1.1 Das Logo


Das Logo steht in der Regel farbig auf weißem Hintergrund. Sprechen besondere gestalterische oder technische Gründe für eine abweichende Anwendung, so kann das Logo in den rechts dargestellten Nichtfarben-Variationen eingesetzt werden.

2. Die Graustufendarstellung (60% Schwarz) wird verwendet, wenn nicht zweifarbig gedruckt werden kann.

3. Die Solid-Darstellung (100% Schwarz) wird verwendet, wenn nicht mit Graustufen (60% Schwarz) gedruckt werden kann.
Organization

General Chair

Stefan Wermter Hamburg, Germany

Program Co-Chairs

Wlodzislaw Duch Torun, Poland, ENNS Past-President
Timo Honkela Helsinki, Finland
Petia Koprinkova-Hristova Sofia, Bulgaria
Günther Palm Ulm, Germany
Alessandro E.P. Villa Lausanne, Switzerland, ENNS President
Cornelius Weber Hamburg, Germany

Local Organising Committee Chairs (Hamburg, Germany)

Sven Magg Johannes Bauer
Jorge Dávila-Chacón Stefan Heinrich
Doreen Jirak Katja Kösters
Erik Strahl
The International Conference on Artificial Neural Networks (ICANN) is the annual flagship conference of the European Neural Network Society (ENNS). Its wide scope in neural networks ranges from machine learning algorithms to models of real nervous systems. ICANN aims at bringing together researchers from different research fields, such as computer science, neuroscience, cognitive science and engineering. Further aims are to address new challenges, share solutions and discuss future research directions toward developing more intelligent artificial systems and increasing our understanding of neural and cognitive processes in the brain.

The ICANN series of conferences was initiated in 1991 and soon became the major European conference in its field, with experts coming from several continents. The 24th ICANN is held on 15-19 September 2014 at the University of Hamburg. The hosts are the University of Hamburg and its Knowledge Technology Institute (http://www.informatik.uni-hamburg.de/WTM/).

The conference has attracted contributions from among the most internationally established researchers in the neural network community. The six keynote speakers in 2014 cover a wide spectrum: Christopher M. Bishop, expert in machine learning; Jun Tani, expert in recurrent neural networks; Paul F.M.J. Verschure, expert in autonomous systems; Yann LeCun, expert in neural vision; Barbara Hammer, expert in computational intelligence; Kevin N. Gurney, expert in computational neuroscience. We also acknowledge support from the Körber Foundation for a special session on `Human-Machine Interaction`.

A total of 173 papers was submitted to the ICANN 2014 conference. A large program committee, including accepted authors from recent ICANN conferences, performed altogether 744 reviews, delivering an average of 4.3 reviews per paper. This helped to obtain a reliable evaluation score for each paper, which was computed by the Springer Online Conference Service by averaging the reviewers’ ratings and taking into account the reviewers’ confidences. Papers were sorted with respect to their scores and the 108 papers with highest score were accepted. Furthermore, the multiple professional reviews delivered valuable feedback to all authors.

The conference program features 24 sessions, which contain 3 talks each, and which are arranged in 2 parallel tracks. There are 2 poster sessions with 33 posters and 2 live demonstrations of research results. Talks and posters are categorised into topical areas, providing the titles for the conference sessions and for the chapters in the Springer LNCS proceedings volume. Its chapters are ordered roughly in the chronological order of the conference sessions.

We would like to thank all the participants for their contribution to the conference program and to the proceedings. Many thanks go to the local organizers for their support and hospitality. We also express our sincere thanks to all active reviewers for their assistance in the review procedures and their valuable comments and recommendations.

July 2014

Stefan Wermter
Cornelius Weber
Wlodzislaw Duch
Timo Honkela
Petia Koprinkova-Hristova
Sven Magg
Günther Palm
Alessandro E.P. Villa
**Program**

**Tue 16 Sept 2014**

- **09:00**
  - Registration
  - Opening Session

- **10:00**
  - Recurrent Networks - Sequence Learning
  - Competitive Learning and Self-Organisation
  - Human Machine Interaction I
  - Theory - Optimisation

- **11:00**
  - Coffee Break

- **11:30**
  - Recurrent Networks - ESNs
  - Clustering and Classification
  - Human Machine Interaction II
  - Theory - Layered Networks

