Apostolos Vassileiou and Iliana Spartali	14:40-15:00
"Fault prognosis of mechanical components using on-line learning neural networks" David Martinez-Rego, Oscar Fontenla-Romero, Beatriz Perez-Sanchez and Amparo Alonso-betanzos	15:00-15:15
"A BCI System Based on Orthogonalized EEG Data and Multiple Multilayer Neural Networks in Parallel Form" Kenji Nakayama, Hiroki Horita and Akihiro Hirano	15:15-15:30
"Using an artificial neural network to determine electrical properties of epithelia" Thomas Schmid, Dorothee Gunzel and Martin Bogdan	15:30-15:45

16:00

CONFERENCE CLOSING