

Program

5th November, 2014

Wednesday

8:30 – 10:30

Registration

9:30 – 10:00

Room F

OPENING

Peter Baranyi, General Chair



10:00 – 10:30

Room F

Plenary Session I

Session chair: Peter Baranyi

10:00

Anna Esposito, Seconda Universita di Napoli, Italy

„Data on emotional learning and human-machine interaction”

10:30 – 11:00

Coffee Break

11:00 – 12:00
Room F

Track: Multimodal Communicative Signals: Behavioural and Algorithmic Issues - LangTERRA project

Organizers: Anna Esposito (UNINA2/IIASS), Maria Koutsombogera (ILSP), Harris Papageorgiou (ILSP), Gennaro Cordasco (UNINA2/IIASS), Klára Vicsi (BME TMIT)

Session chair: Anna Esposito

- 11:00 Prosody enhances cognitive infocommunication: Materials from the HuComTech corpus
L. Hunyadi
- 11:20 Comparative Analysis of Orbicularis Oculi Electromyogram and Voice Fundamental Frequency Variation in the Context of Acoustic Startle Response
B. Dropuljić, I. Mijić, D. Petrinović, K. Čosić, T. Jovanović
- 11:40 Towards Expressive Speech Synthesis: Analysis and Modeling of Expressive Speech
S. Raptis, S. Karabetsos, A. Chalamandaris, P. Tsiakoulis

11:00 – 12:20
Room D

Track: NeuroCogSpace project

Organizers: Károly Hercegfı (BME), Ferenc Honbolygó (MTA TTK), Péter Galambos (MTA SZTAKI)

Session chair: Ádám Csapó

- 11:00 Predicting arousal with machine learning of EEG signals
T. Nagy, D. Telleza, Á. Divák, E. Lógó, M. Köles, B. Hámornik
- 11:20 Usability related human errors in a collaborative immersive VR environment
E. Lógó, B. P. Hámornik, M. Köles, K. Hercegfı, S. Tóvölgyi, A. Komlódi
- 11:40 Visual attention and spatial behavior in VR environment: an environmental psychology approach
B. Keszei, A. Dúll, E. Lógó, B. P. Hámornik, M. Köles, S. Tóvölgyi, K. Hercegfı
- 12:00 Experiences of a combined psychophysiology and eye-tracking study in VR
M. Köles, B. P. Hámornik, E. Lógó, K. Hercegfı, S. Tóvölgyi

11:00 – 12:20
Room BC

Track: Speech and Multimodal Interactions

Organizers: Helen Meng (CUHK), Nick Campbell (TCD),
Géza Németh (BME)

Session chair: Peter Baranyi

- 11:00 Digital Speech Algorithms for Speaker De-Identification
S. Marinozzi, M. Faundez Zanuy
- 11:20 Writing with Speech: A Qualitative User Evaluation Study
L. Szabó, B. Tarján, P. Mihajlik
- 11:40 Constructing On-screen Keyboards in Word Processing Environment
for People with Motor Difficulties
S. Rudolf, A. Sporka, O. Polacek
- 12:00 1-of-N Selection in GUIs using Myoelectric Sensors
A. Posusta, A. Sporka, O. Polacek, J. Otahal

12:20 – 13:00

Break

13:00 – 14:20
Room F

Track: Socio-Cognitive ICT

Organizer: Hassan Charaf (BME AUT)

Session chair: Bertalan Forstner

- 13:00 Fast Android Application Development with Component Modeling
G. Kövesdán, M. Asztalos, L. Lengyel
- 13:20 Incorporating sensory data collected on mobile devices into user
experience analysis
A. Nagy, B. Kovari
- 13:40 Power Extraction of Human Behavior in Mobile Environment
K. Fekete, K. Csorba
- 14:00 A Dynamical Model for Individual and Social Cognitive
Infocommunications over Truth Values
R.-M. Chen

13:00 – 14:20
Room D

Track: CogInfoCom Aided Engineering

Organizer: Wei Deng Solvang (NUC)