- **12:30**
  - Lunch Break

- **14:00**
  - Keynote Christopher Bishop

- **15:00**
  - Recurrent Networks - Theory
  - Trees and Graphs
  - Deep Networks
  - Reinforcement Learning and Action

- **16:00**
  - Coffee Break

- **16:20**
  - Poster Spotlights 1 and Demonstrations

- **17:00**
  - Posters and Demonstrations

- **18:00**
  - Welcome Reception

**Wed 17 Sept 2014**

- **09:00**
  - Keynote Paul Verschure

- **10:00**
  - Recurrent Networks - Sequence Learning
  - Competitive Learning and Self-Organisation
  - Human Machine Interaction I
  - Theory - Optimisation

- **11:00**
  - Coffee Break

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  - Keynote Jun Tani

- **15:00**
  - Recurrent Networks - Theory
  - Trees and Graphs
  - Deep Networks
  - Reinforcement Learning and Action

- **16:00**
  - Coffee Break

- **16:20**
  - Poster Spotlights 2

- **17:00**
  - Posters

- **18:00**
  - ENNS Board Meeting
    *led by Alessandro Villa*
Overview

Thu 18 Sept 2014

Keynote Yann LeCun

Vision - Detection and Recognition

Supervised Learning - Ensembles

Break

Vision - Invariances and Shape Recovery

Supervised Learning - Regression

Keynote Barbara Hammer

Vision - Attention and Pose Estimation

Dynamical Models and Time Series

Neuroscience - Cortical Models

Supervised Learning - Classification

Fri 19 Sept 2014

Keynote Kevin Gurney

Neuroscience - Line Attractors and Neural Fields

Applications - Users and Social Technologies

Events in Lecture Hall 221

Closing Session

Events in Lecture Hall 121

Mon 15 Sep 2014

18:00-19:00
Registration

Conference Dinner

Special Session on Human-Machine Interaction chaired by Doreen Jirak

Lecture Halls are in Building ESA1-West, Edmund-Siemers-Allee 1, Hamburg
Opening Session

Prof. Dr. Stefan Wermter
*Full Professor in Computer Science*
*Head of Knowledge Technology*
*ICANN General Chair*

Prof. Dr. Heinrich Graener
*Dean of the Faculty of Mathematics*
*Informatics and Natural Sciences*

Prof. Dr. Claudia S. Leopold
*Vice President of Universität Hamburg*

Recurrent Networks - Sequence Learning

Dynamic Cortex Memory: Enhancing Recurrent Neural Networks for Gradient-based Sequence Learning
Sebastian Otte, Marcus Liwicki, Andreas Zell

Learning and Recognition of Multiple Fluctuating Temporal Patterns Using S-CTRNN
Shingo Murata, Hiroaki Arie, Tetsuya Ogata, Jun Tani, Shigeki Sugano

Regularized Recurrent Neural Networks for Data Efficient Dual-Task Learning
Sigurd Spieckermann, Siegmund Düll, Steffen Udluft, Thomas Runkler

Competitive Learning and Self-Organisation

Discriminative Fast Soft Competitive Learning
Frank-Michael Schleif

Human Action Recognition with Hierarchical Growing Neural Gas Learning
German Ignacio Parisi, Cornelius Weber, Stefan Wermter

Real-Time Anomaly Detection with a Growing Neural Gas
Nicolai Waniek, Simon Bremer, Jorg Conradt
<table>
<thead>
<tr>
<th>Time</th>
<th>Hall 221</th>
<th>Hall 121</th>
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<td><strong>Tue 16 Sept 2014 11:30-12:30</strong></td>
<td><strong>Recurrent Networks - ESNs</strong></td>
<td><strong>Clustering and Classification</strong></td>
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<tr>
<td></td>
<td>Chair: Claudius Gros</td>
<td>Chair: Leslie Smith</td>
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<tr>
<td><strong>On-line Training of ESN and IP Tuning Effect</strong></td>
<td><em>Petia Koprinkova-Hristova</em></td>
<td>A Non-Parametric Maximum Entropy Clustering</td>
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<tr>
<td><strong>An Incremental Approach to Language Acquisition:</strong> Thematic Role Assignment with Echo State Networks</td>
<td><em>Xavier Hinaut, Stefan Wermter</em></td>
<td><em>Hideitsu Hino, Noboru Murata</em></td>
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<td><strong>Memory Capacity of Input-driven Echo State Networks at the Edge of Chaos</strong></td>
<td><em>Peter Barancok, Igor Farkas</em></td>
<td>Instance Selection using Two Phase Collaborative Neighbor Representation</td>
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<td><strong>Tue 16 Sept 2014 14:00-15:00</strong></td>
<td><strong>Keynote Christopher Bishop</strong></td>
<td><strong>Trees and Graphs</strong></td>
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<td><strong>Model-Based Machine Learning</strong></td>
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<td><strong>Hall 221</strong></td>
<td><strong>Chair: Stefan Wermter</strong></td>
<td><strong>Chair: Simon O’Keefe</strong></td>
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<td><strong>Recurrent Networks - Theory</strong></td>
<td><strong>Interactive Evolving Recurrent Neural Networks are Super-Turing Universal</strong></td>
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<td><em>Jérémy Cabessa, Alessandro Villa</em></td>
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<td><strong>Basic Feature Quantities of Digital Spike Maps</strong></td>
<td><strong>Factor Graph Inference Engine on the SpiNNaker Neural Computing System</strong></td>
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Poster Session 1

Adaptive Critical Reservoirs with Power Law Forgetting of Unexpected Input Sequences
Norbert Michael Mayer

Classification with Reject Option Using the Self-Organizing Map
Ricardo Sousa, Ajalmar Rocha Neto, Jaime Cardoso, Guilherme Barreto

Leaving Local Optima in Unsupervised Kernel Regression
Daniel Lückehe, Oliver Kramer

High-Dimensional Binary Pattern Classification by Scalar Neural Network Tree
Vladimir Kryzhanovskiy, Magomed Malsagov, Juan Antonio Clares Tomas, Irina Zhelavskaya

On Improving the Classification Capability of Reservoir Computing for Arabic Speech Recognition
Abdulrahman Alalshekmubarak, Leslie Smith

Neural Network Based Data Fusion for Hand Pose Recognition with Multiple ToF Sensors
Alexander Gepperth, Stefan Geisler, Uwe Handmann, Thomas Kopinski

Sparse Single-hidden Layer Feedforward Network for Mapping Natural Language Questions to SQL Queries
Issam Hadj Laradji, Lahouari Ghouti, Faisal Saleh, Musab AlTurki

Towards Context-Dependence Eye Movements Prediction in Smart Meeting Rooms
Redwan Mohammed, Lars Schwabe, Oliver Staadt

Minimizing Computation in Convolutional Neural Networks
Jingsheng Cong, Bingjun Xiao

One-shot Learning with Feedback for Multi-layered Convolutional Network
Kunihiko Fukushima

A Gaussian Process Reinforcement Learning Algorithm with Adaptability and Minimal Tuning Requirements
Jonathan Strahl, Timo Honkela, Paul Wagner

Sensorimotor Control Learning using a New Adaptive Spiking Neuro-Fuzzy Machine, Spike-IDS and STDP
Mohsen Firouzi, Saeed Bagheri Shouraki, Jorg Conradt

Model-based Identification of EEG Markers for Learning Opportunities in an Associative Learning Task with Delayed Feedback
Felix Putze, Daniel Holt, Tanja Schultz, Joachim Funke

Financial Self-Organizing Maps
Marina Resta
Tue 16 Sept 2014 16:20-18:00
Hall 221 and Foyer
Chair: Cornelius Weber

**Demonstrations**

Entrepreneurship Support Based on Mixed Bio-Artificial Neural Network Simulator (ESBBANN)
*Eugenio M. Fedriani, Manuel Chaves-Maza*

Live Demonstration: Real-Time Motor Rotation Frequency Detection by Spike-based Visual and Auditory Sensory Fusion on AER and FPGA
*Antonio Rios-Navarro, Angel Jimenez-Fernandez, Elena Cerezuela-Escudero, Manuel Rivas, Gabriel Jimenez-Moreno, Alejandro Linares-Barranco*

Wed 17 Sept 2014 09:00-10:00
Hall 221
Chair: Doreen Jirak

**Keynote Paul F.M.J. Verschure**

A Biologically Grounded Architecture for a Social Robot: Distributed Adaptive Control and the iCub

Wed 17 Sept 2014 10:00 - 11:00
Hall 221
Chair: Doreen Jirak

**Human-Machine Interaction I**

Human Activity Recognition on Smartphones With Awareness of Basic Activities and Postural Transitions
*Jorge Luis Reyes Ortiz, Luca Oneto, Alessandro Ghio, Albert Samà, Davide Anguita, Xavier Parra*

sNN-LDS: Spatio-temporal Non-negative Sparse Coding for Human Action Recognition
*Thomas Guthier, Adrian Sosic, Volker Willert, Julian Eggert*