Session: Sensor and wireless technology

Session chair: Sakari Pieskä

- 13:00 Active Antenna System for Cognitive Network Enhancement
M. Heikkilä, T. Kippola, J. Jämsä, A. Nykänen, M. Matinmikko, J. Keskimäula
- 13:20 Cognitive Internet-of-Things Solutions Enabled by Wireless Sensor and Actuator Networks
J. Tervonen, K. Mikhaylov, S. Pieskä, J. Jämsä, M. Heikkilä
- 13:40 Designing and Simulation of Intake and Exhaust Manifold using Sensor Bridging
U. N. Mughal, S. H. Hassan, H. M. Iqbal
- 14:00 Application of wireless sensor networks based on cognitive radio for animal welfare
M. Mustafa, I. Hansen, S. Eilertsen

13:00 – 14:20
Room BC

Track: Customizable Management of Cognitive Content – FIRST Project

Organizer: András Hajdu, (DE)

Session chair: Attila Fazekas

- 13:00 Deep and surface metacognitive processes in non-traditional programming tasks
P. Biró, M. Csernoch
- 13:20 Recognizing Human Activities Based on Head Movement Trajectories
K. Bertók, A. Fazekas
- 13:40 Gesture-based computer mouse using Kinect sensor
Sz. Szeghalmy, M. Zichar, A. Fazekas
- 14:00 Extended capabilities for a WebGL based talking head system
R.-Zs. Buda, G. Boldizsár, Á. Tóth, Sz. Szeghalmy, R. Tornai, R. Kunkli – DEMONSTRATION

14:20 – 14:40

Coffee Break

14:40 – 16:00
Room F

Plenary Demonstration

Session chair: Peter Baranyi

„Collaboration experience in immersive VR environment in the frame of the NeuroCogSpace project”

M. Köles, K. Hercegfi, E. Lógó, S. Tóvölgyi, B. Szabó, B. P. Hámornik, A. Komlódi, P. Baranyi, P. Galambos, Gy. Persa

16:00 – 17:40
Room F

Session: Theory and Applications of Fuzzy Cognitive Maps and Related Models

Organizer: László T. Kóczy, (SZE, Hungary)

Session chair: Vesa A. Niskanen

- 16:00 Using Fuzzy Cognitive Map Approach to model the casual relationships in stakeholder management at companies
D. Susniene, A. Torma, A. Buruzs, M. F. Hatwagner, L. T. Kóczy
- 16:20 Using Fuzzy Cognitive Maps approach to identify integrated waste management system characteristics
A. Buruzs, L. T. Kóczy, M. F. Hatwagner
- 16:40 A Fuzzy Cognitive Map for Simulating Hypothesis Verification in the Conduct of Inquiry
V. A. Niskanen
- 17:00 Some Algebraic Aspects of Semantic Uncertainty and Cognitive Biases
G. Wirsching, R. Lorenz
- 17:20 Information Representation and Processing in Cognitive Nanoinformatics
V. Shakhnov, L. Zinchenko, E. Rezhikova, I. Kosolapov

16:00 – 17:40
Room D

Track: CogInfoCom Aided Engineering

Organizer: Wei Deng Solvang (NUC)

Session: Product and System design

Session chair: Asa Ericson

- 16:00 Prototyping - cognition while doing
J. Wenngren, Å. Ericson, H. Nergård
- 16:20 A scheduling approach for ship design project with fields constraint in tasks and human resources
S. Li, J. Lu, W. Jiang, W. D. Solvang, H. Yu,
- 16:40 Design Analysis for Automated Cleaning Arm using Representation-bridging Communication
U. N. Mughal, G. Sziebig
- 17:00 Application of Microphone Arrays for the Detection of Acoustic Noise in Porous Panel Shields
M. Mustafa, G. Polanco, Q. Gao, Y. Xu, A. Mustafa, Q. Al-Hamdan
- 17:20 Developing Automated and Integrated Flexible Manufacturing System
W. D. Solvang, H. Yu, G. Sziebig

16:00 – 17:40
Room BC

Track: Multimodal Communicative Signals: Behavioural and Algorithmic Issues - LangTERRA project

Organizers: Anna Esposito (UNINA2/IIASS), Maria Koutsombogera (ILSP), Harris Papageorgiou (ILSP), Gennaro Cordasco (UNINA2/IIASS), Klára Vicsi (BME TMIT)