Interactive Language Understanding with Multiple Timescale Recurrent Neural Networks
*Stefan Heinrich, Stefan Wermter*

Hall 121
Chair: Toshimichi Saito

**Theory - Optimisation**

Row-action Projections for Nonnegative Matrix Factorization
*Rafal Zdunek*

Structure Perturbation Optimization for Hopfield-type Neural Networks
*Gang Yang, Xirong Li, JiePing Xu, Qin Jin*

Complex-valued Multilayer Perceptron Search Utilizing Singular Regions of Complex-valued Parameter Space
*Seiya Satoh, Ryohei Nakano*
**Wed 17 Sept 2014 11:30-12:30**  
**Hall 221**  
Chair: Doreen Jirak

**Human-Machine Interaction II**

- A neural Dynamic Architecture Resolves Phrases about Spatial Relations in Visual Scenes  
  *Mathis Richter, Jonas Lins, Sebastian Schneegans, Gregor Schöner*

- Chinese Image Character Recognition Using DNN and Machine Simulated Training Samples  
  *Jinfeng Bai, Zhineng Chen, Bailan Feng, Bo Xu*

- Polyphonic Music Generation by Modeling Temporal Dependencies Using a RNN-DBN  
  *Kratarth Goel, Raunaq Vohra, J. K. Sahoo*

**Theory - Layered Networks**

- Mix-Matrix Transformation Method for Max-Cut Problem  
  *Iakov Karandashev, Boris Kryzhanovsky*

- Complexity of Shallow Networks Representing Functions with Large Variations  
  *Vera Kurkova, Marcello Sanguineti*

- Visualizing Hierarchical Representation in A Multilayered Restricted RBF Network  
  *Pitoyo Hartono, Paul Hollensen, Thomas Trappenberg*

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**Wed 17 Sept 2014 14:00-15:00**  
**Hall 221**  
Chair: Doreen Jirak

**Keynote Jun Tani**

Self-Organization and Compositionality in Cognitive Brains: A Neuro-Robotics Study

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**Wed 17 Sept 2014 15:00-16:00**  
**Hall 221**  
Chair: Vera Kurkova

**Deep Networks**

- Variational EM Learning of DSBNs with conditional Deep Boltzmann Machines  
  *Xing Zhang, Siwei Lyu*

- Improving Deep Neural Network Performance by Reusing Features Trained with Transductive Transference  
  *Chetak Kandaswamy, Luis Silva, Luis Alexandre, Jorge Santos, Joaquim Marques de Sa*

- From Maxout to Channel-Out: Encoding Information on Sparse Pathways  
  *Qi Wang, Joseph JaJa*

**Reinforcement Learning and Action**

- Contingent Features for Reinforcement Learning  
  *Nathan Sprague*

- A Non-Stationary Infinite Partially-Observable Markov Decision Process  
  *Sotirios Chatzis, Dimitrios Kosmopoulos*

- Tool-body Assimilation Model based on Body Babbling and a Neuro-dynamical System for Motion Generation  
  *Kuniyuki Takahashi, Tetsuya Ogata, Hadi Tjandra, Shingo Murata, Hiroaki Arie, Shigeki Sugano*
Poster Session 2

Towards Sparsity and Selectivity: Bayesian Learning of Restricted Boltzmann Machine for Early Visual Features
Hanchen Xiong, Sandor Szedmak, Antonio Rodriguez-sanchez, Justus Piater

Improving the Convergence Property of Soft Committee Machines By Replacing Derivative with Truncated Gaussian Function
Kazuyuki Hara, Kentaro Katahira

A Geometrical Approach for Parameter Selection of Radial Basis Functions Networks
Luiz Torres, Andre Lemos, Cristiano Castro, Antônio Braga

Sampling Hidden Parameters from Oracle Distribution
Sho Sonoda, Noboru Murata

Incremental Input Variable Selection by Block Addition and Block Deletion
Shigeo Abe

Improved Adaline Networks for Robust Pattern Classification
César Mattos, Jose Daniel Alencar Santos, Guilherme Barreto

Learning under Concept Drift with Support Vector Machines
Omar AYAD

Two subspace-based Kernel Local Discriminant Embedding
Fadi Dornaika, Alireza Bosagzadeh

Control of UPOs of Unknown Chaotic Systems via ANN
Abdelkrim Boukabou

Event-based Visual Data Sets for Prediction Tasks in Spiking Neural Networks

Modeling of Chaotic Time Series by Interval Type-2 NEO-Fuzzy Neural Network
Yancho Todorov, Margarita Terziyska

Bio-mimetic Path Integration Using a Self Organizing Population of Grid Cells
Ankur Sinha, Jack Jianguo Wang

Learning Spatial Transformations using Structured Gain-Field Networks
Jan Kneissler, Martin Butz

Latency-based Probabilistic Information Processing in Recurrent Neural Hierarchies
Alexander Gepperth, Mathieu Lefort
Classifying Spike Patterns by Reward-Modulated STDP
Brian Gardner, Ioana Sporea, Andre Gruning

Lateral Inhibition Pyramidal Neural Network for Detection of Optical defocus (Zernike Z5)
Bruno Fernandes, Diego Rativa

Development of a Dynamically Extendable SpiNNaker Chip Computing Module
Rui Araújo, Nicolai Waniek, Jorg Conradt

The Importance of Physiological Noise Regression in High Temporal Resolution fMRI
Norman Scheel, Catie Chang, Amir Madany

Development of Automated Diagnostic System for skin Cancer: Performance Analysis of Neural Network Learning Algorithms for Classification
Ammara Masood, Adel Ali Al-Jumaily, Tariq Adnan

Thu 18 Sept 2014 09:00-10:00
Hall 221
Chair: Jörg Conradt

Keynote Yann LeCun
Title will follow soon

Thu 18 Sept 2014 10:00 - 11:00
Hall 221
Chair: Rolf Würtz

Vision - Detection and Recognition
Structured Prediction for Object Detection in Deep Neural Networks
Hannes Schulz, Sven Behnke

A Multichannel Convolutional Neural Network for Hand Posture Recognition
Pablo Barros, Sven Magg, Cornelius Weber, Stefan Wermter

A Two-stage Classifier Architecture for Detecting Objects under Real-world Occlusion Patterns
Marvin Struwe, Stephan Hasler, Ute Bauer-Wersing

Hall 121
Chair: Bruno Fernandes

Supervised Learning - Ensembles
Dynamic Ensemble Selection and Instantaneous Pruning for Regression used in Signal Calibration
Kaushala Dias, Terry Windeatt

Global and Local Rejection Option in Multi-classification Task
Marcin Luckner

Comparative Study of Accuracies on the Family of the Recursive-Rule Extraction Algorithm
Yoichi Hayashi, Yuki Tanaka, Shota Fujisawa, Tomoki Izawa
### Thu 18 Sept 2014 11:30-12:30

**Hall 221**  
Chair: Ute Bauer-Wersing

**Vision - Invariances and Shape Recovery**

- Online Learning of Invariant Object Recognition in a Hierarchical Neural Network  
  *Markus Leßmann, Rolf P. Würtz*

- Incorporating Scale Invariance into the Cellular Associative Neural Network  
  *Nathan Burles, Simon O’Keefe, Jim Austin*

- Shape from Shading by Model Inclusive Learning with Simultaneously Estimating Reflection Parameters  
  *Yasuaki Kuroe, Hajimu Kawakami*

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**Hall 121**  
Chair: Ryohei Nakano

**Supervised Learning - Regression**

- Fast Sensitivity-Based Training of BP-Networks  
  *Ivetta Mrazova, Zuzana Petrickova*

- Learning Anisotropic RBF Kernels  
  *Fabio Aiolli, Michele Donini*

- Empowering Imbalanced Data in Supervised Learning: A Semi-Supervised Learning Approach  
  *Bassam Almogahed, Ioannis Kakadiaris*

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### Thu 18 Sept 2014 14:00-15:00

**Hall 221**  
Chair: Shigeo Abe

**Keynote Barbara Hammer**

Metric Learning and Model Interpretability

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### Thu 18 Sept 2014 15:00-16:00

**Hall 221**  
Chair: Thomas Martinetz

**Vision - Attention and Pose Estimation**

- Instance-based Object Recognition with Simultaneous Pose Estimation Using Keypoint Maps and Neural Dynamics  
  *Oliver Lomp, Kasim Terzić, Christian Faubel, J. M. H. du Buf, Gregor Schöner*