Session chair: Gennaro Cordasco

- 16:00 A Methodology for Monitoring Emotional Stress in Phonation
V. Rodellar, D. Palacios-Alonso, P. Gomez-Vilda, E. Bartolomé-Morala
- 16:20 The annotation scheme of the MOBOT dataset: Towards defining a multimodal HRI model
S.-E. Fotinea, A.-I. Dimou, E. Efthimiou, T. Goulas
- 16:40 Fuzzy Model Based User Adaptive Framework for Consonant Articulation and Pronunciation Therapy in Hungarian Hearing-impaired Education
Sz. Kovacs, A. Toth, L. Czap

17:00 An ontology-based fuzzy approach for encoding cognitive processes in medical decision making

A. Minutolo, M. Esposito, G. De Pietro

17:20 Modeling speech production using the Neural Engineering Framework

B. J. Kröger, T. Bekolay, C. Eliasmith

18:00 – 20:00
Room Amalfi

WELCOME GREETINGS

6th November, 2014

Thursday

8:30 – 10:30

Registration

9:00 – 10:30

Plenary Session II

Room F

Session chair: Peter Baranyi

9:00

Wei Deng Solvang, Narvik University College, Norway

„CogInfoCom aspects in managing global supply chains”

9:30

Thomas Hermann, Bielefeld University, Germany

„Sonification: Auditory Interfaces for Data Exploration
and Ambient Intelligence”

10:00

Bjorn Solvang, Narvik University College, Norway

„CogInfoCom Aided Engineering”

10:30 – 11:00

Coffee Break

11:00 – 12:20
Room F

Track: CogInfoCom Aided Engineering

Organizer: Wei Deng Solvang (NUC)

Session: Performance management and decision making

Session chair: Mohamad Mustafa

- 11:00 Cognitive Decision Making for measuring icing load for Cold Regions
U. N. Mughal, U. N. Mughal, M. S. Virk
- 11:20 CFD Aided Cognitive Capabilities for Analyzing Snowdrift
Development around a Porous Fence
Y. Xu, M. Mustafa, W. D. Solvang
- 11:40 Assessment of wind induced hazards on winterised offshore
structures using the cognitive approach
A. M. Mustafa, W. Solvang, E. Dykes, M. Mustafa
- 12:00 Cognitive selection strategy for rapid closing valves
G. Polanco

11:00 – 12:20
Room D

Track: Speech and Multimodal Interactions

Organizers: Helen Meng (CUHK), Nick Campbell (TCD),
Géza Németh (BME)

Session chair: Carl Vogel

- 11:00 Communicative F0 generation based on impressions
L. Shao, Y. Greenberg, Y. Sagisaka
- 11:20 Social sequence analysis: temporal sequences in interactional
conversations
F. Bonin, C. Vogel, N. Campbell
- 11:40 Combining NLP techniques and acoustic analysis for semantic focus
detection in speech
A. Beke, Gy. Szaszák
- 12:00 A Cognitive Query Model for Arabic based on Probabilistic
Associative Morpho-Phonetic Sub-Networks
B. Haddad, N. El-Khalili, M. Hattab

11:00 – 12:20
Room BC

**Track: Customizable Management of Cognitive Content –
FIRST Project**

Organizer: András Hajdu, (DE)

Session chair: Mariann Zichar

11:00

An Online Benchmark System for Image Processing Algorithms
J. Tóth, L. Kovács, B. Harangi, Cs. Kiss, A. Mohácsi, Z. Orosz, A. Hajdu

11:20

An Online System for Algorithm Benchmarking
J. Tóth, L. Kovács, B. Harangi, Cs. Kiss, A. Mohácsi, Z. Orosz, A. Hajdu -
DEMONSTRATION

11:40

Intelligent and Adaptive Services for a Smart Campus
A. Adamkó, T. Kádek, M. Kósa

12:00

GLSL in Batch Image Processing
R. Tornai, I. Papp, R. Kunkli - DEMONSTRATION

12:20 – 13:00

Break

13:00 – 14:20
Room F

Track: CogInfoCom Aided Engineering

Organizer: Wei Deng Solvang (NUC)

Session: Performance management and decision making

Session chair: Mohamad Mustafa

13:00

An Integrated Optimization Model for Single-product Supply Chain
Network Design Considering Supplier Selection
H. Yu, W. D. Solvang, S. Li

13:20

A case of ship design tasks assignment and optimization
S. Li, J. Yang, B. Wang, W. D. Solvang, H. Yu

13:40

Sense of Touch for Virtual Creatures
D. Madrigal, F. Ramos

14:00

Generalized Game Trees and their Evaluation
R. Basbous, B. Nagy

13:00 – 14:20
Room D

Session I

Session chair: Stanislav Ondas

- 13:00 Candidate node selection based on trust for cognitive communication of mobile terminals in hybrid MANET - DTN
J. Papaj, L. Dobos, R. Palitefka
- 13:20 Semantic roles labeling system for Slovak sentences
S. Ondas, D. Hladek, J. Juhar
- 13:40 Online Natural Language Processing of the Slovak Language
D. Hladek, S. Ondas, J. Staš - DEMONSTRATION
- 14:00 Emotional Speaker Verification Based on I-vectors
L. Mackova, A. Cizmar

13:00 – 14:20
Room BC

Track: Multimodal Communicative Signals: Behavioural and Algorithmic Issues - LangTERRA project

Organizers: Anna Esposito (UNINA2/IIASS), Maria Koutsombogera (ILSP), Harris Papageorgiou (ILSP), Gennaro Cordasco (UNINA2/IIASS), Klára Vicsi (BME TMIT)

Session chair: Anna Esposito

- 13:00 Emotional Consequences of the Interaction between Inward/Outward Identities and Attachment style
A. Esposito, D. Palumbo, A. Troncone
- 13:20 Entrainment in Slovak Collaborative Dialogues
Š. Beňuš, R. Levitan, J. Hirschberg, A. Gravano, S. Darjaa
- 13:40 Temporal Dynamics of Speech and Gesture in Autism Spectrum Disorder
A. Lambrechts, S. Gaigg, K. Yarrow, K. Maras, R. Fusaroli
- 14:00 The creative brain
A. Oliverio, M. Maldonato

14:20 – 14:40

Coffee Break

14:40 – 16:00
Room F

**Track: Customizable Management of Cognitive Content –
FIRST Project**

Organizer: András Hajdu, (DE)

Session chair: András Hajdu

- 14:40 Investigating the effect of network service breakdown in multilayered cognitive communication system
A. Kuki, T. Bérczes, B. Almási, J. Sztrik
- 15:00 A framework for distributed processing on an offline cell phone network
R. Besenczi, K. Szitha, A. Hajdu
- 15:20 Efficient Apriori Based Algorithms for Privacy Preserving Frequent Itemset Mining
A. Csiszárík, Sz. Lestyán, A. Lukács
- 15:40 Distributed eye lesion detection on an offline cell phone network
R. Besenczi, K. Szitha, A. Hajdu - DEMONSTRATION

14:40 – 16:00
Room D

Track: CogInfoCom Aided Engineering

Organizer: Wei Deng Solvang (NUC)

Session: Sensor and wireless technology II

Session chair: Joni Jämsä

- 14:40 Utilizing Point Cloud Data in the Cognitive Car Navigation
J. Jamsa, M. Luimula, T. Heinonen, A. Leskinen
- 15:00 Cognitive Communication for Traffic Safety
J. Jamsa
- 15:20 Cognitive Adaptability of Capacitive Sensors for Cold Regions
T. Rashid, U. N. Mughal, M. S. Virk
- 15:40 Shape Optimization of Atmospheric Icing Sensor Using Cognitive Computer Aided Approach
U. N. Mughal, M. S. Virk

14:40 – 16:00
Room BC

Session II

Session chair: György Kampis

- 14:40 A map of cognitive brokerage between large science domains
Zs. Vida, S. Soós
- 15:00 Topic overlay maps and the cognitive structure of policy-related SSH
S. Soós, Zs. Vida
- 15:20 Cognitive Strategies of Growth vs. Excellence at European Universities
G. Kampis, L. Gulyas, S. Soos
- 15:40 Collaborative Localization as a Paradigm for Incremental Knowledge Fusion
G. Kampis, P. Lukowicz

16:00 – 17:40
Room F

Track: Multimodal Communicative Signals: Behavioural and Algorithmic Issues - LangTERRA project