- How Visual Attention and Suppression Facilitate Object Recognition?  
  *Frederik Beuth, Amirhossein Jamalian, Fred H. Hamker*

- Analysis of Neural Circuit for Visual Attention using Lognormally Distributed Input  
  *Yoshihiro Nagano, Norifumi Watanabe, Atsushi Aoyama*

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**Hall 121**  
Chair: Norbert Michael Mayer

**Dynamical Models and Time Series**

- Coupling Gaussian Process Dynamical Models with Product-of-Experts Kernels  
  *Dmytro Velychko, Dominik Endres, Nick Taubert, Martin Giese*

- A Deep Dynamic Binary Neural Network and Its Application to Matrix Converters  
  *Jungo Moriyasu, Toshimichi Saito*

- Improving Humanoid Robot Speech Recognition with Sound Source Localisation  
  *Jorge Dávila Chacón, Johannes Twiefel, Jindong Liu, Stefan Wermter*
**Neuroscience - Cortical Models**

Excitation/inhibition Patterns in a System of Coupled Cortical Columns  
*Daniel Malagarriga, Alessandro E.P. Villa, Jordi Garcia-Ojalvo, Antonio J. Pons*

Self-generated Off-line Memory Reprocessing Strongly Improves Generalization in a Hierarchical Recurrent Neural Network  
*Jenia Jitsev*

Lateral Inhibition Pyramidal Neural Networks Designed by Particle Swarm Optimization  
*Alessandra Soares, Bruno Fernandes, Carmelo Bastos-Filho*

**Supervised Learning - Classification**

A CFS-based Feature Weighting Approach to Naive Bayes Text Classifiers  
*Shasha Wang, Liangxiao Jiang, Chaoqun Li*

Local Rejection Strategies for Learning Vector Quantization  
*Lydia Fischer, Barbara Hammer, Heiko Wersing*

Efficient Adaptation of Structure Metrics in Prototype-based Classification  
*Bassam Mokbel, Benjamin Paassen, Barbara Hammer*

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**Fri 19 Sept 2014 09:00-10:00**

**Keynote Kevin N. Gurney**

Deciding what to do next: Models of Action Selection in the Basal Ganglia at Multiple Levels of Description

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**Fri 19 Sept 2014 10:00 - 11:00**

**Neuroscience - Line Attractors and Neural Fields**

Flexible Cue Integration by Line Attraction Dynamics and Divisive Normalization  
*Mohsen Firouzi, Stefan Glasauer, Jorg Conradt*

Learning to Look: a Dynamic Neural Fields Architecture for Gaze Shift Generation  
*Christian Bell, Tobias Storck, Yulia Sandamirskaya*

Skeleton Model for the Neurodynamics of Visual Action Representations  
*Martin Giese*

**Applications - Users and Social Technologies**

Quantifying the Effect of Meaning Variation in Survey Analysis  
*Henri Sintonen, Juha Raitio, Timo Honkela*

Discovery of Spatio-Temporal Patterns from Foursquare by Diffusion-type Estimation and ICA  
*Yoshitatsu Matsuda, Kazunori Yamaguchi, Ken-ichihiro Nishioka*

Content-Boosted Restricted Boltzmann Machine for Recommendation  
*Yongqi Liu, Qiuli Tong, Zhao Du, Lantao Hu*
Neuroscience - Spiking and Single Cell Models

Factors Influencing Polychronous Group Sustainability as a Model of Working Memory
Panagiotis Ioannou, Matthew Casey, Andre Gruning

Pre- and Postsynaptic Properties Regulate Synaptic Competition through Spike-Timing-Dependent Plasticity
Hana Ito, Katsunori Kitano

Location-dependent Dendritic Computation in a Modeled Striatal Projection Neuron
Youwei Zheng, Lars Schwabe, Joshua Plotkin

Applications - Technical Systems

RatSLAM on Humanoids - A Bio-inspired SLAM Model Adapted to a Humanoid Robot
Stefan Müller, Cornelius Weber, Stefan Wermter

Precise Wind Power Prediction with SVM Ensemble Regression
Justin Heinermann, Oliver Kramer

Neural Network Approaches to Solution of the Inverse Problem of Identification and Determination of Partial Concentrations of Salts in Multi-component Water Solutions
Sergey Dolenko, Sergey Burikov, Tatiana Dolenko, Alexander Efitorov, Kirill Gushchin, Igor Persiantsev

Closing Session