Organizers: Anna Esposito (UNINA2/IIASS), Maria Koutsombogera (ILSP), Harris Papageorgiou (ILSP), Gennaro Cordasco (UNINA2/IIASS), Klára Vicsi (BME TMIT)

Session chair: Maria Koutsombogera

- 16:00 Alignment of Communicative Behaviors and Familiarity in First Encounters
C. Navarretta
- 16:20 Delay and probability discounting in risky decisions
M. Carpentieri, I. Baldassarre, O. Matarazzo
- 16:40 Taboo Semantics
C. Vogel
- 17:00 Assessing Voice User Interfaces: The vAssist System Prototype
G. Cordasco, M. Esposito, F. Masucci, M. T. Riviello, A. Esposito, G. Chollet, S. Schlogl, P. Milhorat, G. Pelosi
- 17:20 Automatic Identification of Successful Phone Calls in Call Centers Based on Dialogue Analysis
H. Atassi, Z. Smekal

16:00 – 17:40
Room D

Session III

Session chair: Thomas Hermann

- 16:00 A Sonification System for Process Monitoring as Secondary Task
T. Hildebrandt, T. Hermann, S. Rinderle-Ma
- 16:20 Enabling Enterprise Optimization Strategies Through Object-Process Methodology
J. Brucato
- 16:40 Outlines of a Framework for Progressive Representation-Bridging CogInfoCom Channels
A. Csapo
- 17:00 Parameter Computation of the Hand Model in Virtual Grasping
Cs. Antonya, S. Butnariu, C. Pozna
- 17:20 Blind Guide - A Virtual Eye for Guiding Indoor and Outdoor Movement
B. Soveny, G. Kovacs, Zs. T. Kardkovacs

16:00 – 17:40
Room BC

Session IV

Session chair: Frederic Noel

- 16:00 Qualitative assessment of a collaborative multi-user tool for enhancing the daily replanning and control of visits in Home Care services
E. Lanzarone, C. Masclet, F. Noel
- 16:20 Acceptability of a companion robot for children in daily life situations
W. Johal, C. Adam, H. Fiorino, S. Pesty, C. Jost, D. Duhaut
- 16:40 iDTV User Interface for Elderly Users Based on Simplified Navigation Scheme
Z. Mikovec, V. Zuna
- 17:00 Designing Mobile Phone Interface for Active Seniors: User Study in Czech Republic
T. Slavicek, J. Balata, Z. Mikovec
- 17:20 In-hospital navigation system for people with limited orientation
K. Fixova, M. Macik, Z. Mikovec

18:00 – 22:00
Room Amalfi

BANQUETTE

7th November, 2014

Friday

8:30 – 10:00

Registration

9:00 – 10:30

Room F

Plenary Session III

Session chair: Anna Esposito

9:00

Roger K. Moore, University of Sheffield, England

„Mutual Beliefs Desires Intentions Actions and Consequences (MBDIAC): Towards A Computational Framework for 'Intelligent' Interactive Agents”

9:30

Angel P. del Pobil, Universitat Jaume-I, Spain

„Towards Cognitive Manipulation in Robotics: the Grasp Meets the Task”

10:00

Alessandro Vinciarelli, University in Glasgow, Scotland

„Of traits and machines: when computers meet personality”

10:30 – 11:00

Coffee Break

11:00 – 12:20
Room F

Track: Socio-Cognitive ICT

Organizer: Hassan Charaf (BME AUT)

Session chair: Bertalan Forstner

- 11:00 Visual Feature Tracking Aided Orientation Estimation in Modern Wearables
L. Kundra, P. Ekler
- 11:20 The Design of a Biofeedback Framework for Dynamic Difficulty Adjustment in Games
L. Szegletes, M. Köles, B. Forstner
- 11:40 Cognitive Evaluation of Intermediate Level Obfuscator
D. Dunaev, L. Lengyel
- 12:00 Fundamentals of a Graph Transformation Based Web Data Processing System
G. Imre, G. Mezei

11:00 – 12:20
Room D

Session V

Session chair: **Ádám Csapó**

- 11:00 Design of interaction in a Virtual Environment for post-stroke rehabilitation: a cognitive perspective
A. Zangiacomi, C. Redaelli, F. Valentini, G. Bernardelli
- 11:20 Enhancing awareness and personification by virtual reality and multimedia means in post-stroke patients during rehabilitation
S. Mottura, S. Arlati, L. Fontana, M. Sacco
- 11:40 Designing a Mobile Augmented Memory System for People with Traumatic Brain Injuries
C. Chang, A. Hinze, J. Bowen, N. Starkey
- 12:00 Problem Solving Using Hybrid Brain-Computer Interface Methods: a Review
J. Henshaw, W. Liu, D. Romano

11:00 – 12:20
Room BC

**Track: Multimodal Communicative Signals: Behavioural and
Algorithmic Issues - LangTERRA project**

Organizers: Anna Esposito (UNINA2/IIASS), Maria Koutsombogera
(ILSP), Harris Papageorgiou (ILSP), Gennaro Cordasco
(UNINA2/IIASS), Klára Vicsi (BME TMIT)

Session chair: Harris Papageorgiou

11:00

A preliminary study on aging examining online handwriting
**M. Faundez-Zanuy, E. Sesa-Nogueras, J. Roure-Alcobé, A. Esposito, J. Mekyska,
K. Lopez-De-Ipiña**

11:20

Connection between body condition and speech parameters –
especially in the case of hypoxia
G. Kiss, D. Sztahó, K. Vicsi, A. Golemis

11:40

Introducing context in syllable based emotion tracking
A. Origlia, V. Galatà, F. Cutugno

12:00

Changing Concepts of Machine Dialogue Management
M. Gnjatovic

12:20 – 13:00

Break

13:00 – 14:00
Room F

Session VI

Session chair: **Ádám Csapó**

13:00

User-Centered End to End Optimal Persistent Routing
S.-N. Orzen, S. Babii

13:20

The Tensor Product model transformation as the link connecting
Biological and Cognitive Systems with Control Theory
A. Szollosi, P. Baranyi

13:40

An Outline of Some Human Factors Contributing to Mathability
Research
B. Szi, A. Csapo

13:00 – 14:00
Room D

Track: NeuroCogSpace project

Organizers: Károly Hercegfı (BME), Ferenc Honbolygó (MTA TTK),
Péter Galambos (MTA SZTAKI)

Session chair: Ferenc Honbolygó

- 13:00 Experimental Framework for Spatial Cognition Research in Immersive Virtual Space
Gy. Persa, Á. Török, P. Galambos, I. Sulykos, K. Kecskés-Kovács, I. Czigler, F. Honbolygo, P. Baranyi, V. Csepe
- 13:20 Location learning in virtual environments: The effect of saliency of landmarks and boundaries
F. Honbolygó, A. Babik, A. Torok
- 13:40 Comparison between wireless and wired EEG recordings in a virtual reality lab: Case report
A. Torok, I. Sulykos, K. Kecskes-Kovacs, Gy. Persa, P. Galambos, A. Kobor, I. Czigler, V. Csepe, P. Baranyi, F. Honbolygo

13:00 – 14:00
Room BC

Session: Cognitive Acausal Representations

Organizers: Peter Varlaki (SZE), Peter Baranyi (SZE)

Session chair: Peter Baranyi

- 13:00 Jung- Kerényi - Pauli and the Cognitive Individuation / Part I
P. Várlaki, P. Baranyi
- 13:10 Jung – Kerényi - Pauli and the Cognitive Individuation / Part II
P. Várlaki, P. Baranyi
- 13:20 Jung- Kerényi - Pauli and the Cognitive Individuation / Part III
P. Várlaki, P. Baranyi
- 13:35 The “Three Hidden Pillars of the World”: On the Unconscious Synchronistic “Cognitive Cooperation” of C.G. Jung, W. Pauli and C. Kerényi / Part I
P. Várlaki, P. Baranyi
- 13:50 The Three Hidden Pillars of the World: On the Unconscious Synchronistic “Cognitive Cooperation” of C.G. Jung, W. Pauli and C. Kerényi / Part II
P. Várlaki, P. Baranyi

14:00 – 14:15
Room F

CLOSING

Peter Baranyi, General Chair



See You at CogInfoCom 2015!